Birth Companions commissioned literature review: Supporting vulnerable pregnant women and new mothers in the community

Chiara Samele, Naomi Clewett and Vanessa Pinfold

The review includes papers published until March 2014; Review published, October 2015.

Chiara Samele (Informed Thinking), Naomi Clewett and Vanessa Pinfold (McPin Foundation).

Table of Contents

Executive summary

Background

Identifying needs and providing the right support for vulnerable pregnant women and new mothers are hugely important for ensuring optimum maternal health and child development. Midwives and health visitors provide the basic foundation for maternity and postnatal healthcare for over 700,000 women in the UK who use these statutory services each year.

This review of the literature was commissioned by Birth Companions as part of an evaluation of their Community Link service which was set up to support vulnerable pregnant women and new mothers. The programme was established with a grant from Lankelly Chase Foundation in 2013. The project supported women who had been released from HMP Holloway, women who were at risk of detention due to multiple disadvantage and those who have previously experienced detention. It supported women who faced multiple disadvantages such as mental health issues, substance misuse, homelessness, poverty, time in care, domestic violence, sexual abuse, contact with the criminal justice system and a history of human rights abuses. It also supported women who had been trafficked. The Community Link service specifically supported women through pregnancy, birth and the post-natal period until about 3 months.

Method

This review of literature was carried out in 2014 to provide a comprehensive overview of the existing academic, policy or other expert publications on 'what works' when supporting vulnerable pregnant women and new mothers living in the community. The search terms used were agreed with Birth Companions in order to limit the review to studies of direct relevance to the Community Link service. The relevant literature was identified up to March 2014 and selected using systematic techniques; but does not constitute a systematic review as the evidence was not graded or limited to findings from randomised controlled trials (RCTs) and observational studies. Findings and key points from the selected literature are instead summarised in narrative form. Much of the literature is from the UK, but some international evidence was included where findings were relevant in a UK context. In all, 115 texts were included in the review.

The review searched for interventions and support programmes addressing the needs of vulnerable women. Various types of vulnerabilities are featured in the review, and the detail to which any one group are summarised depended on the amount of available evidence on interventions to address their needs and vulnerabilities. This included women with perinatal mental health problems, complex needs such as substance misuse issues, young mothers,

asylum seekers and refugees, migrants, socially disadvantaged mothers and women from Black and Minority Ethnic groups (BAME)[1].

The interventions that were included in the review are equally varied including home visiting, debriefing services, peer support, befriending, specialist workers, integrated programmes and psychosocial interventions. We included any services that have been evaluated in some form, publishing their findings in either peer review journals or grey literature.

Limitations

It is important to emphasize the limitations of the review. This was a small scale piece of work, commissioned with a limited budget. With that in mind a narrow focus was imposed upon literature search terms, agreed with Birth Companions' staff, to extract learning from published literature to support the development of the Community Link service. A limitation was insufficient capacity in the project to 'grade' the literature found. The review does not therefore judge whether a study was robust and of scientific merit on a graded scale from poor to excellent quality of evidence. Instead a narrative approach was taken and studies that provided evidence of interventions supporting vulnerable pregnant women and new mothers are detailed. These fall into a number of categories: interventions where evaluations have found positive associations with outcomes; interventions where evaluations did not suggest outcomes improved, though women may report satisfaction with the services received; interventions without an evidence base but have robust evaluations in progress.

The evidence base

The evidence base was small, particularly when the information searched for was maternal and child outcomes. There are very few meta analyses of completed RCTs to provide confidence that an intervention has a robust evidence base. We found that satisfaction with services was reported without outcomes data in a number of areas explored. We cannot link service satisfaction with outcomes based upon evidence reviewed, however, we recommend further work investigates these associations.

Support for perinatal mental health problems

We found there was a relatively large body of literature relating to women with perinatal mental health problems and the effectiveness of psychosocial interventions for postnatal depression, particularly CBT. Integrated programmes and those with multiple interventions were also shown to reduce depression. These all include home visiting, which alone has a poor evidence base but in combination with other approaches may prove effective. For example, home visits during pregnancy for women with substance misuse issues appear not to be effective in reducing drug or alcohol use, the potential for child abuse or infant death but they do help keep this target group engaged with services. Peer support and befriending

[1] There is a glossary of terms provided at the end of the report.

programmes can be effective in improving symptoms of depression in new mothers. Debriefing has some evidence but only for those with high needs.

Interventions for women with complex needs

Less evidence exists to demonstrate the effects of interventions targeting pregnant asylum seekers, migrants and BAME groups. This was an area that urgently requires evaluative research to understand whether volunteer befriending programmes or specialist midwifery services can improve the health and social outcomes of this target group. This was also the case for literature on homeless pregnant women and new mothers which was extremely limited and no references were identified. There are a small number of interventions described in the literature for pregnant women and new mothers who are victims of domestic violence. Again this was another area that should be prioritised for further research to evaluate what works, particularly free birth and postnatal Doula services for this target group. There are pilot services working with these groups, and evaluations tended to look at service satisfaction. This may reflect the challenges of research into complex interventions with vulnerable populations.

General community interventions for pregnant women

Standard antenatal services have a developed evidence base. It was known that poor antenatal care was linked to poor birth outcomes. However, surprisingly, little was known about what works with antenatal care and the main ingredients that make it effective, nor how other factors such as poverty impact on effectiveness of standard antenatal services. Continuous support during labour by a dedicated companion with some training such as a Doula and chosen by the woman was highly beneficial. Positive outcomes such as spontaneous birth delivery, less pain relief, shorter labour, good Apgar score for the baby and more satisfaction have been found. The evidence was relatively strong and continuous support during labour should become standard practice.

Key ingredients across all interventions

Across all interventions the quality of the interaction was found to be critical – be that a midwife, volunteer befriender or paraprofessional. Being listened to and being treated with kindness were themes that have been highlighted in a number of qualitative studies, particularly for women with postnatal depression and those with an intellectual disability. Developing a good relationship with a health visitor or support worker was key. The opportunity to meet with other pregnant women was a simple but important mechanism of support. It was important to keep these factors in mind when developing interventions for vulnerable pregnant women and new mothers.

Key recommendations

There is much to learn from the existing literature and key recommendations of the review are to:

- Deliver an **integrated programme** of support that adopts a women-centred approach, recognising individual needs and preferences for how support is received, drawing on home visiting, debriefing, counselling, and peer support as appropriate.
- **Work alongside other agencies** helping to build trust of women during antenatal period, working to build a platform for improved birth outcomes: signpost and engage women appropriately. Integrated programmes, linked to other agencies is what the Birth Companions' Community Link service seeks to achieve and the research evidence suggests this is likely to have a positive impact on service engagement.

- Make **continuous support during** labour standard practice. This includes identifying suitable voluntary sector support when friends and family support cannot be found. This is a core support that Birth Companions provide to vulnerable and isolated pregnant women.

- Provide vulnerable pregnant women and new mothers **access to psychological interventions** which have the strongest evidence base for impacting on maternal depression. Birth Companions does not currently provide this support, but signposts to other agencies.

- Ensure services are **culturally aware and sensitive to women's fears** – particularly of losing their child when social services become involved in their care. Birth Companions' flexible and women-centred approach ensures this is experienced by the women who engage with them.

- **Generate further research** into understanding what post-natal interventions work for vulnerable pregnant women and new mothers, particularly asylum seekers, refugees and victims of domestic violence and those in unstable housing conditions. We particularly need to develop a stronger post-natal evidence base so that interventions can be effectively targeted addressing not only the experience that women have with services but longer term outcomes for mother and baby as well. Birth Companions can continue to contribute to the evidence base by advocating for the importance of research and encouraging the development of new research studies.

1. Introduction and scope of the review

Birth Companions commissioned the McPin Foundation, a mental health research charity, to evaluate their Community Link service which was a pilot programme funded through a grant from Lankelly Chase Foundation in 2013. The project supported women who had been released from HMP Holloway, women who were at risk of detention due to multiple disadvantage and those who have previously experienced detention, often overseas. It supported women who faced multiple disadvantages such as mental health issues, substance misuse, homelessness, poverty, time in care, domestic violence, sexual abuse, contact with the criminal justice system and a history of human rights abuses. It also supported women who had been trafficked. The Community Link service specifically supported women through pregnancy, birth and the post-natal period until about three months.

Part of the Community Link evaluation included a review of the existing available literature and evidence of the types of support considered most helpful for vulnerable pregnant women and new mothers. Both academic and non-academic literature were accessed, but this was not a systematic review using grading measures of articles and restricting searches to randomised control trials. However, systematic techniques were used to search for the relevant literature. This was a narrative review, presented by summarising the main findings from key articles to build a picture of current knowledge and evidence base.

Support for vulnerable women during pregnancy and shortly after birth was known to be hugely important for ensuring optimum maternal wellbeing and child development (Department of Education and Department of Health, 2011). The types of vulnerability in this group vary enormously, ranging from pregnant women seeking asylum to those with mental health and/or substance misuse issues. Their needs and vulnerabilities are equally wide ranging, usually both numerous and complex - including health, legal, social and cultural issues. Services that work with this target group, both statutory and voluntary sector agencies, have to work flexibly, often with limited resources, to address these needs. Prior to 2004 few well-designed studies provided evidence of effective interventions for disadvantaged childbearing women from minority ethnic groups, women experiencing domestic violence, women with mental health problems and those who are HIV positive (D'Souza and Garcia, 2004). However, some interesting and important interventions are emerging; learning from each is summarised in this review.

1.1 Aim of the review

This review aimed to describe and identify what works for vulnerable women during pregnancy and in the weeks following birth by identifying effective interventions and those that appeared to show promise from the published literature.[2] The outcomes of interest in the review were interventions with vulnerable women that supported their mental health, reduced their risk of social isolation and ensured positive outcomes for the child. These are the three outcomes that Birth Companions deliver within the Community Link service.

1.2 Target group defined

The focus was primarily on vulnerable women in the community during the perinatal period and the specialist support provided to them. Vulnerability in this context includes all women supported by Birth Companions including those who are homeless, refugees, immigrants, care leavers, those with experience of domestic violence, sexual abuse, trafficking, and mental health problems. Vulnerability might also be defined in terms of drug and alcohol use and/or multiple and complex needs; and women involved in the Criminal Justice System although not those in prison.

2. Method

The literature review included two sets of searches – a search for academic publications applying techniques used for systematic reviews and for relevant non-academic or grey literature such as reports or briefing papers. Literature published from 2004 to March 2014 was included. The inclusion criteria were articles or papers:

- Describing and/or reporting the effectiveness of interventions to support the target group (vulnerable pregnant women or new mothers)
- Based on studies or service evaluations in the UK, US, Europe or Australia
- Referring to support interventions in the community.

A search strategy to identify the academic literature was developed and tested by an Information Specialist. We utilised the skills of a systematic review expert to perform all the database searches for efficiency and accuracy. Different search strategies were used for the different databases. The search terms used are listed in Table 1.

[2] Priority has been given to the UK evidence base and examples of programmes and interventions for the group of interest. However, where evidence was lacking international examples from the US, Canada, Australia and other countries have been included in the review.

Search terms

The main search terms were agreed with Birth Companions. They were selected to provide the study with a clear focus as the literature on maternity and motherhood for the general population was large. The review limited its search to articles that addressed vulnerable women and pregnancy – key terms are shown in table 1.

Key focus	Area	Situation
Support	Community	Homeless
Service	Vulnerable	Refugee
Intervention	Women	Immigrant
Model	Antenatal	Mental health and wellbeing
Information	Pregnant	Post-traumatic stress disorder (PTSD)
Advice	Pregnancy	Mental illness (diagnoses)
	Parenting (early weeks)	Domestic violence
	Child birth	Sexual abuse
	Labour/complications	Trafficking
	Hospital	Drug/alcohol misuse
	Mother	Care leaver/ care experienced
	Teenage	Sex worker
		Emotional
		Learning disabilities

Table 1: Key search terms used to identify the academic literature

Other key search terms emerged through the process and included: birth mother, trauma, maternal stress, perinatal mental health problems, attachment, bonding, early intervention and woman focused or centred. Birth Companions works to achieve three objectives including improving outcomes for children. However, in the search for literature, less emphasis was placed on generating references for infant and/or fetus outcomes. This decision was driven by the need to focus the work, and the literature on outcomes for children was extensive.

Search results

Full searches were conducted using seven bibliographic databases. Table 2 below lists the databases and the results obtained.

Databases searched	**Date searched**	**Number of results**
MEDLINE (OVID) 2004 to 7/3/14	10/03/13	189
EMBASE (OVID) 2004 to 2014 March 7th	10/03/13	386
PsycINFO (OVID) 2004 to March week 1 2014	10/03/13	19
CINAHL (EBSCO) 2004 to March 2014	17/03/14	203
Web of Science (ISI) 2004 to March 2014	18/03/14	43
Sociological Abstracts & Social Services Abstracts (Proquest)	19/03/14	117
Social Policy and Practice (OVID) 2004 to 10/4/14	10/04/14	18
Total		**957**
After de-duplication		**715**

Table 2: Details of the bibliographic databases searched for academic papers and number of hits

The process of selecting published titles (i.e. academic papers) was carried out in two main stages. Reference titles and abstracts were read in the first instance having been equally divided between three reviewers (VP, NC and CS). Those not meeting the inclusion criteria were excluded. Selected references were pooled and the full text papers retrieved. Further exclusions were made once papers were read.

Further searches were conducted using the internet to identify key papers that may have been missed by the database searches. Key papers already identified were cross referenced. Grey or unpublished literature was identified by searching 14 key websites suggested by Birth Companions, McPin Foundation and experts in the field (see below for a list of websites searched). Table 3 below summarises the process used and the number of references reviewed and selected at each stage.

Task	Activity	Outcome	Date (2014)
Scope of the review finalised	VP, NC and CS		Jan/Feb
Develop and pilot search strategy for identifying peer review publications	Initial search strategy defined and tested by Information Specialist (IS) and later refined	Final search strategy ready for full database searches	Feb
Bibliographic database searches	Searches of seven bibliographic databases by Information Specialist	715 reference titles identified for consideration	March
Stage 1 – selections (peer review papers)	CS, NC and VP review references and make selections	72 references selected	April
Stage 2 – final selections (peer review papers)	Retrieval and review of final text papers	64 final selections made	April/May
Grey literature search	Search of 14 relevant websites for reports and other grey literature	35 reports and grey literature publications identified	April/May
Structure of review	Initial review structure developed	Approved by VP and NC	May
Grey literature review	Reading of grey literature identified	22 selections made	May/early Jun
Stage 3 - Cross referencing and internet searches	Further searches of key papers not identified by database searches were conducted	Selected as appropriate	June
References recommended by experts in the field	Other important references were identified by experts in the field	Selected as appropriate	June/Dec
Final selections	Following all stages of the review	A total of **115** references included in the review: • 43 -grey or non-academic reports • 72 -academic references	June/Dec

Table 3: Summary of the process used and number of references selected

A total of 115 references were included in the review; 43 were non-academic reports and 72 were academic titles.

The data extracted from articles and reports included – the study population, type of support intervention, and the key findings. A narrative review was used to summarise and describe the information gathered. The literature was not assessed – or graded – for quality but where methodological limitations were found these were highlighted.

Searches for non-academic literature

The websites of a number of third sector and other relevant organisations were searched for relevant reports, briefing or policy papers. Table 4 lists those accessed and searched.

Name of organisation	Weblink
Birth Rights	http://www.birthrights.org.uk/about-us/publications/
'Bump Buddies' in the Homerton	http://www.hackneyicare.org.uk/kb5/hackney/asch/event.page?id=rMNp7CYrOKI
C4EO – early intervention for mothers and families, children and young people	http://archive.c4eo.org.uk/themes/earlyintervention/default.aspx?themeid=12&accesstypeid=1
Doula UK – birth support	http://doula.org.uk/content/research-doulas
Family Action Perinatal Mental Health project	http://www.family-action.org.uk/section.aspx?id=13121
Family Nurse Partnership (FNP) -intensive interventions for under 20s	http://www.fnp.nhs.uk/research-and-development
Hestia – birth support to women in refuges	http://www.hestia.org
Maternity Alliance	http://www.webarchive.org.uk/wayback/archive/20050828120000/http://www.maternityalliance.org.uk/index.html
Maternal Mental Health Alliance	http://maternalmentalhealthalliance.org.uk/
'Maternity Mates' in Tower Hamlets	http://www.whfs.org.uk/index.php/maternity-mates
NICE guidelines	https://www.evidence.nhs.uk/search?q=specialist%20midwife%20vulnerable%20wome
NSPCC (National Society for the Prevention of Cruelty to Children)	http://www.nspcc.org.uk/
Royal College of Psychiatrists	http://www.rcpsych.ac.uk/

Table 4: List of organisations and websites searched for non-academic literature

3. Findings

3.1 General community interventions

Midwives and health visitors play an important role in delivering the basic foundation for maternity and postnatal healthcare. Each year in the UK, over 700,000 women use statutory maternity services and in order for them to be effective they are interdependent on primary care, specialist services and early years' services in the community (National Audit Office, 2013). The outcomes and performance of maternity services are considered generally good (Tyler, 2012); although there was a high degree of variation across England in key indicators such as perinatal mortality - from 6 per 1000 in the South East to 9.1 per 1000 population in West Midlands (ONS, 2010). For the most part women appear satisfied with the care they receive; where 77% of around 23,000 surveyed felt they were involved enough in decisions about their antenatal care (CQC, 2013); and during labour and birth 84% of women reported receiving excellent care (National Audit Office, 2013; ONS, 2012).

Antenatal support

Antenatal care was especially important, particularly for first time mothers and women with few social networks. On average, women in the UK receive around thirteen antenatal visits which compared favourably with Scandinavian countries who have very successful outcomes for child health and development (e.g. low infant mortality and high breast feeding rates) (North, 2005). Surprisingly, little was known about the main ingredients that make antenatal care effective. What was known, however, was poor antenatal care was linked to poor birth outcomes (North, 2005).

Support during labour

A recent Cochrane review by Hodnett et al. (2012) examined the effects of continuous, one to one support during labour compared to usual care; using data from twenty-two trials involving 15,288 women from 16 countries. Continuous support was provided by nurses or midwives, women not employed by the hospital with some training/guidance (e.g. Doulas) or companions chosen by the women themselves (e.g. a relative, friend or partner). The authors found that women receiving continuous support were more likely to have a spontaneous birth, use less pain relief medications, slightly shorter labours, babies without a low five-minute Apgar score, and appeared to lead to more satisfaction (Hodnett et al. 2012). The most beneficial continuous support was by a person solely there to provide support during labour, with experience of this and some training. In conclusion, the authors' note that continuous support during labour should be standard practice rather than the exception; and women should be encouraged to have a companion of their choice.

Experience of postbirth debriefing services

A postbirth debriefing service was introduced around the mid-1990s to give women the opportunity to discuss their experience of childbirth. Emerging evidence by 2005 showed around a quarter of women had symptoms of psychological trauma following birth and some were actually experiencing post-traumatic stress disorder (PTSD) (Bailey, 2008). By 2005, 78% of maternity units provided a debriefing type of service, although concerns were raised as to whether debriefing sessions for postnatal women led by midwives were effective (Ayers et al. 2006).

In establishing the effectiveness of midwife-led postnatal debriefing, also provided in some areas as counselling services, Rowan et al. (2007) identified eight randomised controlled trials (RCTs) from Australia, England, Hong Kong and Sweden for midwife-led postnatal interventions addressing outcomes for anxiety, depression and PTSD. Only two studies included all women, most had inclusion / exclusion criteria. The interventions used varied and in the UK there exists confusion in policy and practice surrounding the term 'debriefing'. Of these eight RCT studies, some used structured debriefing, others allowed the women to structure the intervention. The authors concluded only two of the eight RCTs indicated an evidence of effectiveness using midwife-led service models, one with recruiting women who had only given birth once, the other recruiting women screened after birth. However, methodological limitations limit generalizability of findings. Service evaluations revealed that women valued having the opportunity to discuss their birth experience, although there was a gap in evidence regarding the content and timing of service provision and effectiveness (Rowan et al. 2007). A distinction also needed to be made between women who perceived their experience as traumatic and those who developed symptoms of PTSD (Rowan et al. 2007). This review also emphasised more research was needed to understand mental health needs of women from BAME communities.

A recent RCT by Meades et al. (2011) evaluated postnatal debriefing for 46 women with symptoms of PTSD who requested it. This group was compared to 34 women with symptoms of PTSD who had given birth during the same period and at the same hospital but did not receive debriefing. PTSD symptoms decreased overtime for both groups, but more so for women who had received debriefing. Debriefing also led to a reduction in negative appraisals of the birth, but had no effect on symptoms of depression.

Home visiting after birth

As with antenatal care, home visiting services after birth are important for maintaining maternal and child health. Establishing a trusting and confiding relationship between mother and home visitor, especially when attempting to identify and support mothers with perinatal mental health problems and other vulnerabilities was extremely important (North, 2005).

The UK specific evidence on home visiting services for the general population was limited (see below for studies on home visiting for vulnerable women). International research

showed support after birth can be much appreciated but for mothers with low level needs home visiting may be viewed as a negative experience. As one US study found, only mothers with babies discharged from newborn intensive care units who needed support benefited from home visiting, which increased their sense of competence, perceived control and responsiveness to the baby (Affleck et al. 1989). Similar findings were also found from another US based study where the benefits of a nurse home visitation programme were greater for families at high risk (Olds et al. 2002a); and when compared to paraprofessionals, nurses produced significant positive effects on maternal and child outcomes, such as longer intervals until next pregnancy and mother-infant interaction (Olds et al. 2002b).

The frequency and intensity of postnatal home visits have also been examined. A systematic review by Yonemoto et al. (2013) of 12 RCTs from across the world found no evidence that more intensive home visits (i.e. of more than four visits and up to 10) led to improved maternal psychological health, although intensive visiting was associated with increased maternal satisfaction with postnatal care.

What can we learn from interventions delivered to the general public?

> ***One to one continuous birth support led to positive outcomes for mother and baby - more likely to have a spontaneous birth, use less pain relief medications, slightly shorter labours, babies without a low five-minute Apgar score, and appeared to lead to more satisfaction.***
>
> ***Debriefing services can have positive impact for specific groups but evidence was weaker for benefits in general population. Debriefing should be targeted to women who express value in having the opportunity to discuss their birth experience.***
>
> ***Home visiting can be viewed as a negative experience for women with low level needs, and thus the provision would be best targeted particularly for higher intensity home visiting.***

3.2 Interventions for women with perinatal mental health problems and vulnerable families

Perinatal mental health problems have become an important focus of attention for service providers, researchers, commissioners and policy makers. This was unsurprising as poor mental health during and after pregnancy can have a significant impact on women, the mother-infant relationship and subsequent social and emotional development of the child (Misri & Kendrick, 2008). The recognition and treatment of perinatal mental health problems was critical because suicide was a leading cause of maternal deaths in high income countries (Cantwell et al. 2011).

The economic costs of perinatal mental health problems are high and taken together perinatal depression, anxiety and psychosis produce societal costs of approximately £8.1 billion for every one-year cohort of births in the UK (Bauer et al, 2014). This was equivalent to just under £10,000 for every single birth in the country. Almost three quarters (72%) of these costs relate to adverse impacts on the child rather than the mother.

The prevalence of perinatal mental health problems are relatively high with more than one in 10 women in the UK estimated to experience these health challenges after childbirth (NICE, 2007). An online survey of 1,547 women found almost half had experienced depression or anxiety during pregnancy and two-thirds reported having postnatal depression (Russell and Lang, 2013). Women attributed their mental health problems to trying to live up to unrealistic expectations and a lack of support. Around half felt their poor mental health was also due to isolation, and 30% were reluctant to talk about these feelings in depth and did not tell a health professional.

Mental health problems among new mothers also include:

- Postpartum psychosis or puerperal psychosis which is a severe mental health problem affecting around 2 in 1000 new mothers and unlike depression and anxiety is more likely to occur after childbirth (Oats and Cantwell, 2011).

- Post-traumatic stress disorder (PTSD) as a result of a traumatic experience which can either reoccur or worsen during or after pregnancy. Rates for PTSD in pregnant women have been shown to be higher than the general adult female population (Seng et al. 2009); where pregnancy was thought to trigger PTSD symptoms for women who have experienced complex trauma such as child or sexual abuse (Wood, 2011). Perinatal psychiatric and antenatal workers report that some women with schizophrenia received insufficient postnatal support (Wai Wan et al, 2008).

- Treatment of severe mental health problems in pregnancy was very limited. With psychosis, for example, few studies have been carried out looking at the use of antipsychotic medication during pregnancy or in the postnatal period (Webb et al, 2004). Research has shown that social isolation was a key challenge for mothers with Severe Mental Illness, as well as idealised images of motherhood which can leave women feeling inadequate (Jones et al, 2013).

There are few reliable markers for identifying a women's susceptibility to perinatal depression, although social deprivation, having a history of mental illness, isolation and young parental age provide some indication of susceptibility (Evans, 2012). There are good reasons for ensuring that services are well placed for identifying and supporting women at risk for depression and other mental health problems during the perinatal period. An emerging evidence base is developing to demonstrate the effectiveness of ante- and

postnatal interventions to prevent, screen, improve symptoms and support women with perinatal mental health problems.[3] We review these below.

Home visiting for maternal depression

A review by Ammerman et al. (2010) synthesised the findings of various US studies on home visitation and its impact on maternal depression. One of their findings suggested that most research in this area found little or no benefit and that maternal depression typically decreased over time in the perinatal period and up to the first year after birth for many mothers. In this context, the authors provided several possible additional reasons for the lack of positive impact including that the home visitors are not trained mental health professionals, that the approach was mostly focused on linking mothers to other relevant education services, or to attend to the child's needs and not on reducing symptoms of depression or adequately addressing mental health needs.

They concluded that: '(1) depression is prevalent among mothers in home visitation, (2) home visitation services alone are insufficient to bring about substantial improvement in depression, (3) depression can mitigate the effects of home visitation, and (4) promising approaches have been developed to treat maternal depression in the context of home visitation. Several questions are unanswered and there is a need for common approaches in measurement and design to facilitate replication and comparisons among studies.' (page, 199).

Despite lacking in evidence to support their effectiveness, the authors suggested promising interventions included delivering evidenced-based treatments in the client's home, in combination with a home visitation approach; and intensive nurse training in mental health issues and placing a Mental Health Consultant within a nurse home visitor team (Ammerman et al. 2010). The multi-intervention model is assessed in other studies, and is reported later in this review.

The Family Nurse Partnership (FNP) began in England in 2007, targeting vulnerable first-time young mothers. Based on the US programme developed by Olds et al (2002a and 2002b), it provided intensive structure home visiting by specially trained nurses to young first-time mothers aged 19 years and under, from early pregnancy until the child was two years old. This preventive programme was tested across 10 initial sites and included over 80 teams across 91 areas in England providing places to more than 11,000 families; a further 5,000 places to be established by 2015 (Family Nurse Partnership, 2013).

The evidence base for the FNP was predominantly from the US which had demonstrated improved positive outcomes in the short, medium and long term for: pregnancy health behaviours (e.g. decreased smoking during pregnancy and better antenatal diet), reduced

[3] The UK evidence included in this section report scores for postnatal depression have been derived from the Edinburgh Postnatal Depression Scale (EPDS).

child abuse and neglect, maternal life course (e.g. fewer subsequent pregnancies, greater employment participation), school readiness and academic achievement and emotional and behavioural development for FNP children (Olds 2006). Mothers who benefited most from the programme were those who were vulnerable, for example women on a low income, young and unmarried, with mental health problems, low self-efficacy or a low IQ.

Evidence on the FNP from the UK is emerging. Findings from a formative evaluation of the 10 initial sites suggested the implementation of the programme in England was carried out effectively (Barnes et al. 2008). Targets covered recruitment, attrition and delivery of the programme. Clients, families and staff found the programme acceptable and many mothers felt more confident about parenting. An RCT is currently underway to evaluate the effectiveness of the FNP compared to usual care for first-time pregnant women, aged 19 years or under. It aimed to recruit 1,600 participants from around England and included an analysis of whether the programme was cost effective (Owen-Jones et al. 2013). The goal was to report findings in 2015.

In the UK, Barlow et al. (2006) evaluated the effectiveness and costs of a home visiting programme to improve the outcomes of vulnerable families. Their RCT was conducted across 40 GP practices and involved 131 vulnerable pregnant women (for example, those with mental health problems or housing issues). Selected health visitors were trained to use the Family Partnership Model to promote parent-infant interaction and improve parenting and other skills. Parents allocated to the intervention received 18 months of weekly visits. At 12-month follow up women in the intervention group were significantly more sensitive to their babies, who were more likely to be cooperative. No other differences were found for the other outcome measures including maternal psychological health attitudes and behaviour and risk of neglect or abuse. The intervention cost was £3,246 per child. The investigators note that additional qualitative data gathered as part of the study suggested the intervention did make differences not captured by the quantitative measures; further research is recommended.

In a qualitative study by Kirpatrick et al. (2007) of vulnerable women's views of the home visiting intervention, it was found that some had initial concerns that they might be judged to be an unfit mother and risk losing her child. Many women expressed previous negative experiences of health visitors where they were perceived as inflexible and lacking time, and women felt they were being 'checked up on'. Views on the home visitors were nonetheless fairly positive and women described valuing their honesty, qualities (e.g. friendliness) and attributes (their expertise); and most of all the relationships that had been established.

Focused on young vulnerable first-time mothers aged between 17 and 25 years, the Malezi link worker project in Plymouth, rather than being a nurse-led home visiting programme, was reliant on paraprofessionals (health visitors or midwifery assistants) (Halliday and Wilkinson, 2009). The project aimed to build on existing family networks to improve health and wellbeing, inter-agency working, use of support services, breast feeding rates, reduce

smoking, and isolation. Five link workers received project specific training. Young first-time mothers could be referred if they were experiencing levels of stress that might impact negatively on their child's health and development. One-to-one support was given up until the baby was six months old to reflect the early intervention aspect of the project. Evaluated over its one year period the project had little or no impact on health and wellbeing (which were relatively good at the start of the project), smoking levels (although there was some increase in establishing a smoke-free home), or breastfeeding rates. The practical and emotional support was well received and link workers were able to establish a trusting relationship with clients.

Little is known about the lasting benefits of a home visitation approach. Kersten-Alvarez et al. (2010) in the Netherlands examined in a RCT the long-term outcomes of home visits to mothers with postpartum depression aiming to improve the mother-child interaction. Twenty-nine mother-child pairs were recruited and compared with 29 not assigned to the intervention. Mothers received eight to ten home visits, each lasting 60 to 90 minutes, from a prevention specialist when their child was around 6 months old. Visits were weekly initially and then tapered to every other week, with a follow-up visit at three months following the programme's completion. Mothers were followed up when their child was five years old. No lasting effects of the intervention were found overall.

Peer support interventions

Peer support was another approach delivered to support vulnerable pregnant women and new mothers. Those with lived experiences can provide practical advice and coping strategies that health professionals may not be aware of, and a non-professional approach was considered important to helping people connect with their community (Mead, 2004).

In the UK, the evidence on peer support for women with perinatal mental health problems was limited and there was a lack of understanding of what constitutes a successful peer support structure. Jones (2013) reported the findings of a systematic review and meta-ethnography exploring the impact of peer support in relation to perinatal mental illness. The themes representing women's experiences of perinatal mental illness in the context of peer support include: isolation, seeking validation, the importance of social norms of motherhood and finding affirmation or a way forward. The review found access to peer support networks was hugely important, so too was the practitioner's role in nurturing these networks as part of perinatal care.

The Peer Supporters in the Pregnancy, Birth and Beyond (PBB) model targeted vulnerable parents early on in pregnancy, childbirth and up to three months after birth. It aimed to provide dependable and easily accessible one-to-one support for vulnerable parents across 12 sites in the UK. Flexible, emotional and practical support was offered to first-time expectant parents or those with children already. Casey et al. (2013) reported evaluation findings on both the training provided and the community volunteer schemes. Peer

coordinators and 154 peer supporters of the PBB scheme valued the training toolkit and the improved knowledge and understanding it gave them, particularly in relation to couple relationship distress. Findings on the impact of PBB service were not known.

One on-going study in Warwickshire and Coventry is piloting and testing Mums 4 Mums - a telephone peer support intervention that targets women experiencing postnatal depression and delivered by trained peer supporters over a four month period (Caralau et al. 2011). The pilot RCT is evaluating the feasibility of this support and aiming to recruit a total of 30 women to the trial. Women are excluded if they were at risk of suicide or a risk to their children, if they were not able to speak English, or not accessible by telephone.

In Canada, a RCT of telephone peer support to prevent postnatal depression among women at high risk was undertaken (Dennis et al. 2009). The study included a total of 701 women in the first two weeks postpartum. Women assigned the intervention were matched with peer volunteers based on residency and ethnicity. Telephone support commenced within 2-3 days after randomisation and peer supporters were asked to make a minimum of four contacts and interact with mothers as necessary. On average participants in the intervention group received eight visits. Women were followed-up at 12 and 24 weeks postpartum. Those receiving peer support were at half the risk of developing postnatal depression at 12 weeks compared to controls. There were no differences between groups on outcomes for loneliness or use of health services at 12 weeks; and no differences at 24 weeks for all outcomes – depression, anxiety, loneliness and health service use. Over 80% of women, however, were satisfied with the intervention.

Listening visits by health visitors

Experiences of listening visits offered to women with postnatal depression across 26 primary care practices were explored in a qualitative study by Shakespeare et al (2006). Thirty-nine women with postnatal depression were interviewed to understand what factors affected their experience of listening visits. Four themes were highlighted that made this service a positive experience for the women interviewed. These included: agreeing with the medical model for postnatal depression; having a good relationship with the health visitor; being offered choices about their treatment; and a clear and flexible approach for the visits. Listening visits are provided routinely to women with postnatal depression and enhancing the service may include a programme of more structure explorations and tasks, such as problem-solving or cognitive behavioural therapy (Shakespeare, et al. 2006).

Integrated-interventions: volunteer befriending, drop-in centres, parenting classes,

There were a number of programmes that built upon previous work and extended single interventions to create complex programmes. In the UK, Harris (2008) carried out a randomised controlled trial of the Newpin Antenatal and Postnatal project. The project was based in South London between 1999 and 2003 and targeted women with mild to moderate

perinatal depression. The intervention comprised support from a volunteer befriender together with access to a drop-in centre. The study aimed to investigate the preventive impact of the Newpin combination of one-to one befriending and the psycho-educational experience of attending the drop-in centre. Thirty women were randomised to receive the Newpin intervention and 35 to the control group. Women allocated Newpin workers were visited when their pregnancy had reached seven months. Women with psychosis or not fluent in English were not included and referred to another service. The intervention succeeded in reducing the onset of major depression by half compared to the control group (27% vs 54%). An interesting feature of the study was that the difference in depression scores between people who received support from the Newpin project as compared to the control groups only held among those who had experienced at least one stressor during the follow up period. Importantly the study highlighted the way befrienders listened to mothers and their reactions to new stressful experiences and offering support to deal with it.

The Family Action Newpin Perinatal Support Project (PSP) was introduced as a two year pilot in 2006, emerging from the early Newpin project (Harris, 2008) described above. The project targeted women with an existing mental health problem, those identified as vulnerable to postnatal depression, teenage mothers with identified risk factors, mothers who were refugee or seeking asylum and fathers/partners of women identified. Lederer (2009) describes the PSP and its outcomes following an evaluation. The service included an assessment of new families; regular home visits offering practical and emotional support by the Project Coordinator and a befriender during pregnancy and one year after birth; weekly peer-support group for parents at the Family Action Southwark Newpin Centre; training and regular supervision for the Newpin Antenatal Volunteer Befrienders; a parenting group for young parents; and liaison with hospital staff including the perinatal mental health and special care baby unit.

The PSP received 46 referrals during the pilot where the majority (39%) were from midwives. Many were under the age of 25 years (42%), single parents (67%), Black Africans (40%), pregnant (46%), and had English as a second language (40%). Forty-seven percent of referrals were for mental health reasons with 26% using mental health services and 22% with a mental health diagnosis. Of the 46 women referred, 33 engaged with the PSP, two of whom had refugee status and 16 no recourse to public funds. Contact with the project increased over time, particularly for the adult and child drop-in and befriender service. Feedback from members using the service was positive on the whole. Having a non-professional befriender was seen as a key element of the service and their own experience was considered particularly important. Before and after scores for depression/anxiety revealed that 10 parents had some reductions in these symptoms and there was a very slight reduction in the maternal social support index scores for two very isolated members. Befrienders gained from their experience as volunteers with PSP.

Coe and Barlow (2012) evaluated an extended PSP established in July 2010 across four areas in the UK – Hackney, West Mansfield, Swaffham and Oxford - for a three year period. PSP aimed to: improve the mental health of participants, attachment between mothers and infants, self-confidence of participants and volunteers and reduce social isolation. Women were eligible for the project if they had mild to moderate mental health problems. Those with severe mental health issues were not offered the service. Eighty-six volunteer befrienders were recruited and trained, each working with around 2-3 families in total during the study. The service was provided to approximately 189 women, in which over two-thirds were from 'no wage' households, one-third were single parent families and up to 11% with child protection issues; suggesting the PSP was reaching women with complex needs. Twenty percent of women refused the offer of the service.

PSP was evaluated looking at pre- and post-intervention scores for anxiety and depression, social support and self-esteem as the key outcomes; and the views, perceptions and experiences of the PSP. The average number of home visits and attendances at the support groups were not reported. Data on pre- and post-intervention outcomes were available for one-third of women. Mean scores for anxiety, depression, mother and infant relationship (warmth), social support and self-esteem were significantly improved. There was no control group in the study making it difficult to know if the outcomes identified would have occurred without the benefit of the intervention. Interviews with various stakeholders showed that midwives and health professionals highly valued the service which appeared to fill in a gap for women with mild to moderate perinatal depression. Service users expressed their gratitude towards the service they received. Many felt the accepting and non-judgemental approach of volunteers was important. PSP also revealed an effective partnership between the voluntary and statutory agencies, which included successful information sharing and joint assessments. There was, however, further scope for the PSP to work with women even earlier in their antenatal period and focus more on promoting the mother-baby relationship, establish better processes of working (e.g. more support for the Project Coordinator), finalising the PSP training manual and improving data collection and monitoring (Barlow and Coe, 2012).

The US intervention, Young Mothers and Babies Wellness Programme delivered intensive, in-home services for young women under the age of 24, who were either pregnant or young mothers with a diagnosed mental health problem and comorbid drug and alcohol problem (Love et al. 2008). The programme targeted pregnant young women or those parenting a child from antenatal to three, and prioritised those discharged from probation or Child Welfare systems. It aimed to promote the mental health of the young women and improve mother-infant relationships. Mothers received tailor made mental health treatment and support in a convenient and comfortable setting including the mother's home until their baby was two years old. Each participant was provided with a mental health therapist who led the mother's treatment team and was encouraged to attend one or more group interventions including Cognitive Behaviour Therapy (CBT) for postnatal depression, trauma

and drug and alcohol CBT; and a psycho-educational support group. The group of young pregnant women were assigned a peer-mentor. The mentor was a crucial member of the treatment team. The group of young mothers were also assigned a peer mentor, selected for having a similar life experience to provide support and guidance to the mother and support the goals and objectives set by the Young Mothers and Babies Wellness Programme child development specialist staff.

This intervention was being evaluated to assess its impact on anxiety, depression, bulimia and borderline personality disorder, and drug and alcohol use, although no findings have been published as yet.

Psychosocial interventions

Cognitive Behavioural Therapy (CBT) was recommended in the treatment of postnatal depression and anxiety disorders (NICE, 2007). In a large study in Trent, England, Morell et al. (2009) evaluated the benefits of two psychologically informed interventions delivered by health visitors in 101 general practices using a prospective cluster trial design. Health visitors were trained to identify symptoms of depression six to eight weeks postnatally and provide eight, one-hour psychologically informed sessions based on cognitive behavioural or person-centred principles. A total of 2,749 women were allocated to the intervention group and 1,335 to the control. The intervention was effective in reducing depressive symptoms at six weeks and in all women receiving the intervention; and provides relatively robust evidence to demonstrate the effectiveness of this approach.

The Positive Steps Group, delivered by Sure Start staff in West Lothian Community Health Centre and Care partnership utilised CBT for mothers with postnatal depression (Marrs et al. 2013). Seventy-eight women, between the ages of 16 and 40 years were referred to the study, with 36 completing the eight sessions delivered. Pre- and post-scores on the Adult Wellbeing Scale showed significant improvements for symptoms of depression and anxiety, and inward and outward directed irritability. Although these findings are fairly positive having no control group and a relatively low completion rate mean caution must be taken when interpreting them.

Elliot et al. (2000) attempted to reduce the three month period prevalence of postnatal depression in first and second-time mothers identified antenatally as vulnerable to depression in a controlled trial. 'Preparation for parenthood' and 'Surviving parenthood' for mothers comprised group meetings run by a psychologist and a health visitor. Five monthly meetings were arranged antenatally, commencing around 24 weeks of pregnancy; and six monthly meetings took place after birth. Groups were designed to encourage discussion. Input from the group leads was reduced over the course of the group sessions so that they functioned more as support groups. Women were also provided a telephone number and were able to contact the group lead twice a week during office hours. The intervention was designed to support the transition to parenthood – 47 women were allocated to the

preventive intervention and 52 to the control group; 88 were designated to a 'less vulnerable' group. Data were available for the 99 'more vulnerable women' receiving the intervention compared to 'less vulnerable' and 'more vulnerable' women not in the intervention group. Positive outcomes on postnatal depression scores were found for first-time but not for second-time mothers at three month follow-up. There were no differences in the diagnosis of depression between the intervention and control groups.

A postnatal counselling and early intervention service for mothers based in Greenwich, London was able to alleviate symptoms of postnatal depression (Donaghy, 2012). Located in two children's centres, counselling was provided by an experienced perinatal psychotherapist. Referrals were made by local health visitors, GPs and other staff from the children's centres. Up to 11 sessions of counselling based on the Interpersonal Psychotherapy (IPT) model which has been shown to be effective in reducing symptoms of postnatal depression (O'Hara et al. 2000). Twenty-seven mothers were seen by the service, most of whom had two or more children. Many were described as having complex needs and receiving medication for mental health problems such as anxiety or depression. Twenty-one mothers were White British or White Other. Using a pre-and post-design, a significant reduction in the mean score for symptoms of postnatal depression was found for all women completing the counselling sessions; although it was unclear from the evaluation how many women this included. Scores for confidence and stress were also improved, and satisfaction with the service was very high.

An alternative approach to treating women with postnatal depression was developed by Morton and Forsey (2013). My Time My Space was an arts-based group in the south west of England that aims to improve mood by reducing social isolation and using creativity to increase self-esteem. Referred by a health visitor, a GP or a family support worker the group runs for about 10 weeks and was co-facilitated by a socially engaged artist, a children's centre family support worker and a health visitor. Pre- and post-scores for postnatal depression were obtained from a small pilot of eight participants which revealed a positive reduction in symptoms but no statistical tests were performed. The qualitative findings highlighted how this approach appeared to be successful in working collaboratively with a creative community development charity (Creative Works), the children's centre and the health visiting service. Participants of the group enjoyed the opportunity to engage in an arts-based activity.

Not all approaches produce significantly positive outcomes. One preventive intervention based in Reading, England offered counselling, with specific support improve mother-infant relationships, to women at high risk of postnatal depression found a non-significant reduction in the mean number of months without depressive symptoms and an increase in the costs for health and social care, although this too was non-significant (Petrou et al. 2006).

Organizing integrated perinatal mental health care services: drawing upon evidenced based approaches

'Saving Mothers' Lives' by the Confidential Enquiry into Maternal and Child Health (Lewis, 2007) and the NICE (2007) guidance on antenatal and postnatal Mental Health have helped focus attention on identifying women at risk of perinatal mental health problems. NICE evidence has shown how with the right support and appropriate management strategies outcomes for pregnant women and mothers can be improved. Previous barriers to improved identification and care for women with perinatal mental health problems included the complexity of service provision, the fragmented nature of maternity services and funding across the health sector (Rowan et al. 2008).

There was some evidence for psychosocial and psychological treatments for antenatal depression, such as interpersonal therapy, culturally relevant brief interpersonal psychotherapy, and CBT (Dennis et al, 2007; Grote et al, 2009); and other interventions such as massage, acupuncture, bright light and omega-3 oils (Dennis and Dowswell, 2013). However, the findings are not always consistent.

In 2011, the Infant Parent Perinatal Service (IPPS) in Oxford, England was developed in an effort to establish a partnership model of working to ensure firm pathways across service providers (Warringer, 2011). This good practice model brought together mental health services, health visiting and GP services, commissioners, voluntary organizations and lay representatives which agreed and commissioned the IPPS to support women with moderate perinatal mental health problems. During a one-year period, 172 referrals were made and outcomes data were collected which suggested that mothers seen by the IPPS had a significant reduction in their pre- and post- symptoms of depression scores.

More recently at national level, specialist mental health midwives have been created and have a strategic role, operating as local champions and working closely with local professionals and service commissioners to raise awareness about perinatal mental illness and ensure integrated pathways for women affected by these problems. However, they are not a replacement for specialist perinatal mental health care. Minimum standards and expectations have been outlined and training in perinatal mental health expanded to enable specialist staff to be available at every birthing unit by 2017 (NSPCC, 2013).

A full description of the core perinatal mental health support that should be available in the UK was outlined by Hogg (2013). This included that:

- Universal services should identify issues early and that all women receive the support they need
- Psychological support must be available in a timely manner to all expectant and new mothers with mild to moderate mental health problems
- Access to specialist perinatal mental health teams and inpatient units should be available when necessary

- Services should address the impact of perinatal mental health problems on other family members
- Strategic commissioning of perinatal mental health care should be based on need.

The predominant use of medication for treating depression has also been scrutinised given the potential harm it may cause to a baby during pregnancy or breast feeding. No trials to examine pharmacological treatments have been carried out with women with perinatal mental health problems, except for postnatal depression. One survey suggested 70% of women with postnatal depression were taking medication (Bounty – featured in 4Children, 2011). The over reliance on antidepressants in this context is seen as a cause for concern by some and it is important that access to alternatives such as CBT and other psychological therapies is improved (4Children, 2011). Also, fathers and partners need recognition of the support they provide and that they too can experience paternal depression.

The postnatal support needs of six mothers with an intellectual disability were explored in a study by Wilson et al. (2013) in Scotland. Family members were found to be the main support during the postnatal period for mothers with an intellectual disability. Support from professionals either by midwife or a health visitor after birth was valued by mothers but this was secondary to the help received from family members. How support was delivered was another important theme from the study and being told what to do was perceived as disempowering. Mothers were more likely to follow professional advice if support was offered in a more collaborative manner. Feeling judged and scrutinised negatively seemed to evoke resistance to professional support, whereas being judged positively offered reassurance that mothers were fulfilling their role.

What have we learnt from interventions for women with perinatal mental health problems and vulnerable families?

- ***The evidence base has explored the impact of a wide range of interventions, the most robustly assessed are the Family Nurse Partnership model from the US and UK, as well as Newpin Perinatal Support Project in the UK***
- ***Considering perinatal mental health interventions, we found evidence was not always consistent. There was no one approach that will support vulnerable women presenting with mental health problems in the postnatal period. For example, home visiting was valued by women for the relationships forged but no long term outcomes are yet recorded. Psychosocial interventions such as CBT and Interpersonal counselling have been shown to reduce depression. Partnership models appear to be favoured implementation service configurations.***
- ***It is often difficult to compare studies – elements of similar interventions may vary such as pregnancy outreach workers being volunteer befrienders or health visitors or lay workers. The range of expertise offered also varies with housing and benefits advice offered in some services, and family education in others.***

Not all studies use a control group. Thus the evidence base is wide-ranging and challenging to summarise.

- ***Peer support is developing an emerging evidence base in mental health and peer mentoring and telephone peer support featured in the studies reviewed, although evaluations are at a pilot stage. A meta review concluded peer support was important and practitioners must ensure these networks are valued nurtured and encouraged.***
- ***The impact of medication on women, particularly women with severe mental illness both during pregnancy and the postnatal period is under researched.***

3.3 Interventions for complex needs

NICE (2010) produced evidence based guidelines recommending what support antenatal services can provide for pregnant women with complex social needs. Four groups were identified for particular focus - women who misuse substances (drugs and/or alcohol); recent migrants or asylum seekers or refugees; women under 20 years; and those experiencing domestic violence. In essence, care should be 'woman-centred' in which women are able to make informed decisions about their care and treatment in partnership with healthcare professionals. Very few studies report outcomes of the programmes they are investigating. There is more evidence on satisfaction with the approach developed, and understanding rationale for working in this way through qualitative investigation of the components of women centred and culturally appropriate services.

Women with substance misuse issues

Access to care and treatment was a particular issue for this group. Some women may be reluctant to seek help for fear of losing custody of their children, being coerced into treatment, criminal prosecution, have a coexisting mental health problem, lack treatment readiness or feel guilty, embarrassed or in denial about their substance use (Corrarino et al. 2000). Attitudes of health care professionals can sometimes be stigmatising and deter women from accessing services; some lack the knowledge and skills to identify and manage substance misuse (Niccols and Sword, 2005). There have been some promising developments in relation to service provision and what works for parents who misuse substances (Rayns et al, 2013).

Much of the available evidence in this area comes from the international literature and has been synthesised in a number of systematic reviews published recently. Turnbull and Osborn (2012) in their Cochrane review identified seven studies to assess the effectiveness of home visits for this group. Many of the studies had methodological weaknesses, which limit the conclusions that can be drawn about what works. With this caveat in mind, the authors note that during pregnancy women with an alcohol or drug problem are at increased risk of miscarriage, infections, postnatal depression and their babies having a low birth weight, withdrawal symptoms or impaired development. Home visits from health professionals or trained lay people after birth can increase the engagement of women in drug treatment services but it was unclear whether these improved the health of the baby or mother.

A series of other systematic reviews have looked at the effects of integrated programmes for maternal mental health, birth and parenting outcomes for women with substance misuse issues. A meta-analysis of 23 studies found small but positive effects on maternal mental

health from an integrated programme that included pregnancy, parenting or child-related services (Niccols et al. 2010).

Integrated programmes are also associated with positive effects on birth outcomes – notably on infant birth weight, head circumference, fewer birth complications, and screens for toxicology (Milligan et al. 2010).

In relation to parenting outcomes, Niccols et al. (2012) examined 31 studies, four of which were randomised trials. One found no differences in the percentage of women with substance misuse issues involved with child protection services following receipt of an integrated programme that comprised antenatal care, maternal health care, parenting education and support, and children's services. Another study evaluated standard treatment (addiction counselling, methadone and case management for legal and social needs) plus a relational psychotherapy mothers' group. At the end of six months of treatment, mothers had much improved affective interaction scores compared to those receiving standard care. Although positive findings were found their effects on parenting outcomes were relatively small.

A meta-synthesis of qualitative studies has also shown that integrated interventions enable women with substance misuse issues gain insight into intergenerational influences on parenting, form stronger emotional bonds with their children and to use positive discipline techniques (Sword et al. 2009).

Other models of care for this group have been highlighted. Scully et al. (2004) described a specialised drug liaison midwife (DLM) service for pregnant opioid dependent women. This service based in Dublin, Ireland, built effective working relationships with the women and the Obstetric and Drug services involved in their care. This was done with a considerable amount of time by the DLM. Emphasis was on stabilising women's drug use and they were encouraged to remain on oral methadone during their pregnancy. There was no pressure to detoxify although the option was available after the first trimester, as was inpatient admission to a special drug dependency unit if stabilisation was an issue. During a one year audit of the service, 111 referrals were made. The mean age of women was 23.8 years, with the youngest being 17 and the oldest 32 years. Eighty-five women (75%) received methadone at the time of delivery and 40 infants (47%) were diagnosed with Neonatal Abstinence Syndrome (NAS). Analysis of their findings showed that neonatal withdrawal was associated with women taking a high dose of methadone (between 51-95 mg). The level of prematurity was lower than quoted in the literature and obstetric outcomes of the population appear to have improved.

DLM services were also established in Manchester in 1995, jointly funded by maternity and drug treatment services (Macrory and Boyd, 2007); and Nottingham which showed promise following a service audit that included the outcomes of 33 women seen (Prentice and Watts, 2004).

An enhanced midwifery support service within a multidisciplinary team aimed to assess the impact on pregnancy outcomes for women with substance misuse issues in Fife, Scotland (Legate, 2008). Around 324 pregnant women over an eight year period were offered intensive support from specialist midwives from early pregnancy to around three months after birth. Illicit drug use increased over the period of the study, although pregnancy outcomes - gestation, birth weight, neonatal abstinence and breastfeeding rates – had improved in some cases. Social issues such as homelessness, criminality and poverty were challenging and important for practitioners to address when developing care plans for the women supported.

Another specialist service developed a multidisciplinary clinic (one-stop shop) for pregnant women using drugs. Although no evaluation findings were provided on the service's effectiveness, a qualitative study found women preferred this to traditional antenatal care within General Practice (Hall and van Teijlingen, 2006). Non-judgemental staff attitudes, a high level of support, consistent staff, reliable information and multi-agency integrated care were considered very important to the women. This one-stop shop approach was also favoured by child and family health nurses and registered nurses at opioid treatment clinics in Australia, who echoed important themes such as building a trusting relationship between the woman and the child and family health nurse, maintaining continuity of care and a multidisciplinary/interagency approach (Harvey et al. 2012).

HIV and depression

Depression in HIV pregnant women can increase their risk of HIV progression, make women more vulnerable to suicidal thoughts and have a negative impact on adherence to antiretroviral therapy and prevention of mother-to-child transmission (Bangsberg et al, 2001; Ekama et al, 2012). An RCT conducted in Tanzania evaluated the effect of an interactive group counselling intervention for HIV positive women on antenatal depression and disclosure of HIV status (Kaaya et al, 2013). The intervention was developed using a problem-solving framework and experience from a larger open support group for women with psychological distress; and the group facilitated by a trained social worker/psychiatric nurse. Women allocated to the intervention received six weekly group counselling sessions. The group size was between six to eight women. The initial session dealt with the challenges of being HIV positive, whom to disclose to and prevention and support methods when planning for the future. For the 97 women receiving the intervention, compared to 91 controls, positive outcomes were found for depression scores using a 15-item depression subscale of the Hopkins Symptom Checklist-25. No significant increases in disclosure were found but the findings suggested a trend towards higher disclosure numbers for the intervention group. Women also appeared better prepared in anticipating and coping with their partner's reaction to their disclosure.

Asylum seekers, refugees, migrant and BAME women

The amount of available evidence for perinatal interventions for asylum seeking, migrant and black and minority ethnic women was very limited. Much has been published highlighting the needs and lack of access to maternity services, but very little appears in the literature outlining effective or good practice approaches for these specific groups. Some recommendations and guidelines are available.

Asylum seekers and refugees

The needs of asylum seeking and refugee women are highly complex. Many will have experienced sexual violence, marital rape, domestic violence, female genital mutilation, forced abortion or sterilisation, and/or human trafficking (ICAR, 2007). A major issue for organisations in the UK was the detection of pregnancy in refugee women and the inadequacy of care for pregnant and nursing women in detention (McLeish et al. 2002).

A UK-wide needs analysis of pregnant asylum seeker/refugee women and refugee/asylum seeker mothers detained in immigration removal centres was carried out by Williams (2008) on behalf of Birth Companions. The findings of this analysis are shocking – facilities for washing baby's bottles, breast feeding and weaning were very limited and in some cases mothers were not allowed to breast feed their babies. Women found the experience of being detained traumatic and the lack of emotional support whilst having to look after a baby in stressful conditions was very difficult.

Such distress was heightened further during dispersal or relocation. The timing of this was another critical factor in the provision of ante- and postnatal care and some recommendations suggest that no pregnant woman should be dispersed, especially after 34 weeks gestation (Feldman, 2013). Very often any continuity of care was likely to be interrupted, accommodation at the new location may well be inappropriate and women usually require help with registering with a GP.

Some literature outlines the perceptions and experiences of pregnant asylum seekers of maternity services while in emergency accommodation in the UK. Nabb (2006), for example, found favourable perceptions of maternity services; women regarded these highly reporting them to be organised and appropriate. However, the author noted that appropriate routes to accessing healthcare professionals for this group needed to be made known, and women simply 'received' services rather than worked as partners in planning them. Other studies also report the high need for support, explicit hostility and racism from maternity services and the social isolation pregnant asylum seekers often experience (McLeish, 2005).

There was a great deal of scope for organisations, several of whom were already working within detention centres, to support the women detained, particularly in terms of their emotional and health needs. The policy of detaining pregnant women has been considered unacceptable and in one study of 20 women recommendations have been made to end this practice (Medical Justice, 2013).

Migrant women

For migrant women a key issue was the low take-up of maternal mental health related services (Latif, 2014). Reasons for the lack of access to such services was often linked to cultural (eg. negative attitudes of migrant communities towards mental health issues); and practical barriers (e.g. language difficulties), although there was a huge gap in understanding how these impact on maternal mental health problems (Latif, 2014).

A review by Phillimore and colleagues (2010) of West Midlands maternity services, explored the experiences of migrant women. Around three quarters of the women interviewed (67 of 82 migrant women) were able to access these services before 12 weeks gestation and most had a positive birth experience. A quarter of women were unable to access maternity services because of not having enough information on what was available or that it was not translated, and not knowing they were pregnant. Several women mainly South Asian felt unable to access services due to being under the control of relatives (husbands, partners or in-laws), especially if they were not allowed out of the house unaccompanied by a man such as their husband or brother.

BAME women

A review by the National Perinatal Mental Health Project of the literature and service provision for perinatal mental illness in black and minority ethnic (BAME) women undertaken between 2009 and 2010 suggested that some BAME women experience much higher levels of psychological morbidity during the perinatal period than the majority population (Edge, 2011). This could become chronic and was usually associated with other health problems. Importantly, these issues may also be linked to unmet need as few women access care and treatment, according to a number of studies among Pakistani or Black and Caribbean women (Rahman and Creed, 2007; Edge and Rogers, 2005). Of the 48 maternity services surveyed in England, Scotland and Wales, just over half (53%) reported they had no services specifically for women from BAME backgrounds, although some (13%) were hoping to develop these (Edge, 2011). Where these services did exist they focused mainly on overcoming any language barriers which was too narrow a perspective to understand important ethnic and cultural issues (Edge, 2011).

Interventions for asylum seekers, refugees and BAME women

Hillingdon maternity services explored how they could adapt their provision to respond to the needs of a large number of unaccompanied asylum seeking women and children in transit through Heathrow airport. Following a needs assessment, rather than an evaluation of the services impact, several key issues were identified including: healthcare staff should not refuse anyone presenting to services; communication was a key challenge and the use of translation, interpreting and advocacy services was patchy; services were under resourced and so 'overstretched' in addressing the needs of these women who were by definition 'high risk'. Women interviewed reported good practice where services had assistants or advocates

and staff who demonstrated cross cultural competence and compassion (Gaudion and Allotey, 2008).

A service developed in East Kent, England in 2003, sought to provide appropriate, acceptable and accessible maternity care for pregnant asylum seeking women in the community. Harris et al. (2006) described this service in which lead midwives spend their time flexibly, often in addition to their usual caseload and hospital work. With a caseload of up to 15 women, the lead midwife will provide much of the ante- and postnatal care for this group, often through drop-in sessions or visits to the emergency accommodation. Women can be accompanied to obstetric reviews, meetings and other related appointments. Screening for other health problems, such as tuberculosis is also carried out. All asylum seekers are given their own personal health records and any found to be pregnant are referred to the specialist midwife who aims to provide full antenatal care. Women over 36 weeks' gestation or those with an obstetric problem are not dispersed until after delivery which was negotiated between the medical team and the Migrant Helpline charity that oversees emergency accommodation. One-to-one parent education was also offered to women not dispersed – including the process of labour and pain relief. Midwives contact other services (e.g. GPs, the nursing team and health visitor within the emergency accommodation centre). Language and problems with translation present a major challenge for the service and in response the team have developed a picture book to describe the care provided. They are also useful for explaining healthy eating and taking exercise.

In a community consultation with 92 participants, Thomson et al (2012) explored the experiences, attitudes and knowledge of perinatal issues among vulnerable population groups in the North West of England who expressed that universal antenatal services do not address their needs. Vulnerable groups included teenagers, asylum seeking, victims/survivors of domestic/sexual abuse, substance problems, living in poverty, specific ethnic minority groups, travellers, homeless/living in temporary accommodation, lone parents, learning/physical disabilities and known to child protection. Four areas of consideration were highlighted: participants' attendance at antenatal care (the need for more flexible access); the frequency of antenatal appointments (e.g. additional appointments to monitor progress when needed); the location of antenatal care (to be based in the community and close by) and the provision of risk information (having this explained in person rather than being handed information leaflets).

Befriending

A befriending project based in Northern England targeted pregnant asylum seeking and refugee women (McCarthy and Haith-Cooper, 2013). The three year project set up a health befriending network in four areas of England. Befrienders were English speaking women, many of whom were asylum seeking and refugee mothers, who received four half days of training in preparation for supporting the target group. Support lasted from early pregnancy

until two months after birth, and clients were seen for up to three hours a week. Befrienders supported women by listening, signposting to relevant services to meet health and social care needs, and accompanying them to appointments if required. Befrienders received support from their peers and supervision and debriefing sessions from the project coordinator. Fifty-one women, speaking more than 30 different languages volunteered as befrienders and broadly matched to 83 clients; many of whom were pregnant and some had children already. Preliminary qualitative findings suggested the project was valuable for clients and befrienders. Developing a trusting relationship was key and clients were more able to reveal difficulties that they might not have otherwise disclosed.

Casework

Therapeutic Casework was an approach developed by the Refugee Council for women seeking asylum affected by rape or sexual violence (Keefe and Hage, 2009). Although not formally evaluated the project was assessed on six aspects of good practice, for example, using a holistic approach which offers integrated programmes of social, emotional and psychological help, receptivity towards culture, and enhancing refugees' own capabilities (Watters, 2008; cited in Keefe and Hage, 2009). The approach combines counselling skills, practical advice and advocacy which are culturally sensitive and described in a good practice guide. The project supported 153 women, of whom 15% were pregnant and 76% experienced trauma-related psychological distress. Women who were pregnant after rape often describe conflicting feelings of joy at being pregnant and horror that it was the child of the rapist. Some women will not talk about the pregnancy and others show difficulties at bonding with the baby after birth or develop postnatal depression. The authors suggest caseworkers should explore women's perceptions about how her culture views the incident and do so sensitively, and ask how she was feeling and if appropriate refer the client for a more formal mental health assessment.

Specialist workers

A Sure Start midwife with a special interest in refugees and asylum seekers described an onsite antenatal service for this group who lived in emergency accommodation and were awaiting dispersal (Ukoko, 2005). Based on one midwife's experience of working with this group suggestions were made for other midwives on how to understand the main challenges, explore the needs of pregnant asylum seeking women, enable them to access GP services, and strive to improve the quality of maternity services for disadvantaged and vulnerable pregnant women.

Another service model was the Pregnancy Outreach Worker (POW). Kenyon et al. (2012) aimed to recruit over 1,300 women to receive a lay POW, from four areas of Birmingham with high levels of deprivation and identified by the midwife through routine assessment as being at social risk. Working together with community midwifery teams, the POW aimed to support pregnant women with complex social needs and from a multi-ethnic population in an effort

to improve maternal and infant outcomes. Support from lay workers started before 28 weeks gestation until six weeks after birth. The women were from a variety of ethnic groups (Pakistani, Bangladeshi, Indian and European), including recently arrived mothers, refugees and asylum seekers. The POW service was compared to usual care using an RCT design but the evaluation findings are still to be published. The intervention comprised individual case management to ensure women attended antenatal appointments and engaged with care (e.g. take prescribed medication, make appropriate lifestyle changes such as smoking cessation). The POW service also provided social and practical support to deal with any issues concerning benefits, housing and mental health problems. POWs received level three National Vocational Qualification (NVQ) and are given access to supervision. Lay workers provide similar support to Family Support Workers (FSW), based in Children Centres. There was some concern among the investigators of the POW service that many of the women eligible for the study will also receive FSW support which may impact on the study's recruitment of women and affect the findings.

Interventions for domestic violence

Identifying domestic and child abuse forms an important part of maternity services and related support. Domestic violence (DV) was estimated to affect one in four women and every week two women are killed by former partners in England and Wales, often witnessed by children (Office for National Statistics, 2013; DH, 2003). Compared to hospital midwives, community midwives appear to encounter more suspected and definite cases of domestic and child abuse, but a 10% gap was found between reporting and identifying definite cases in one UK study, partly accounted for by the lack of training (Lazenblatt, 2010).

A safe-house for women and children experiencing domestic violence located in West London was established by Refuge over 40 years ago. DV has been shown to increase at the point of pregnancy and associated with higher rates of miscarriage, low birth weight and foetal injury/death (DH, 2004; Mezey, 1997). Refuge's mission to develop innovative services led it to set up the independent domestic and sexual violence advocacy (IDSVA) based within a hospital maternity unit to respond quickly to pregnant women experiencing DV (Horley, 2014). Since the service started in 2011, 158 women and 146 children had been supported and over 300 midwives and other health professionals have received training. After exiting the service 52% women felt safer. Using the CAADA-DASH domestic violence indicator toolkit, the service appeared to reduce the average risk by 32% for every woman.

Doula UK members, in partnership with London housing and support charity Hestia, provide free birth and postnatal Doula services for women affected by domestic abuse. Women are supported with accessing antenatal care and education or other resources they are not able to afford, are accompanied when attending appointments, Doulas stay with the client during labour and after birth, help with baby's first feed and provide practical and emotional support postnatally (Middlemiss, 2013). No evaluation of this support appears to have been carried out.

Social deprivation

Reducing health inequalities in mothers and their young children became a central focus of attention in the last Labour Government (North, 2005). A systematic review identified the best available evidence on effective interventions to reduce infant mortality, or one of its major causes (sudden infant death syndrome, congenital anomalies or preterm birth). The interventions included the delivery and organisation of antenatal care for women who were socially disadvantaged, vulnerable or at risk for adverse birth outcomes (Hollowell et al, 2009). No evidence was found for antenatal interventions that had an effect on mortality from sudden infant death syndrome and there was limited evidence on reducing congenital anomalies and preterm birth in this particular target group.

Cupples et al. (2010) developed a tailor made peer-mentoring programme for first-time mothers living in socially deprived communities in Northern Ireland to improve maternal health and infant development. Peer mentoring was delivered fortnightly by lay support workers during pregnancy and monthly for a year after birth. This was based on the client's wishes through home visits and/or telephone contacts and provided in addition to usual care. The intervention was assessed using a RCT design, where 343 women and their children completed the outcome assessments -140 received the intervention and 152 were the controls. No positive findings were found for the intervention. Qualitative data revealed both women and mentors gained from the intervention. The women valued the advice given within the context of the mentor's personal experience of child-rearing. Mentors gained in terms of health-related knowledge, personal skills and new employment possibilities.

Two types of postnatal social support were offered to culturally diverse mothers living in a disadvantaged inner city area. Two intervention groups of 731 women received either a year of monthly supportive listening home visits by a support health visitor focused on the mother when their baby was about 10 weeks old; or a year of support from community groups providing drop in sessions, home visiting and/or telephone support; or usual care (controls). These interventions were evaluated, using a RCT design, to assess their impact on maternal and child outcomes – child injury, maternal smoking and maternal depression (Wiggins et al, 2004a; 2004b). At 12 and 18 month follow-up, very little positive impact was found compared to controls on the main outcomes measures. Support from the specialist health visitor led to a reduced use of GPs and an increased use of NHS health visitors. There was a low uptake of the community group support intervention, where participants much preferred home visiting support by community groups.

Raymond et al (2009) conducted a qualitative study looking at women's experiences of antenatal depression and what they found helpful in terms of community support and services during pregnancy. This north London based study was part of a Sure Start Local Programme for socially disadvantaged families with children aged between 0-4 years. Participants came from different cultural and ethnic backgrounds and had a baby of more than six weeks, but less than one year. Emotional isolation and loneliness were commonly

described by participants and it was difficult for women to disclose their feelings of depression during pregnancy. Partner support, or the lack of this, appeared crucial to women's psychological well-being during pregnancy. Other helpful mechanisms for support were connecting with other women and having the opportunity to meet others during pregnancy. The authors conclude that 'low tech' interventions, for example peer support, massage, practical skills development and exercise were useful as well as more sophisticated support including access to web-based support groups. Creating a safety net for women with antenatal depression was perceived as important.

What do we learn from interventions delivered to vulnerable women with complex needs?

- ***The policy guidance talks about the importance of woman-centred care – which fits with the research that shows how different women need different things.***
- ***There is not enough research yet to guide targeted interventions for women with substance use issues or women with postnatal depression. Complex problems require person centred solutions.***
- ***The evidence base is thin, with few studies reporting outcomes data, and there are also problems of generalizability of individual study findings because of varied methods used and different populations sampled.***
- ***Working with vulnerable women requires agencies to build relationships based upon trust but women's distrust of services is a barrier to engagement as many women have a strong fear of losing their child***
- ***Models for working with women with substance misuse problems included home visiting services, integrated health care programmes, specialist drug liaison midwives and a one stop clinic. Modest positive impact was found on maternal mental health, birth outcomes of child, parenting skills and increased engagement with services.***
- ***Models for working with asylum seekers and refugees are supported by very limited research evidence. Those being investigated include befriending programmes building local networks where clients and befrienders report wellbeing benefits and the importance of a case work approach involving culturally sensitive counselling, advocacy and practical advice. Where targeted maternity services are offered staff with cross cultural competence and compassion were important as well as flexibility around health support provided extending beyond maternity provision to screening for TB.***
- ***Models for working with women from socially deprived backgrounds – peer mentoring, health visitor support, community drop- in and telephone support found no differences in maternal or child outcomes compared to usual care. Women's feedback on peer mentoring was positive, valuing the advice provided. Women valued having the opportunity to meet others during pregnancy.***

3.4 Family support and parenting interventions

This literature review did not search for parenting interventions. However, literature on interventions for pregnant women including policy guidance referenced the important of family support and parenting skills. There was a growing evidence base on improving outcomes for children under the age of 18 years. The first few years of life are particularly important for future mental, social and emotional development; so too was the quality of parent-infant relationship for determining outcomes (Stewart-Brown and McMillan, 2010).

Many interventions offering family support to vulnerable families aim to prevent problems such as family breakdown and to improve the health and wellbeing of children. Building an effective relationship with vulnerable parents and professionals was considered key to achieving positive outcomes for children (Crowther and Cowen, 2011). We summarise below a small number of evaluations. This is not comprehensive but highlights key issues that feature in policy guidance, that relate to the evidence base explored in this review.

Key approaches for working with vulnerable parents

An evaluation of the support provided by Action for Children found that what worked well in working with parents included: consistency in approach; flexible and non-prescriptive delivery; facilitating multi-agency services and supporting service accountability (Crowther and Cowen, 2011). Family Action was another organisation providing a service of intensive family support called Building Bridges to deal with a range of serious family difficulties (MacLeod 2010). The target group included families where an adult has severe and enduring mental health issues or families with complex serious family relationship and behaviour problems. The service was tailored to the needs of families using a holistic, goal oriented and problem-focused approach. Data was collected on 2,147 families, with more than 4,300 children, seen by the service between 2004 and 2010. Before and after evaluation data obtained from 848 adult users of the Building Bridges service revealed that the proportion of adults with a significant problem in family relationships decreased from 50% to 32% of the sample. Prior to receiving this service almost a third of younger children were likely to be depressed (measured using clinical tools); and by the end of their involvement with Building Bridges this decreased to one in five children.

Ten Community Mothers Parent Support Programmes (CMPs) operating across England, Wales and Scotland were evaluated to assess what worked well and under what circumstances and how this programme could be changed to improve its effectiveness (Suppiah, 2008). CMP was delivered by a local experienced mother providing parents with young children a semi-structured home visit. This aims to intervene early to prevent problems and enable parents to support their children's health and wellbeing. A key component of the CMPs included its informality, peer support and a strong community

focus. Around 456 parents with children up to the age of four years took part in the evaluation. Most were White British (85%) and aged between 20 and 30 years. The majority were unemployed (75%) and 35% were lone parents.

Parents experiencing high levels of disadvantage benefited most from this semi-structured home visiting programme. Before and after data for 114 parents who had received eight ongoing home visits showed significant improvements for: access to emotional support and information about parenting; feeling confident about handling children's behaviour and choosing healthy food for them; having time in the day to eat properly and for meeting other people. Improving the effectiveness of CMPs included engaging parents early in pregnancy; working flexibly and adapting the CMP to suit the needs of parents; and promoting multifaceted pathways to enable to the most disadvantaged parents access the support of a community mother.

Supporting Families in the Foundation Years (Departments of Education and Health, 2011), a government initiative, to put in place a framework for families, from pregnancy to the age of five was focused on promoting children's development and supporting all aspects of family life. A 0-2 Special Interest Group explored how best to promote effective implementation of the principles set out in Supporting Families. In providing guidance for service commissioners and decision-makers the Wave Trust (Department of Education, 2013) outlined how maternal stress, diet, alcohol or drug misuse can interfere with a child's future psychological and neurological development. Breastfeeding was highlighted as being of particular benefit, so too are good hygiene, home safety, immunisation and early intervention in reducing the adverse effects of abuse and neglect.

Recommendations for perinatal parenting programmes

A systematic review of home and community based parenting support programmes and interventions by Stewart-Brown and McMillan (2010) examined those that have been implemented and evaluated in Europe and those that showed promise. The interventions examined were those that targeted the general population around the time of birth; prevention and treatment of postnatal depression; manualised parenting programmes including those targeting high risk groups or families where children were showing early signs of problem behaviour; and programmes for highest risk families (for example, where child abuse had been documented and where parents were misusing drugs and/or alcohol). Examples of recommended programmes to benefit families were perinatal programmes to:

- Promote infant-mother bonding – through abdominal self-massage during pregnancy, skin to skin care, kangaroo care where infants are carried for much of the day, infant massage, developmental guidance (e.g. the Brazelton Neonatal assessment scale);
- Prevent and treat postnatal depression - using psychosocial approaches offering practical and emotional support focused on demographically and clinically high risk

groups and treated with cognitive behavioural approaches, interpersonal psychotherapy and non-directive counselling which are all equally effective;

- Parenting support in infancy and early years – using around six sessions of short sensitivity focused interventions starting when infants are approximately six months old, multicomponent long-term home visiting programmes with a focus on parenting with weekly visits starting in the antenatal period and applying a strengths-based empowering approach to enhance mother-infant interaction and enjoyment;

Parenting programmes for the prevention of behavioural problems in children – using manualised parenting programmes for at risk populations such as group based behaviour management programmes (e.g. Incredible Years and Triple P) and group based relational programmes.

4. Conclusions

Overall aim for the review

This review aimed to provide a comprehensive overview of the literature on what works to support pregnant vulnerable women and new mothers with the range of problems they experience. The focus of the overview was on interventions delivered in the community. It included the academic and other published literature in an attempt to describe both existing and emerging evidence, such as ongoing evaluations, promising interventions and good practice. The evidence reviewed was not graded as with a systematic review; no assessment of the quality of individual studies was provided.

Limitations

It is important to emphasize the limitations of the review. This was a small scale piece of work, commissioned with a limited budget. With that in mind a narrow focus was imposed upon literature search terms, agreed with Birth Companions' staff, to extract learning from published literature to support the development of the Community Link service. There was insufficient capacity in the project to 'grade' the literature found which is a limitation. The review does not therefore judge whether a study was robust and of scientific merit on a graded scale from poor to excellent quality of evidence. Instead a narrative approach was taken and studies that provided evidence of interventions supporting vulnerable pregnant women and new mothers are detailed. These fall into a number of categories: interventions where evaluations have found positive associations with outcomes; interventions where evaluations did not suggest outcomes improved, though women may report satisfaction with the services received; interventions without an evidence base but have robust evaluations in progress.

Evidence base assessed – what works to improve maternal and child outcomes?

The evidence base was small, particularly when the information searched for was maternal and child outcomes. There are very few meta analyses of completed RCTs to provide

confidence that an intervention has a robust evidence base. We found that satisfaction with services was reported without outcomes data in a number of areas explored. We cannot link service satisfaction with outcomes based upon evidence reviewed, however, we recommend further work investigates these associations.

A summary of the evidence is provided in a table format in appendix 1. There was a relatively large body of literature relating to women with perinatal mental health problems and the effectiveness of psychosocial interventions for postnatal depression, particularly CBT. Integrated programmes and those with multiple interventions were also shown to reduce depression. These all include home visiting, which alone has a poor evidence base but in combination with other approaches may prove effective. For example, home visits during pregnancy for women with substance misuse issues appear not to be effective in reducing drug or alcohol use, the potential for child abuse or infant death but they do help keep this target group engaged with services. Peer support and befriending programmes can be effective in improving symptoms of depression in new mothers. Debriefing has some evidence but only for those with high needs.

Less evidence exists to demonstrate the effects of interventions targeting pregnant asylum seekers, migrants and BAME groups. This was an area that urgently requires evaluative research to understand whether volunteer befriending programmes or specialist midwifery services can improve the health and social outcomes of this target group. This was also the case for literature on homeless pregnant women and new mothers which was extremely limited and no references were identified. There are a small number of interventions described in the literature for pregnant women and new mothers who are victims of domestic violence. Again this was another area that should be prioritised for further research to evaluate what works, particularly free birth and postnatal Doula services for this target group. There are pilot services working with these groups, and evaluations tended to look at service satisfaction. This may reflect the challenges of research into complex interventions with vulnerable populations.

Standard antenatal services have a developed evidence base. It was known that poor antenatal care was linked to poor birth outcomes. However, surprisingly, little was known about what works with antenatal care and the main ingredients that make it effective, nor how other factors such as poverty impact on effectiveness of standard antenatal services. Continuous support during labour by a dedicated companion with some training such as a Doula and chosen by the woman was highly beneficial. Positive outcomes such as spontaneous birth delivery, less pain relief required, shorter labour, good Apgar score for the baby and more satisfaction have been found. The evidence was relatively strong and continuous support during labour should become standard practice.

Across all interventions the quality of the interaction was found to be critical – be that a midwife, volunteer befriender or paraprofessional. Being listened to and being treated with kindness were themes that have been highlighted in a number of qualitative studies,

particularly for women with postnatal depression and those with an intellectual disability. Developing a good relationship with a health visitor or support worker was key. The opportunity to meet with other pregnant women was a simple but important mechanism of support. It was important to keep these factors in mind when developing interventions for vulnerable pregnant women and new mothers.

5. Key recommendations

There is much to learn from the existing literature. The following recommendations are written for a general audience, as well as for Birth Companions specifically. Key recommendations of the review are to:

- Deliver an **integrated programme** of support that adopts a women-centred approach, recognising individual needs and preferences for how support is received, drawing on home visiting, debriefing, counselling, and peer support as appropriate.
- **Work alongside other agencies** helping to build trust of women during antenatal period, working to build a platform for improved birth outcomes: signpost and engage women appropriately. Integrated programmes, linked to other agencies is what the Birth Companions' Community Link service seeks to achieve and the research evidence suggests this is likely to have a positive impact on service engagement.

- Make **continuous support during** labour standard practice. This includes identifying suitable voluntary sector support when friends and family support cannot be found. This is a core support that Birth Companions provide to vulnerable and isolated pregnant women.

- Provide vulnerable pregnant women and new mothers **access to psychological interventions** which have the strongest evidence base for impacting on maternal depression. Birth Companions does not currently provide this support, but signposts to other agencies.

- Ensure services are **culturally aware and sensitive to women's fears** – particularly of losing their child when social services become involved in their care. Birth Companions' flexible and women-centred approach ensures this is experienced by the women who engage with them.

- **Generate further research** into understanding what post-natal interventions work for vulnerable pregnant women and new mothers, particularly asylum seekers, refugees and victims of domestic violence and those in unstable housing conditions. We particularly need to develop a stronger post-natal evidence base so that interventions can be effectively targeted addressing not only the experience that

women have with services but longer term outcomes for mother and baby as well. Birth Companions can continue to contribute to the evidence base by advocating for the importance of research and encouraging the development of new research studies.

Glossary of terms

BAME – Black and Minority Ethnic group is a term used in the UK to describe people from non-white communities. It is the term used and defined in the British population census conducted every ten years by the Office for National Statistics.

CBT – Cognitive Behavioural Therapy, a talking therapy that helps people manage their problems by changing the way they think or behave. Time in therapy is usually short, between six weeks and six months.

Cochrane review – systematic reviews of primary research in healthcare and health policy. These reviews are internationally recognised as the highest standard of evidence-based healthcare for understanding the effects of interventions for prevention, treatment and rehabilitation.

Apgar score – a summary of a test given to a newborn baby soon after delivery. This helps decide if a baby needs any immediate treatment during the first moments of life.

PTSD – Post traumatic stress disorder, a condition that can develop after person is exposed to a very stressful, frightening or distressing event such as sexual abuse, warfare or serious injury.

RCT – Randomised controlled trial, a type of research design to randomly assign people to two or more groups to test an intervention or treatment. It is considered the 'gold standard' for evaluating an intervention or treatment.

IPT - Interpersonal Psychotherapy, a time limited treatment for people with mood disorders, such as depression. It helps the person regain control of their mood and functioning and usually lasts between 12-16 weeks.

NICE guidance – The National Institute for Health and Care Excellence (NICE) produce guidance and advice in the form of national guidelines to improve health and social care. Guidelines contain a summary of high quality evidence for effective interventions and treatments.

Meta-analysis – This is a statistical method that pools together the results of several independent research studies, where possible. This provides a more precise estimate of the effects of a treatment or intervention.

Doula – A non-medical person who assists a woman before, during and/or after child birth. A Doula typically provides physical and emotional support which may also be given to the woman's partner and family.

References

4Children (2011) *Suffering in Silence: 70,000 reasons why help with postnatal depression has to be better*. http://www.4children.org.uk/Files/e5370a06-db65-4277-97ae-a0ed00b549c0/Suffering-in-Silence_NewCover.pdf (accessed 17 June 2014).

Affleck, G., Tennen, H., Rowe, J., Roscher, B. and Walker, L. (1989) *Effects of formal support on mothers' adaptation to the hospital-to-home transition of high-risk infants: The benefits of costs of helping*. Child Development, 60:488-501.

Ammerman, R.T., Putnam, F.W., Bosse, N.R., Teeters, A.R. and Van Ginkel, J.B. (2010) *Maternal depression in home visitation: A systematic review. Aggression and Violent Behavior*, 15:191–200.

Ayers, S., Claypool, J. and Eagle, A (2006) *What happens after a difficult birth? Postnatal debriefing services*. British Journal of Midwifery, 13:157-161.

Bailey, M. and Price, S. (2008) E*xploring women's experience of a Birth Afterthoughts Service*. Evidence Based Midwifery, 6:52-58.

Bangsberg, D. R., Perry, S., Charlebois, E. D., Clark, R. A., et al. (2001). *Non-adherence to highly active antiretroviral therapy predicts progression to AIDS*. AIDS, 15:1181-1183.

Barlow J. and Coe, C. (2012) *Family Action Perinatal Support Project. Research Findings Report*. http://www.family-action.org.uk/uploads/documents/Perinatal%20Support%20Project_Evaluation%202012.pdf (accessed 13 June, 2014).

Barlow, J., Davis, H., McIntosh, E., Jarrett, P., et al. (2006) *The role of home visiting in improving parenting and health in families at risk of abuse and neglect: Results of a multicentre randomised controlled trial and economic evaluation*. Arch Dis Child, 92:229-233 doi:10.1136/adc.2006.095117.

Barnes, J., Ball, M., Meadows, P., McLeish, J., Belsky, J. and the FNP Implementation Research Team. (2008) *Nurse-Family Partnership Programme: First Year Pilot Sites Implementation in England. Pregnancy and the Post-partum Period. Research Report No DCSF-RW051*. https://www.gov.uk/government/publications/nurse-family-partnership-programme-first-year-pilot-sites-implementation-in-england (accessed 16 June 2014).

Bauer, A., Parsonage, M., Knapp, M., Iemmi, V. And Adelaja, B. (2014) *The cost of perinatal mental health problems*. Centre for Mental Health and London School of Economics.

Bounty (2011) *The parenting club's 'Word of Mum™'*. In: Suffering in Silence. 4Children. http://www.4children.org.uk/Files/e5370a06-db65-4277-97ae-a0ed00b549c0/Suffering-in-Silence_NewCover.pdf (accessed 17 June, 2104).

Cantwell, R., Clutton-Brock, T., Cooper, G., et al (2011) *Saving mothers' lives: reviewing maternal deaths to make motherhood safer: 2006-2008.* The Eight Report of the Confidential Enquiries into Maternal Deaths in the United Kingdom. BJOG, 118 (suppl 1):1-203.

Caramlau, I., Barlow, J., Sembi, S., McKenzie-McHarg, K. and McCabe, C. (2011) *Mums 4 Mums: structured telephone peer-support for women experiencing postnatal depression. Pilot and exploratory RCT of its clinical and cost-effectiveness.* Study Protocol. Trials, 12:88. http://www.trialsjournal.com/content/12/1/88 (accessed 16 June, 2014).

Care Quality Commission (2013) *National findings from the 2013 survey of women's experiences of maternity care.* http://www.cqc.org.uk/sites/default/files/documents/maternity_report_for_publication.pdf (accessed 6 Jun 2014).

Casey, P., Coleman, L., and Houslston, C. (2013) *Peer supporters in 'Pregnancy, Birth and Beyond', and 'Health Relationship Champions': A formative evaluation.* One Plus One. http://www.oneplusone.org.uk/wp-content/uploads/2013/05/FINAL-peer-support-2013.pdf (accessed 17 December, 2014).

Coe, C. and Barlow, J. (2013) *Supporting women with perinatal mental health problems: the role of the voluntary sector.* Community Practitioner, 86: 23–26.

Corrarino, J.C., Williams, C., Campbell, W. S., III, Amrhein, E. et al. (2000) *Linking substance-abusing pregnant women to drug treatment services: A pilot program.* Journal of Obstetrics, Gynaecology, and Neonatal Nursing, 29: 369–376.

Crowther, K. and Cowen, G. (2011) *Action for Children - Effective relationships with vulnerable parents to improve outcomes for children and young people: Final study report*. York Consulting.

Cupples, M.E, Steward, M.C., Percy, A., Hepper, P., Murphy, C., and Halliday, H.L. (2010) *A RCT of peer-mentoring for first-time mothers in socially disadvantage areas (The MOMENTS Study).* Archives of Disease in Childhood - BMJ Journals, 96:252–258. doi:10.1136/adc.2009.167387.

Dennis, C-L. and Dowswell, T. (2013) *Interventions (other than pharmacological, psychosocial or psychological) for treating antenatal depression*. Cochrane Database Systematic Review, 3:CD006795.

Dennis, C-L., Hodnett, E., Reisman, H.M., Kenton, L., Weston, J., et al. (2009) *Effect of peer support on prevention of postnatal depression among high risk women: multisite randomised controlled trial.* BMJ, 338:a3064. doi:10.1136/bmj.a3064.

Dennis, C-L., Ross, L.E., and Grigoriadis, S. (2007) *Psychosocial and psychological interventions for treating antenatal depression.* Cochrane Database Systematic Review, 3:CD006309.

Department of Education (2013) *Concepton to age 2 – the age of opportunity. Framework for local area service commissioners.*

Department of Education and Department of Health (2011) *Supporting Families in the Foundation Years.*

Department of Health (2003) *Women's Mental health: Into the Mainstream*. Department of Health, London.

Department of Health (2004) *National Service Framework for Children, Young People and Maternity Services.* Department of Health, London.

Donaghy, M. (2012) *Postnatal Counselling: Early Intervention for Mothers with Postnatal Depression,* MumsAid CiC, Royal Borough of Greenwich. Evaluation Report available from: http://www.c4eo.org.uk/local-practice/promising-practice-examples/postnatal-counselling-early-intervention-for-mothers-with-postnatal-depression,-mumsaid-cic,-royal-borough-of-greenwich.aspx (accessed 27 March 2014).

D'Souza, L.D., and Garcia, J. (2004) *Improving services for disadvantaged childbearing women*. Child: Care, Health & Development, 30:599–611.

Edge, D. (2011) *National Perinatal Mental Health Project Report. Perinatal Mental Health of Black and Minority Ethnic Women: A Review of Current Provision in England, Scotland and Wales.* National Mental Health Development Unit.

Edge D, Rogers A. (2005) '*Dealing with it': Black Caribbean women's response to adversity and psychological distress associated with pregnancy, childbirth, and early motherhood.* Social Science and Medicine, 61:15- 25.

Ekama, S. O., Herbertson, E. C., Addeh, E. J., Gab-Okafor, C. V., et al. (2012*). Pattern and determinants of antiretroviral drug adherence among Nigerian pregnant women*. Pregnancy, 6. Accessed from: http://www.hindawi.com/journals/jp/2012/851810/

Elliot, S.A., Leverton, T.J., Sanjack, M., Turner, H. et al. (2000) *Promoting mental health after childbirth: A controlled trial of primary prevention of postnatal depression*. British Journal of Clinical Psychology, 39: 223-241.

Evans, K. (2012) *Building community by supporting mothers: New approaches to perinatal care.* Community Practitioner, 85:36-37.

Evans J, Heron J, Francomb H, et al. (2001) *Cohort study of depressed mood during pregnancy and after childbirth*. British Medical Journal, 323:257–260.

Family Nurse Partnership (2013 update) *The Evidence Base for Family Nurse Partnership. National Unit.* https://www.gov.uk/government/publications/evidence-base-for-family-nurse-partnership-fnp (accessed 16 June, 2014).

Feldman, R. (2013) *When maternity doesn't matter. Dispersing pregnant women seeking asylum.* Refuge Council/ Maternity Action. http://www.refugeecouncil.org.uk/assets/0002/6402/When_Maternity_Doesn_t_Matter_-_Ref_Council__Maternity_Action_report_Feb2013.pdf (accessed 24 June, 2014).

Gaudion, A. and Allotey, P. (2008) *Maternity care for refugees and asylum seekers in Hillingdon. A needs assessment.* Centre for Public Health Research, Brunel University. Uxbridge.

Gavin N., Gaynes, B., Lohr, K., Meltzer-Broady, S., et al. (2005) *Perinatal depression: a systematic review of prevalence and incidence.* Obstet Gynecol, 106:1071-83.

Hall, J.L. and van Teijlingen, E.R. (2006) *A qualitative study of an integrated maternity, drugs and social care service for drug-using women.* BMC Pregnancy and Childbirth. BMC Pregnancy and Childbirth, 6:19. doi:10.1186/1471-2393-6-19.

Halliday, J. and Wilkinson, T (2009) *Young, vulnerable and pregnant: family support in practice*. Community Practitioner, 82:27-30.

Harris T. (2008). *Putting Newpin to the Test: A randomised controlled trial of the Newpin Antenatal and Postnatal Project.* In: Newpin: Courage to Change Together, Mondy, S. and Mondy, L. (eds). Uniting Care: Burnside, Australia.

Harvey, S.R., Schmied, V., Nicholls, D. and Dahlen, H. (2012) *Key components of a service model providing early childhood support for women attending opioid treatment clinics: an Australian state health service review*. Journal of Clinical Nursing, 21, 2528–2537, doi: 10.1111/j.1365-2702.2011.04063.

Hodnett ED, Gates S, Hofmeyr GJ, Sakala C (2012) *Continuous support for women during childbirth* (Review) John Wiley & Sons, Ltd: London.

Hogg, S. (2013) *Prevention in mind. All Babies Count: Spotlight on Perinatal Mental Health.* NSPCC. http://www.nspcc.org.uk/Inform/resourcesforprofessionals/underones/spotlight-mental-health_wdf96656.pdf (accessed 17 June 2014).

Horley, S. (2014) *Supporting pregnant women in need.* British Journal of Midwifery, 22:55.

Howard,L., Molyneaux, E., Dennis, C-L., Rochat, T. et al. (2014) *Non-psychotic mental health disorders in the perinatal period*. The Lancet, 384:1775-88.

ICAR (2007) *Women refugees and asylum seekers in the UK*. http://www.icar.org.uk/ICAR_briefing_on_WomenRefugees.pdf (accessed 23 June, 2014).

Jones, C. Jomeen, J. and Hayter, M. (2013) *The impact of peer support in the context of perinatal mental illness: A meta-ethnography*. Midwifery, 30:491–498.

Kaay, S.F., Blander, J., Antelman, G., Cyprian, F., Emmons, KM., et al. (2013) *Randomized controlled trial evaluating the eff of an interactive group counselling intervention for HIV positive women on antenatal depression and disclosure of HIV status.* AIDS Care: Psychological and Socio-medical Aspects of AIDS/HIV, 25:7, 854-862, DOI: 10.1080/09540121.2013.763891

Keefe, A. and Hage, E. (2009) *Vulnerable Women's Project Good Practice Guide: Assisting Refugee and Asylum Seeking Women affected by Rape or Sexual Violence*. Refuge Council. http://www.refugeecouncil.org.uk/assets/0001/7083/RC_Vulnerable_Women_GPG__v2b.pdf (accessed 24 June, 2014).

Kenyon, S., Jolly, K., Hemming, K., Ingram, L., Gale, N., Dann, S-A., et al. (2012) Evaluation of Lay Support in Pregnant women with Social risk (ELSIPS): a randomised controlled trial. BMC Pregnancy and Childbirth,12:11 http://www.biomedcentral.com/1471-2393/12/11

Kersten-Alvarez, L.E., Hosman, C.M.H., Riksen-Walraven, J.M. et al. (2010) *Long-term effects of a home-visiting intervention for depressed mothers and their infants.* Journal of Child Psychology and Psychiatry, 51:1160–1170.

Lazenblatt (2010) *Safeguarding children and public health: Midwives' responsibilities*. Perspectives in Public Health, 130:118-126.

Lederer, J. (2009) *Perinatal Support Project: Evaluation Report.* Family Action Southwark Newpin. http://www.family-action.org.uk/uploads/documents/Southwark%20Perinatal%20Support%20Project%20Evaluation%231%23.pdf (accessed 13 June, 2014).

Leggate, J. (2008) *Improving pregnancy outcomes: mothers and substance misuse*. British Journal of Midwifery, 16:160-165.

Lewis G, ed (2007) *Saving Mothers' Lives: Reviewing Maternal Deaths to Make Motherhood Safer, 2003–2005. The Seventh Report on Confidential Enquiries into Maternal Deaths in the United Kingdom.* CEMACH, London.

Love, S.M., Suarez, A.M and Love, M.E. (2008) *Young mothers and babies wellness program*. Children and Youth Services Review, 30:1437–1446.

Macrory, F., and Boyd, S.C. (2007) *Developing primary and secondary services for drug and alcohol dependent mothers.* Seminars in Fetal & Neonatal Medicine, 12:119-126.

MacLeod, M. (2010) *Building Bridges: An Independent evaluation of a family support service.* Family Action.

Marrs, J. (2013) *Evaluation of the impact of a CBT-based group on maternal postnatal mental health difficulties*, Journal of Reproductive and Infant Psychology, 31:72-80, DOI: 10.1080/02646838.2012.747676.

McCarthy, R. and Haith-Cooper, M (2013) *Evaluating the impact of befriending for pregnant asylum seeking and refugee women.* British Journal of Midwifery, 21:404-409.

McLeish, J. (2005) *Maternity experiences of asylum seekers in England.* British Journal of Midwifery, 13:782-785.

McLeish, J., McLeish J., Cutler, S. and Stancer, C. (2002) *A crying shame: Pregnant asylum seekers and their babies in detention*, London: Maternity Allliance, Bail for Immigration Detainees & London Detainee Support Group.

Mead, S. and MacNeil, C. (2004) *Peer support: What makes it unique*. http://www.parecovery.org/documents/PeerSupportUnique_Mead.pdf (accessed 16June, 2014).

Meades, R., Pond, C. Ayers, S. & Warren, F. (2011). *Postnatal debriefing: Have we thrown the baby out with the bathwater?* Behaviour Research and Therapy, 49, 367-372.

Medical Justice (2013) *Expecting Change: The case for ending the detention of pregnant women*. http://www.medicaljustice.org.uk/images/stories/reports/expectingchange.pdf (accessed 23 June, 2014).

Mezey GC (1997) *Domestic violence in pregnancy*. BMJ 314(7090): 1295.

Middlemiss, L. (2013) *Services for women escaping domestic abuse: Doula UK and Hestia. In Dignity in childbirth. Projects & Perspectives*. Birthrights Dignity in Childbirth Forum, 16 October, 2013. Pp 58-60.

Milligan, K., Niccols, A., Sword, W., Thabane, L., Henderson, J. and Smith, A. (2011) *Birth outcomes for infants born to women participating in integrated substance abuse treatment programs: A meta-analytic review.* Addiction Research and Theory, 19:542–555.

Misri, S., and Kendrick, K. (2008). *Perinatal depression, foetal bonding, and mother-child attachment: A review of the literature.* Current Pediatric Reviews, 4:66–70.

Morrell, J., Slade, P., Warner, R., Paley, G., et al. (2009*) Clinical effectiveness of health visitor training in psychologically informed approaches for depression in postnatal women: pragmatic cluster randomised trial in primary care*. BMJ, 338:a3045. doi:10.1136/bmj.a3045

Morton, A. and Forsey (2013) *My Time, My Space (an arts-based group for women with postnatal depression): a project report.* Community Practitioner, 86:31–34.

Nabb, J. (2006) *Pregnant asylum-seekers: perceptions of maternity service provision.* Evidence Based Midwifery, 4:89-95.

National Audit Office (2013) *Maternity services in England*. http://www.nao.org.uk/2013-maternityservices (accessed 6 Jun 2014).

NICE (2007) *Clinical Guideline 45, Antenatal and postnatal Mental Health*. http://guidance.nice.org.uk/CG45 (accessed 11 June 2014).

NICE (2010) Clinical Guideline 110, *Pregnancy and complex social factors. A model for service provision for pregnant women with complex social factors*. http://www.nice.org.uk/nicemedia/live/13167/50822/50822.pdf (accessed 19 June 2014).

Niccols, A., Milligan, K., Sword, W., Thabane, L., Henderson, J., Smith, A., Lui, J., Jack, S. (2010) *Maternal mental health and integrated programs for mothers with substance abuse issues.* Psychology of Addictive Behaviors, Vol 24(3), 466-474

Niccols, A., Milligan, K., Sword, W., Thabane, L. et al. (2012) *Integrated programs for mothers with substance abuse issues: A systematic review of studies reporting on parenting outcomes.* Harm Reduction Journal, 9:14. http://www.harmreductionjournal.com/content/9/1/14

Niccols, A. and Sword, W. (2005) *'New Choices'' for substance-using mothers and their children: Preliminary evaluation.* Journal of Substance Use, 10: 239–251.

North, J. (2005) *Support from the Start. Lessons from International Early Years Policy*. The Maternity Alliance.

NSPCC (2013a) *Specialist Mental Health Midwives: What they do and why they matter*. https://www.rcm.org.uk/sites/default/files/MMHA%20SMHMs%20Nov%2013.pdf (accessed 12 June 2014).

Oates, M., & Cantwell, R. (2011). *Deaths from psychiatric causes in 2011*. Centre for Maternal and Child Enquiries (CMACE), BJOG,118 (Suppl. 1):132-203.

Office for National Statistics (2013) *Focus On: Violent Crime and Sexual Offences 2011/12*. ONS Statistical Bullet in tinyurl.com/axfgvzh

Office for National Statistics (2012) *Births in England and Wales by Characteristics of Birth 2.* http://www.ons.gov.uk/ons/dcp171778_338077.pdf (accessed Aug 2015)

Office for National Statistics (2010) *Morality Statistics: Childhood, infant and perinatal 2007*. Series DH3 No.40. http://www.ons.gov.uk/ons/rel/vsob1/mortality-statistics--childhood--infant-and-perinatal--england-and-wales--series-dh3-/no--40--2007/index.html (accessed 9 June 2014).

O'Hara, M.W., Stuart, S., Gorman, L.L. and Wenzel, A. (2000) *Efficacy of Interpersonal Psychotherapy for postpartum depression*. Archives of General Psychiatry, 57:1039-1045. doi:10.1001/archpsyc.57.11.1039.

Olds D.L. (2002a) *Antenatal and infancy home visiting by nurses: From randomized trials to community replication*. Prevention Science, 3:153-172.

Olds, D.L. (2006) *The Nurse-Family Partnership: an evidence-based preventive intervention.* Infant Mental Health Journal, 27:5-25.

Olds D.L., Robinson, J.A., O'Brien, R., Luckey, D.W., Pettitt, L.M., et al. (2002b) *Home visiting by paraprofessionals and by nurses: A randomized, controlled trial*. Pediatrics, 110:486-496.

Owen-Jones, E., Bekkers M-J., Butler, C., Cannings-John, R., et al. (2013) *The effectiveness and cost-effectiveness of the Family Nurse Partnership home visiting programme for first time teenage mothers in England: a protocol for the Building Blocks randomised controlled trial*. BMC Pediatrics, 13:114. http://www.biomedcentral.com/1471-2431/13/114 (accessed 16 June, 2014).

Petrou, S., Cooper, P., Murray, L. and Davidson, L.L. (2006*) Cost-effectiveness of a preventive counselling and support package for postnatal depression*. International Journal of Technology Assessment in Health Care, 22:443–453.

Phillimore, J. and Thornhill, J. (2010) *Delivering in an age of super-diversity. West Midland review of maternity services for migrant women*. University of Birmingham and Department of Health.http://www.wmemployers.org.uk/media/upload/Library/Migration%20Documents/Publications/Delivering%20in%20an%20Age%20of%20Super-diversity%20v5.pdf

Prentice, S. and Watts, K. (2004) *Pregnant women and substance misuse: an audit*. British Journal of Midwifery, 12:767-770.

Rahman A, Creed F. (2007) *Outcome of antenatal depression and risk factors associated with persistence in the first postnatal year: prospective study from Rawalpindi, Pakistan*. Journal of Affective Disorders, 100:115-121.

Raymond, J.E. (2009) '*Creating a safety net': Women's experiences of antenatal depression and their identification of helpful community support and services during pregnancy.* Midwifery, 25: 39-49.

Rayns, G., Dawe, S. and Cuthbert (2013) *ALL BABIES COUNT. Spotlight on drugs and alcoho*l. NSPCC.

Redshaw, M., Malouf, R., Gao, H. and Gray, R. (2013) *Women with disability: the experience of maternity care during pregnancy, labour and birth and the postnatal period*. BMC Pregnancy and Childbirth, 13:174

Rowan, C., Bick, D., Da Silva Bastos, M.H., (2007) *Postnatal Debriefing Interventions to Prevent Maternal Mental Health Problems After Birth: Exploring the Gap Between the Evidence and UK Policy and Practice.* Worldviews on evidence based nursing. *4(2):97–105.*

Rowan, C., McCourt, C. and Bick, D. (2008) *Provision of perinatal mental health services in two English strategic health authorities: views and perspectives of the multi-professional team.* Evidence Based Midwifery, 8: 98-106.

Russell, S. and Lang, B. (2013) *Perinatal Mental Health Experiences of Women and Health.* Tommy's in conjunction with Netmums, the Institute of Health Visiting and the Royal College of Midwives, and supported by Boots Family Trust.

Scully, M., Geoghegan, N, Corcoran, P., Tiernan, M. and Keenan, E. (2004) *Specialized drug liaison midwife services for pregnant opioid dependent women in Dublin Ireland*. Journal of Substance Abuse Treatment, 26:27-33.

Seng, J. S., Low, L. M. K., Sperlich, M., Ronis, D. L., and Liberzon, I. (2009*). Prevalence, trauma history, and risk for post-traumatic stress disorder among nulliparous women in maternity care*. Obstetrics and Gynaecology, 114:839.

Shakespeare, J., Blake, F. and Garcia, J. (2006) *How do women with postnatal depression experience listening visits in primary care? A qualitative interview study*, Journal of Reproductive and Infant Psychology, 24:149-162, DOI: 10.1080/02646830600643866

Stein A., Campbell E.A., Day A., Cooper P.J. and Altham, P.M.E. (1989) *Social adversity and antenatal complications: their relation to postnatal depression.* British Medical Journal, 298:1073-1074.

Stewart-Brown, S. and Schrader McMillan, A. (2010) *Home and Community Based Parenting Support Programmes and Interventions. Promoting the mental health of children and parents evidence outcomes.* Report of Workpackage 2 of the DATAPREV Project.

Suppiah, C. (2008) *A Collective Evaluation of Community Parent Programmes. What Works Well and in What Circumstances. A national research project funded by the Health Foundation and sponsored by South West Essex NHS Research Consortium*. Parents 1st.

Sword, W., Jack, S., Niccols, A., Milligan, K., Hendersen, J., and Thabane, L. (2009) *Integrated programs for women with substance use issues and their children: a qualitative meta-synthesis of processes and outcomes.* Harm Reduction Journal, 6:32 doi:10.1186/1477-7517-6-32.

Turnbull, C. and Osborn, D.A. (2012) *Home visits during pregnancy and after birth for women with an alcohol or drug problem (Review).* Cochrane Collaboration. The Cochrane Library, Issue 1. http://onlinelibrary.wiley.com/doi/10.1002/14651858.CD004456.pub3/pdf (accessed 19 June 2014).

Tyler, S. (2012) *Commissioning Maternity Services A Resource Pack to Support Clinical Commissioning Groups*. http://www.england.nhs.uk/wp-content/uploads/2012/07/comm-maternity-services.pdf (accessed 6 Jun 2014).

Ukoko, F. (2005) *Sure Start Midwife: Giving a voice to the voiceless*. British Journal of Midwifery, 13:776-780.

Yonemoto, N., Dowswell, T., Nagai, S. and Mori, R. (2013) *Schedules for home visits in the early postpartum period*. Cochrane Review, Issue 7. The Cochrane Collaboration: Wiley.

Wai Wan, M., Moulton, S. and Abel, K.M. (2008) *The service needs of mothers with schizophrenia: a qualitative study of perinatal psychiatric and antenatal workers*. General Hospital Psychiatry, 30:177-184.

Warriner, S. (2011) *Maternity and mental health services working collaboratively for women*. British Journal of Midwifery, 19:729-733.

Watters C. 2008. *Evaluation of the Bi-Cultural Mental Health Team at the Refugee Council*. University of Kent. (Unpublished).

Webb, R.T., Howard, L. and Abel, K.M. (2004) *Antipsychotic drugs for non-affective psychosis during pregnancy and postpartum*. Cochrane Database Systematic Review, 2:CD004411.

Wiggins, M., Oakley, A., Roberts, I., Turner, H., Rajan, L., et al. (2004a) *Postnatal support for mothers living in disadvantage inner city areas: a randomised controlled trial*. Journal of Epidemiology and Community Health, 59:288–295. doi: 10.1136/jech.2004.021808

Wiggins, M., Oakley, A., Roberts, I., Turner, H., Rajan, L., et al. (2004b) *The Social Support and Family Health Study: a randomised controlled trial and economic evaluation of two alternative forms of postnatal support for mothers living in disadvantaged inner-city areas*. Health Technology Assessment. NHS R&D HTA Programme.

Williams, A. (2008) *An analysis of the needs of pregnant women and mothers during and after detention in immigration removal centres*. http://www.birthcompanions.org.uk/media/Public/Resources/Ourpublications/Report_into_the_needs_of_women_in_removal_centres.pdf (accessed 23 June, 2014).

Wilson, S., KcKenzie, K., Quayle, E., and Murray, G.C. (2012) *The postnatal support needs of mothers with an intellectual disability*. Midwifery, 29:592-598.

Wood, J. (2011). *PTSD and Pregnancy*. http://womensmentalhealth.org/posts/ptsd-and-pregnancy/ (accessed 17 June 2014).

Appendix 1

Summary of evidence: Interventions supporting vulnerable pregnant women and new mothers

All the interventions are addressing outcomes for mothers. In this review we did not explore outcomes for the child even where these where these findings were published.

* These are systematic reviews including studies with different inclusion and exclusion criteria.

	Research population			
Intervention:	**Women within the general population**	**Women with perinatal mental health problems and from vulnerable families**	**Women with complex needs (substance use, domestic violence, refugees)**	**Notes**
Debriefing	X	✓	X	Limitations in methods weaken findings but overall results are not strong for debriefing. The Meades et al. study found that women who requested and attended debriefing with symptoms of PTSD improved.
Rowan et al. (2007)*		Meades et al. (2011)		
Continuous support in labour	✓			This is recommended as standard practice for all women.
Hodnett et al. (2012)*				
Home visiting	X	?	?	Overall research findings are inconsistent. Some evidence, particularly in qualitative studies, that emotional and practical support received was valued. Other evidence that home visiting did not impact on material depression,

				breastfeeding rates or health behaviours such as smoking levels. Some research is still on-going with findings to report e.g. family nurse partnerships. Research with women with substance use issues found increased engagement but unclear impact on child or maternal health outcomes.
Yonemoto et al. (2013)*		Olds et al. 2002a Barlow et al. (2006) Kirpatrick et al. (2007) (Halliday and Wilkinson, 2009). Kersten-Alvarez et al. (2010) Ammerman et al. (2010)	Turnbull and Osborn (2012)*	
Volunteer befriending		✓	?	Newpin study included drop in centres as well as befriending and the approach led to reduced levels of depression. Working with refugee women, only qualitative research is available which reported the service was valuable for both clients and befrienders, and therapeutic relationships were established.
		Harris (2008)	McCarthy and Haith-Cooper, 2013	
Perinatal support programme (home visiting, befriending, parenting groups, peer		✓	X	Approach led to reduced levels of depression, and limited evidence of impact on social support and self-esteem. A home visiting plus community drop in and telephone support service for socially deprived women did not impact

support groups, link up to other services)				maternal or child outcomes, but reduced GP use.
		Lederer (2009) Coe and Barlow (2012)	Wiggins et al, 2004a; 2004b	
Peer support		✓	?	Evidence strongest for telephone peer support, other studies were in progress for face to face peer support. Peer mentoring with socially disadvantaged women found no positive impacts but qualitative data revealed women valued the advice given and both mentor and client benefited. A study looking at what addressed emotionally isolation and loneliness among socially deprived women emphasised peer support helping women connect with other people during pregnancy.
		Jones (2013) (Dennis et al. 2009).	Cupples et al. (2010) Raymond et al (2009)	
Post-natal psychosocial interventions		✓	✓	Robust evidence for psychologically informed interventions delivered by health visitors reducing depression. Counselling, IPT and arts based therapies also found to reduce depression; some of these studies were small scale and one had a negative finding.
		Morell et al. 2009 Morton and Forsey (2013).	Donaghy, 2012	
Ante-natal psychosocial		?	✓	Positive outcomes for first time, not second time mothers for

interventions				reduction in depression. Study in Tanzania working with women with HIV using group counselling found positive reduction in depression.
		Elliot et al. (2000)	Kaaya et al, 2013	
Integrated programmes – services linking together		✓	✓	Reduced depression in women with moderate perinatal mental health problems in Oxford. Working with women with substance use issues there was a small positive impact on material mental health reported, unsure impact on parenting skills but increased engagement with services.
		Warringer, 2011	Niccols et al. 2010* Sword et al. 2009	
Casework			?	No formal evaluations published. But a service model developed by Refuge council identifies aspects of best practice.
			Keefe and Hage, 2009	
Specialist workers – such as pregnancy outreach worker, specialist midwives			?	The studies describe the service model but not outcomes. There is some evidence that satisfaction and service engagement increases through support provided by these specialist workers. Pregnancy Outreach workers with women with complex social needs and from a multi-ethnic population is currently being studied using an RCT design.
			Scully et al. (2004) Macrory and Boyd, 2007 Hall and van Teijlingen, 2006	

			Kenyon et al. (2012)	
Adapting current maternity services			?	These studies described the model and looked at women's satisfaction with provision. Outcomes were not reported. Where antenatal services were adapted for socially disadvantaged women,no impact was found.
			Gaudion and Allotey, 2008 Harris et al. (2006) Thomson et al (2012 Hollowell et al, 2009	
Hospital maternity unit advocacy			✓	Women received domestic violence advocacy on a maternity unit and reported feeling safer. Rates of DV reduced to 32%.
			Horley, 2014	