Rapid Evidence searches
Scottish Government Review of Maternity and Neonatal Services

THE POTENTIAL OF CONTINUITY MODELS OF CARE TO PROVIDE THE BASIS OF A HIGH QUALITY MATERNITY SERVICE IN SCOTLAND

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on behalf of the Maternity Models of Care Sub-Group

Summary and recommendations
The aim of this rapid review was to inform high quality maternity care provision for all women across Scotland, through distilling core principles and practice recommendations from good quality current evidence. We aimed to identify any relevant systematic reviews and guidelines.

The Evidence:
- Four relevant high quality systematic reviews of randomised controlled trials were identified. These reviews included a wide range of clinical outcomes including women’s views of and satisfaction with the care provided. The systematic reviews are comprehensive and recent and include all of the key high quality primary studies identified in the search of databases on this topic, therefore no further single primary studies were explored.
- Results from recent large scale surveys of women’s views of maternity services, including the most recent national service user survey of women’s views of the maternity service in Scotland from 2015 were considered.
- Evidence based guidelines and position papers that included recommendations on the topic of service configuration, models of maternity care and continuity of carer from leading UK organisations were included.

From the evidence identified and explored, a range of recommendations relating to continuity of carer as a cornerstone of a high quality maternity service for Scotland can be made. In order to provide guidance on core principles and practice recommendations, the recommendations have been framed in accordance with the Framework for Quality Neonatal and Newborn Care (Renfrew et al., 2014).

Values and Philosophies
- Maternity care in Scotland should be relationship-based care.

Organisation of Care
- Maternity systems across Scotland should be redesigned to offer continuity of care and carer across the maternity journey.
- The continuity model of care should be implemented through a ‘caseloading’ or small team model, where midwives carry responsibility for the care of between 25 and 40 women each year (if fulltime) (caseload dependent on social and medical complexity), working in pairs or small teams.
- Each team of midwives should have an assigned obstetric team for referral, consultation and joint working.
• All women should receive the majority of their care through the antenatal, intrapartum and postnatal period from a named midwife. Where women require more specialist services from obstetricians and other members of the maternity team, continuity of carer should be maintained through the provision of linked obstetric teams and the continued provision of a named midwife.

• Continuity models of care should be implemented for all women, regardless of need or risk.

1.0 Background and Aim

The recent review of maternity services in England, ‘Better Births: Improving outcomes of maternity services in England’ (DoH, 2016) reiterated and strengthened a commitment to widespread implementation of a continuity model of maternity care, based on high quality current evidence. One of the seven key recommendations of the review focussed on this issue: ‘Continuity of carer, to ensure safe care based on a relationship of mutual trust and respect in line with women’s decisions. Every woman should have a midwife based in the community who knows the woman and family, and can provide continuity throughout the pregnancy, birth and postnatally’ (p9, DH, 2016).

The systems and structures for providing maternity care in Scotland are quite variable in different areas, between health boards and within health boards. The model of maternity care in Scotland is one that has developed over many years. There has been no system wide reform of the model of maternity care since the inception of the NHS, with an approach of gradual evolution and changes to elements of the model over time.

In recent years, the most significant changes have been:
- A shift of the majority of births being at home or in GP led community maternity units, to consultant-led larger hospital labour suites, from the 1960s onwards.
- The closure of a number of smaller district general hospitals with consultant-led services, reconfiguring into larger consultant-led units, during the 1980s and 1990s.
- The ‘integration’ of separate community and hospital midwifery services into a combined midwifery workforce managed by acute/tertiary services, from the 1980s and 90s onwards.
- The opening of new freestanding and midwife-led birth settings in some areas – some to replace obstetric led units (Perth early 2000s), some to offer an alternative in areas where there was none (Edinburgh, 2012; Paisley early 2000s, Ayrshire and Arran 2013). The closure of some small freestanding midwife-led units (Grampian, early 2000s)
- The introduction of a midwife as first point of contact in pregnancy and midwife-led care for ‘green pathway women’ from Keeping Childbirth Natural and Dynamic (KCND 2007) onwards. Though, from the data from the most recent service user survey, this is only the model of care for around 50% of women.

The majority of women receive maternity care in the following format:
- Booking appointment with community midwife at 6 to 12 weeks, often in a GP surgery,
- Dating ultrasound with nuchal translucency for anomaly risk at 11-13 weeks, usually in a consultant-led unit,
- A primiparous woman\(^1\) will be seen routinely for 10 antenatal appointments, a multiparous woman\(^2\) for 8.
- If a woman is designated as being ‘green pathway’ or low risk, she will generally have all of her scheduled antenatal appointments with a community midwife, usually in a GP’s surgery.
- If a woman is designated as being on the ‘red pathway’ or high risk, she will receive most of her scheduled antenatal appointments in a consultant-led unit. In some areas there are outreach consultant obstetric clinics in community settings.
- Women will have a 20 week anomaly scan generally at a consultant-led unit, with some areas providing more locally based community ultrasound.
- In early labour, most women will call the triage unit or labour suite at their local consultant-led unit for advice about when to come in to hospital.
- In early labour, most women will come to a consultant-led triage unit or labour ward for initial assessment and diagnosis of labour.
- Most women are cared for in consultant-led units, some women on the ‘green pathway’ are offered alongside midwife-led birth centre settings. Very few women are cared for in labour by a midwife that they have met prior to labour.
- Most women will stay in hospital for a short period of 1-2 days after the birth (40%), with 22% 3-4 days, and then will go home.
- Most women will be visited at home with their new baby by a community midwife, 3 to 4 times (50%, 25% 5 to 6 times) before being discharged from midwifery care around 10 days postnatally.

While there are pockets of continuity of carer across the maternity episode for some women in Scotland, continuity of carer across the antenatal, intrapartum and postnatal period is not standard provision in NHS Scotland. In the recent maternity service user survey undertaken in 2015, antenatally, 67% of women reported seeing the same midwife all or most of the time for their antenatal care, dropping to 51% in the postnatal period (Cheyne et al, 2015). A question was not included in the maternity service user survey about whether women knew the midwife who cared for them during labour, prior to going into labour. There are very few models of care in Scotland that aim to provide women with a known midwife during labour; this is generally only for women booked to have a home birth.

Where women experience complications during pregnancy which require them to attend hospital, continuity of carer is even further reduced in the current model of care. Women may see a different midwife and obstetrician on each visit to the hospital. This problem was highlighted in the maternity service user survey of 2015 of being of particular concern for women.

2.0 Methods
A rapid evidence review was undertaken by identifying systematic reviews, guidance considering the evidence on continuity of carer and midwife-led care in maternity care and maternity service user surveys. The protocol for the review is detailed in table 1.

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\(^1\) A woman who is pregnant for the first time.

\(^2\) A woman who has borne more than one child.
**Table 1 Continuity Models of Care Review Protocol**

<table>
<thead>
<tr>
<th>Details</th>
<th>Additional Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Review question</strong></td>
<td>• A rapid review detailed in boxes below will be conducted to answer the questions. &lt;br&gt;• It is outwith the scope of this review to examine economic implications, approaches to implementation or scaling up, management of continuity models; barriers to implementation of a continuity model of care.</td>
</tr>
<tr>
<td>1. What are the likely benefits of a continuity model of maternity care in improving safety and women’s experience? &lt;br&gt;2. Are there any potential adverse outcomes associated with the introduction of a universal continuity model of care?</td>
<td></td>
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<tr>
<td><strong>Objectives</strong></td>
<td>To examine the evidence for (and against) a maternity service based on a continuity model of care for all women.</td>
</tr>
<tr>
<td><strong>Language</strong></td>
<td>English</td>
</tr>
<tr>
<td><strong>Study design</strong></td>
<td>• Systematic reviews of Randomised Control Trials (RCTs), cluster-controlled trials, quasi-randomised controlled trials, observational studies. &lt;br&gt;• Large scale recent surveys of maternity service users in the UK. &lt;br&gt;• Professional guidance based on a systematic review of the evidence (NICE, SIGN, RCOG, RCM)</td>
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<td></td>
<td>If there is a lack of systematic reviews in this subject area, primary studies and then case studies will be sought by contacting experts and examining reference lists of non-systematic reviews and commentaries.</td>
</tr>
<tr>
<td><strong>Status</strong></td>
<td>Papers published in academic journals and reports published by professional governing bodies (i.e. RCOG, RCM, RPHP, BAPM). &lt;br&gt;Governing bodies outwith the field of health may be included if there is a lack of information from the health field.</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>Maternity care professionals and childbearing women. &lt;br&gt;• Midwife-led continuity models of care for healthy women without complications &lt;br&gt;• Midwife-led continuity models of care for all women regardless of need &lt;br&gt;• Continuity models of care by other maternity professionals or through multi-disciplinary team</td>
</tr>
<tr>
<td>Intervention</td>
<td>Provision of a named professional for the majority of the woman’s maternity care. A named professional (generally a midwife), who provides care throughout the antenatal, intrapartum and postnatal period.</td>
</tr>
<tr>
<td>Comparator</td>
<td>Standard care</td>
</tr>
</tbody>
</table>
| Outcomes | • Women’s experiences/satisfaction  
| | • Type of birth  
| | • Use of analgesia in labour  
| | • Medical interventions in labour and childbirth (induction, augmentation, episiotomy)  
| | • Premature birth  
| | • Fetal loss  
| | • Neonatal Apgar scores and admission to NICU  
| | • Stillbirth and neonatal loss  
| | • Adverse maternal outcomes – mortality and morbidity  
| | • Cost of care |
| Other criteria for inclusion/exclusion of studies | • Date limit 2000  
| | • Exclude conference abstracts  
| | • Filter applied to limit to systematic reviews |
| Review Strategies | • Following databases will be searched: MEDLINE, HMIC, CINAHL. The websites of RCOG, RCM and RCN, the NIHR SDO and the Cochrane EPOC group will all be searched.  
| | • Data on all included reviews will be extracted into evidence tables.  
| | • If possible, a meta-analytical approach will be used to give an overall summary effect. |
| Critical Appraisal | • The NICE methodology checklist for systematic reviews and meta-analyses will be used to assess study quality for systematic reviews. |
The following sources of systematic reviews were examined for any potentially relevant titles: National Institute of Clinical Excellence (NICE) guidelines, Scottish Intercollegiate Guidelines Network (SIGN) guidelines and the Cochrane Pregnancy and Childbirth group. Secondly, the Royal College of Obstetricians (RCOG) and the Royal Colleges of Midwives (RCM) websites were searched for relevant guidelines. Thirdly, a database search of MEDLINE (bibliographic database of life sciences and biomedical information), CINAHL (database of journal articles about nursing, allied health, biomedicine and healthcare), MIDIRS (midwifery journals and articles database for midwives) and HMIC (Her Majesty’s Inspectorate of Constabulary) was conducted. Fourthly, the results of the Scottish Maternity Care Survey 2015 and other recent large scale service user surveys in the UK were examined. Finally, the report of the English Review of Maternity Services was examined.

3.0 Findings
3.1 Search results
This sections provides a description of the records identified by each database or source and the selection process.

3.1.1 NICE
All NICE guidelines (n=16) related to maternity care were examined for relevance according to the inclusion/exclusion criteria detailed in table 2.1 of Appendix Two of this paper. Two relevant guidelines were identified: CG62 on antenatal care and CG190 on Intrapartum Care for Healthy Women and Babies.

3.1.2 SIGN
Only one current SIGN guideline related to maternity care was identified: 127, Management of Perinatal Mood Disorders. Although this has information on service configuration, this is in relation to mother and baby units for women with serious mental health problems. This will be considered in the rapid review on services for vulnerable groups.

3.1.3 Cochrane Pregnancy and Childbirth group
Titles and abstracts were all screened for relevance to maternity models of care including continuity of carer. On the basis of this, 18 articles (detailed in table 2.2) were retrieved for further examination. Two reviews were identified as being relevant for inclusion in this rapid review on continuity of carer.

3.1.4 Cochrane Effective Practice and Organisation of Care group
Reviews within the Cochrane Effective Practice and Organisation of Care group were also examined. One review and two protocols related to pregnancy and childbirth were identified but these were not relevant to continuity of carer.

3.1.5 RCOG
The titles of all guidelines (including green top and good practice guidelines) published by the RCOG were examined for relevance to continuity of carer. No green top guidelines of relevance were identified. Four good practice and other papers of relevance were identified: ‘Safer Childbirth’, which was developed in collaboration with the Royal College of Anaesthetists (RCA), the Royal College of Paediatrics and Child Health (RCPH) and the RCM (2007), The Standards for Maternity Care, 2008 include some relevant content.

3.1.6 RCM
RCM evidence based guidelines for intrapartum midwifery care (2012) were identified along with a recently published paper by the RCM drawing together key evidence on continuity of carer (Sandall,
In April 2016 the RCM and RCOG released a joint statement on multi-disciplinary working and continuity of carer (RCM/RCOG, 2016).

### 3.1.7 Database search
MEDLINE, CINAHL, MIDIRS and HMIC were searched using a combination of index and free-text terms relevant to maternity care and continuity. In addition systematic review filters were added to the CINAHL and MEDLINE searches. See Appendix 1 for the full search strategy.

A total of 68 records were identified after de-duplication. Following title and abstract screening 68 potentially relevant articles were retrieved for full text screening. Only two records in addition to the Cochrane reviews already identified were identified, which were a systematic review of midwife-led v doctor led care (Sutcliffe et al 2012) and a review comparing alternative models of antenatal care with standard models for women at high risk of premature birth (Turienzo et al 2016).

### 3.1.8 Service User Surveys
Surveys with maternity service users in Scotland were undertaken in 2013 and 2015, with the aim of identifying women’s experiences of all aspects of their maternity care. A number of other service user surveys were also reviewed (see table A2.5). This included the very recent report by the Scottish Health Council seeking women’s views as part of the current Scottish Maternity and Neonatal services review.

### 3.1.9 English Maternity Services Review reports
‘Better Births: Improving outcomes of maternity services in England. A Five Year Forward View for maternity care’ (DoH, March 2016). An extensive consultation process with service users was undertaken as part of the Review.

The English review process was supplemented through the commissioning of four reports by the National Perinatal Epidemiology Unit into key evidence:

- **Report 1:** Summary of the evidence on safety of place of birth; and implications for policy and practice from the overall evidence review (Kurinczuk et al, 2015)
- **Report 2:** Perinatal and maternal outcomes by parity in midwifery-led settings: secondary analysis of the Birthplace in England cohort comparing outcomes in planned freestanding and alongside midwifery unit births (Hollowell et al, 2015a)
- **Report 3:** Systematic review and case studies to assess models of consultant resident cover and the outcomes of intrapartum care; and two international case studies of the delivery of maternity care (Knight et al, 2015b)
- **Report 4:** A systematic review and narrative synthesis of the quantitative and qualitative literature on women’s birth place preferences and experiences of choosing their intended place of birth in the UK (Hollowell et al, 2015b)

These reports are not directly relevant to this rapid review on continuity of carer, but will be examined as part of the review relating to place of birth.
3.3 Narrative Summary
A summary of each of the identified documents will now be presented.

NICE (National Institute for Health and Clinical Excellence)
NICE develops evidence based guidelines through a well established systematic process of review. Evidence is weighted in order to help develop recommendations, written by an expert group.

The NICE Antenatal Care for Uncomplicated Pregnanacies Guideline, 2016 recommends:
Midwife and GP-led models of care should be offered to women with an uncomplicated pregnancy. Routine involvement of obstetricians in the care of women with an uncomplicated pregnancy at scheduled times does not appear to improve perinatal outcomes compared with involving obstetricians when complications arise. Antenatal care should be provided by a small group of healthcare professionals with whom the woman feels comfortable. There should be continuity of care throughout the antenatal period.

The NICE Intrapartum Care Guideline for Healthy Women and Babies recommends:
• Provide a woman in established labour with supportive one-to-one care.
• Do not leave a woman in established labour on her own except for short periods or at the woman's request.

Cochrane Reviews (See Appendix Three of this paper for tabular summary)
Sandall et al, 2015, Midwife-led continuity models versus other models of care for childbearing women
Cochrane systematic reviews are considered to be a 'gold standard' for reviewing and analysing evidence in a rigorous systematic way.

This review included the following:
• Small team or caseloading midwives v standard care
• 15 RCTs including 17,634 women
• Australia, Canada, Ireland and UK
• Date span 1989 - 2013
• Both low and mixed risk women.

The meta-analysis conducted as part of the review identified that a woman who receives care from a known maternity care professional is significantly more likely to:
• have a vaginal birth
• have fewer interventions during birth
• successfully breastfeed her baby
• the was a trend to cost saving

A woman who receives care from a known midwife is significantly less likely to:
• experience preterm birth (birth before 37 weeks)
• lose their baby before 24 weeks’ gestation (Sandall I et al 2015).

Due to heterogeneity in the measurement of women’s satisfaction and costs, these outcomes were reported narratively. Sandall et al. concluded that women receiving midwife-led continuity of care generally had a higher level of satisfaction and there was also a trend to a cost-saving effect for midwife-led continuity of care. There were no significant differences between groups for the other primary outcomes of caesarean births or intact perineum.

The results are detailed below:
‘For the primary outcomes, women who had midwife-led continuity models of care were less likely to experience regional analgesia (average risk ratio (RR) 0.85, 95% confidence interval (CI) 0.78 to 0.92; participants = 17,674; studies = 14; *high quality*), instrumental vaginal birth (average RR 0.90, 95% CI 0.83 to 0.97; participants = 17,501; studies = 13; *high quality*), preterm birth less than 37 weeks (average RR 0.76, 95% CI 0.64 to 0.91; participants = 13,238; studies = 8; *high quality*) and less overall fetal/neonatal death (average RR 0.84, 95% CI 0.71 to 0.99; participants = 17,561; studies = 13; *high quality evidence*). Women who had midwife-led continuity models of care were more likely to experience spontaneous vaginal birth (average RR 1.05, 95% CI 1.03 to 1.07; participants = 16,687; studies = 12; *high quality*). There were no differences between groups for caesarean births or intact perineum.

For the secondary outcomes, women who had midwife-led continuity models of care were less likely to experience amniotomy (average RR 0.80, 95% CI 0.66 to 0.98; participants = 3,253; studies = 4), episiotomy (average RR 0.84, 95% CI 0.77 to 0.92; participants = 17,674; studies = 14) and fetal loss/neonatal death before 24 weeks (average RR 0.81, 95% CI 0.67 to 0.98; participants = 15,645; studies = 11). Women who had midwife-led continuity models of care were more likely to experience no intrapartum analgesia/anaesthesia (average RR 1.21, 95% CI 1.06 to 1.37; participants = 10,499; studies = 7), less likely to experience a longer mean length of labour (hours) (mean difference (MD) 0.50, 95% CI 0.27 to 0.74; participants = 3328; studies = 3) and more likely to be attended at birth by a known midwife (average RR 7.04, 95% CI 4.48 to 11.08; participants = 6,917; studies = 7). There were no differences between groups for fetal loss or neonatal death more than or equal to 24 weeks, induction of labour, antenatal hospitalisation, antepartum haemorrhage, augmentation/artificial oxytocin during labour, opiate analgesia, perineal laceration requiring suturing, postpartum haemorrhage, breastfeeding initiation, low birthweight infant, five-minute Apgar score less than or equal to seven, neonatal convulsions, admission of infant to special care or neonatal intensive care unit(s) or in mean length of neonatal hospital stay (days).

Due to a lack of consistency in measuring women’s satisfaction and assessing the cost of various maternity models, these outcomes were reported narratively. The majority of included studies reported a higher rate of maternal satisfaction in midwife-led continuity models of care. Similarly, there was a trend towards a cost-saving effect for midwife-led continuity care compared to other care models (p2, Sandall et al, 2015)’.

The authors concluded:
‘This review suggests that women who received midwife-led continuity models of care were less likely to experience intervention and more likely to be satisfied with their care with at least comparable adverse outcomes for women or their infants than women who received other models of care. Further research is needed to explore findings of fewer preterm births and fewer fetal deaths less than 24 weeks, and overall fetal loss/ neonatal death associated with midwife-led continuity models of care’ (p2, Sandall et al, 2015).

**Hodnett et al, Continuous support for women during childbirth, Cochrane Library 2013.**

This Cochrane review explored 21 randomised controlled trials with more than 15,000 women. The control groups in the studies received ‘standard’ intrapartum care and the intervention was the provision of one to one continuous (>more than 80% of labour) support by a health professional or trained birth supporter other than the woman’s chosen birth partner. The support provided included emotional, physical and informational support for the women in established labour.

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3 Amniotomy= artificial rupture of the membranes. This is where the bag of membranes around the fetus are broken by a health professional, using an amniotic hook.
The meta-analysis conducted as part of the review reported that women who received continuous rather than intermittent support during labour were significantly:

- More likely to have a spontaneous vaginal delivery (18 trials, n= 14,005, RR (relative ratio) 1.08),
- Less likely to have intrapartum analgesia or anaesthesia (13 trials, n=12,169, RR 0.90),
- Less likely to report negative feelings about their childbirth experience (11 trials, n=11,133, RR0.69),
- More likely to have a shorter labour length (11 trials, n=5,269, mean difference -0.58 hours),
- Less likely to have an instrumental birth (18 trials, n=14,004, RR0.9),
- Less likely to have a caesarean birth (21 trials, n=15,061, RR0.79)
- Less likely to have a baby that received a low Apgar score at 5 minutes after birth (12 trials, n=12,401, RR0.7)

There were no significant differences in intrapartum interventions, maternal or neonatal complications, or breastfeeding. The authors of this review conclude that all women, regardless of their medical or obstetric needs or risks, should be provided with continuous one to one support by a health professional or trained birth supporter throughout established labour. This review supports the provision of continuity of care during labour and childbirth.

The Royal College of Obstetricians and Gynaecologists (RCOG)
The Safer Childbirth report made recommendations about midwifery and medical staffing levels for all intrapartum care settings. This included recommendations about consultant obstetrician presence on labour ward. A clear recommendation for one to one continuous midwifery support for all women in active labour is made:

*The underpinning principle of midwifery care in labour and the foundation of BR+ (birthrate plus) is that labouring women receive one-to-one individual care by midwives throughout established labour. This is vital if women are to receive the emotional support, information and advocacy they require. Its provision has proven benefits for the health and wellbeing of mother and child as well as enhancing maternal satisfaction (p28, RCOG, 2007).*

Standards for Maternity Care, RCOG, RCM, RCoA, RCPCH, 2008
These standards, developed by a working group from all four colleges, were drawn from a review of all available published standards, with the aim of creating an agreed full set of maternity care standards for all aspects of care. In relation to antenatal care, the standards state:

_*Women benefit from the support and advocacy of a known midwife throughout their pregnancy (p18, RCOG et al 2008)._*

_*All women should be offered the support of a named midwife throughout pregnancy including those with complex pregnancies and those who receive care from a number of specialists or agencies. All women should be able to contact a midwife day or night at any stage in pregnancy if they have concerns (p28, RCOG et al, 2008)._*

_*Women with complex pregnancies and those receiving care from a number of specialists or agencies should receive the support and advocacy of a known midwife throughout pregnancy (p30, RCOG et al, 2008)._*
The Royal College of Midwives (RCM)
State of Maternity Services Report, 2015, RCM
This report details the number of women requiring maternity care and the number of midwives needed to provide care for these women. The report identifies that Scotland does not have a midwife shortage at present, though it highlights that a significant proportion of midwives in Scotland are nearing retirement age. It also highlights the high proportion of midwives across the UK who work part time. These are factors which are likely to impact the ease and speed with which a continuity of carer model of care could be implemented across the whole maternity service in Scotland.

Evidence based guidelines for midwifery-led care in labour, 2012, RCM
This identifies the evidence base for one to one midwifery support for all women in established labour.

The Contribution of Continuity of Midwifery Care to High Quality Maternity Care, a report by Professor Jane Sandall for the Royal college of Midwives, 2015
In addition to restating the findings of Sandall’s Cochrane review, this paper also explores some of the available evidence relating to midwives’ job satisfaction, why midwives leave and burnout. It concludes:

There is some evidence around what factors are important for midwife-led models of care to be sustainable and avoid burnout. Low job control and long working hours are associated with higher levels of burnout in midwives. Ways of working that engender greater job control, 6 meaningful relationships with women and collegial support help midwives maintain work/life balance. Although there is greater agency for midwives in midwife-led models and settings, there can be a problematic interface with host units, and a clash of models and culture. Key areas affecting midwifery morale identified, in particular have been staffing levels, working relationships and organisational issue’ (Sandall, 2015 RCM).

The paper also summarises the evidence in relation to cost of continuity of carer:

Based on scant existing evidence, there appears to be a trend towards a cost-saving effect for midwife-led continuity care compared to other care models. The estimated mean cost saving for each eligible maternity episode is £12.38. This translates to an aggregate saving of £1.168 million per year, if half of all eligible women avail of midwife-led care. This equates to an aggregate gain of 37.5 quality adjusted life years (QALYs) when expressed in terms of health gain using a NICE cost-effectiveness threshold of £30,000 per QALY. The uptake of midwife-led maternity services affects results on two levels, first by its role in determining caseload per midwife and thus mean cost per maternity episode, second at the aggregate level by determining the total number of women who switch to maternity-led services nationally’ (Sandall, 2015, RCM).

In April 2016 the RCM and RCOG released a short joint statement on multi-disciplinary working and continuity of carer, in response to the publication of the NHS England review of maternity services. It stated:

The RCOG and RCM strongly support the recommendations on continuity of carer, which is known to increase women’s satisfaction with their care and to ensure better outcomes are achieved. We know that too many women still receive care that is often fragmented. The report is clear that this has to change but is also realistic in its recognition that maternity services need to be well staffed if continuity of carer is to become a reality (RCM/RCOG, 2016).
The RCM UK has published a position statement on continuity of midwife led care\(^4\). The statement emphasizes the need for satisfactory staffing levels to successfully implement continuity of carer models of care.

**Other Systematic Reviews (see Appendix Three for table summarising)**


A report of a systematic review of reviews which examines the impact of having midwife-led maternity care for low-risk women, rather than consultants. Includes three meta-analytic reviews in search undertaken in 2009, assessed to have been of high quality. However, one of the reviews (Brown and Grimes, 1995) did contain non-RCTs which due to not randomising participants are at a high risk of bias.

The included reviews are detailed in the table below:

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<tr>
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</thead>
<tbody>
<tr>
<td>Number and type of studies</td>
<td>15 studies</td>
<td>11 studies</td>
<td>3 studies</td>
</tr>
<tr>
<td></td>
<td>13 C Ts, 2 RCTs</td>
<td>RCTs only</td>
<td>RCTs only</td>
</tr>
<tr>
<td>Country of included studies</td>
<td>Canada and USA</td>
<td>Australia, Canada, UK (5)</td>
<td>Australia, UK (2)</td>
</tr>
<tr>
<td>Participants in included studies</td>
<td>Preponderance of studies indicate 'predominantly low risk patients'</td>
<td>Pregnant woman classified as low and mixed risk of complications</td>
<td>Pregnant woman considered to be at low-risk of developing complications</td>
</tr>
<tr>
<td>Modes of care compared</td>
<td>Nurse-midwife (NMs) compared with physician-led care. 'The types of organisational providers for NMs and physicians were the same or similar in all studies. Care activities of the providers were not consistently reported' (p. 337)</td>
<td>Midwife-led care (midwives providing care autonomously, during labour and postnatally compared with models of medical-led care (where an obstetrician or family physician is primarily responsible for care) and shared care</td>
<td>Two studies compared midwife-led care with physician-led care. The third compared midwife/GP led care with physician-led care</td>
</tr>
<tr>
<td>Total number and range of patient participants in included trials</td>
<td>N = 7066</td>
<td>N = 12,276</td>
<td>N = 1763 (^*)</td>
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<tr>
<td></td>
<td>Range = 58–2,507</td>
<td>Range = 203–3510</td>
<td>Range = 89–1674</td>
</tr>
</tbody>
</table>

\(^*\) This figure is for two of the three included trials only; the details of the third trial (Turnbull et al., 1996) are captured in the figures for Hatem et al. (2008).

**Neonatal and infant outcomes**

Two of the reviews examined the impact of different types of care (physician-led vs. midwife-led) on infant outcomes; by and large the evidence provided no indication that care led by midwives has a different impact on neonates than care led by physicians. With respect to infant mortality a synthesis of 10 of the 11 RCTs (n = 11,806) in the review by Hatem et al. (2008) found no evidence of a difference between midwife-led care and physician-led care for fetal loss and neonatal death. Similarly with respect to infant physiological outcomes, there was no evidence of a difference between providers in terms of:

\(^4\) https://www.rcm.org.uk/sites/default/files/Continuity%20of%20midwife-led%20care.pdf
admission to a neonatal intensive care unit (Hatem et al. (2008): 10 RCTs n = 11,782),
preterm birth (Hatem et al. (2008): 5 RCTs n = 7516),
neonatal convulsions (Hatem et al. (2008): 1 RCT n = 1216),
fetal distress (Brown and Grimes (1995): 3 CTs n = 341), and
physical condition immediately following delivery (5-minute Apgar score of seven or less) (Hatem et al. (2008): 8 RCTs n = 6780).

However, it should be noted that the majority of these studies did not randomise participants and therefore the results should be interpreted with caution. The only outcome for which evidence was mixed was low birth-weight. Brown and Grimes (1995) meta-analysis of three RCTs (n = 4,429) found that women receiving midwife-led care gave birth to fewer low birth-weight babies whilst Hatem et al.’s (2008) meta-analysis of five RCTs (participants = 8,009) found no evidence to indicate a difference between providers. Overall, no evidence was reported in these three reviews that indicates any risks to neonates by having care led by midwives as opposed to physicians (p2381, Sutcliffe et al, 2012).

Physiological outcomes

Midwife-led care was found to have a statistically significant positive effect on some physiological outcomes for women when compared with consultant-led care, whilst no evidence of a difference between providers was found for other physiological outcomes. None of the three reviews reported any evidence of risks to women’s physical health by having midwives lead care rather than consultants. In terms of physiological outcomes, spontaneous vaginal birth was significantly more likely with midwife-led than physician-led care (Brown and Grimes (1995): 5 CTs; Hatem et al. (2008): 9 RCTs n = 11,143). Also found to be significantly better for midwife-led care were reduced needs for a number of interventions including several pain relief interventions.

These included avoidance of:

- vacuum extraction and/or forceps deliveries [Brown and Grimes (1995): 5 CTs; Hatem et al. (2008): 10 RCTs n = 12,497],
- regional analgesia/anaesthesia [Hatem et al. (2008): 11 RCTs n = 11,892],
- intrapartum analgesia/anaesthesia [Hatem et al. (2008): 5 RCTs n = 7,039],
- analgesia [Brown and Grimes (1995): 3 CTs n = 292],
- anaesthesia [Brown and Grimes (1995): 3 CTs n = 300] and
- opiate analgesia [Hatem et al. (2008): 9 RCTs n = 10,197].

No evidence of a difference between providers was identified for a total of ten different maternal physiological outcomes across the three reviews. These outcomes included caesarean section [Brown and Grimes (1995) 4 CTs (although this should be interpreted with caution given the nature of the included studies); Hatem et al. (2008): 11 RCTs n = 12,701]; antepartum haemorrhage [Hatem et al. (2008): 4 RCTs n = 3655]; postpartum haemorrhage [Hatem et al. (2008): 7 RCTs n = 8454]; induction of labour [Hatem et al. (2008): 10 RCTs n = 11,711]; augmentation/oxytocin during labour [Hatem et al. (2008): 10 RCTs n = 11,709]; mean length of labour [Hatem et al. (2008): 2 RCTs n = 1,614]; manual removal of the placenta [Brown and Grimes (1995): 3 RCTs n = 306];


Findings for pregnancy induced hypertension, use of amniotomy and perineal injuries were, however, mixed. Of the two trials with an appropriate comparator in Villar et al. (2001), one small trial (n = 89) was not statistically significant. However, a much larger trial (n = 1674) demonstrated
a statistically significant positive effect of midwife-led care on pregnancy induced hypertension compared with standard care. For amniotomy, Brown and Grimes (1995) metaanalysis of three CTs (n = 292) saw fewer amniotomies amongst women receiving midwife-led care, whilst Hatem et al.’s (2008) meta-analysis of three RCTs (n = 1543) found no evidence of a difference between providers. Perineal lacerations were more likely in women receiving midwife-led care in Brown and Grimes’s (1995) meta-analysis of three CTs (n = 339). However, another two meta-analyses in Hatem et al. (2008) found no evidence of a difference between providers for perineal laceration requiring suturing (7 RCTs n = 9439) and women with an intact perineum (8 RCTs n = 9706). Table 3, below identifies the full range of physiological outcomes for women and the direction of evidence for these outcomes’ (p2383, Sutcliffe et al 2012).

15 RCTs up to 2014 were included. 22,437 pregnant women – low or high risk. Only studies that included preterm birth as outcome measure; used Cochrane handbook of systematic review of interventions criteria to measure quality. Studies using alternative models of antenatal care v standard care as control. The alternative models were either midwife-led and continuity models of care or more specialised care in specialised antenatal clinics for women with identified risk factors for premature birth v standard care. Women in alternative models of antenatal care were significantly less likely to experience preterm birth than those receiving standard care — a 16% reduction (RR0.84, 0.74-0.96). Also on average less likely to have a caesarean (RR0.92), induction of labour (RR0.90) and more likely to have a spontaneous vaginal birth (RR1.05). There was no difference between groups in any other outcomes.

In sub-group analysis, there was a significant effect of midwife-led continuity models on reducing preterm birth (RR0.78), while the specialised care models were not significant (RR0.92). In terms of maternal satisfaction, both alternative models of care were preferred by women to standard care. There appeared to be a trend towards cost-saving in the midwife-led models of care.

Service User surveys
The most recent maternity service user survey in Scotland was undertaken in 2015, including 2,300 women.

Women were also asked to provide free text comments to gather more in depth qualitative data about their feeling about their care. These free text comments strongly reflected the desire of women to receive maternity care that was less fragmented, with fewer different professionals and locations for care, and the opportunity to get to know their key maternity care providers (Cheyne et al, 2015).

The Scottish Health Council sought views from a wide range of service users and community groups, using various methods, such as focus group discussions, one-to-one discussions with people who were unable to attend a group, and completed questionnaires from individuals. Using all these methods a total of 581 people – 105 of whom had experience of both maternity and neonatal services - took part in the engagement across Scotland.
The report stated: ‘The overwhelming theme that emerged from the consultation was the need for continuity of staff at all stages of the pregnancy, during labour and birth, and following the birth’ (p4, SHC, 2016).

Safely delivered: a national survey of women’s experience of maternity care, 2014, National Perinatal Epidemiology Unit (NPEU)
This survey reaffirmed those other surveys that continuity of carer is patchy across the maternity service and is an important issue for women.

The survey was carried out in 2014 using similar methods to those employed by the NPEU in 2006 and 2010. A random sample of 10,000 women giving birth in England over a two week period were selected by the Office for National Statistics from birth registration records. Women whose babies had died and new mothers less than 16 years of age were not included. The usable response rate was 47%, with responses from 4,571 women. A total of 16% of respondents came from Black and Minority Ethnic (BME) groups, 24% had been born outside the UK and 13% were single parents. An online version of the questionnaire was made available to all participants; only 8% of those responding used this method of return.

There was evidence of limited continuity in antenatal care, with 35% of women seeing the same midwife every time and 44% seeing just one or two midwives over the course of their pregnancy. However, 1 in 5 (19%) saw five or more different midwives.

Very few labouring women had one midwife caring for them through labour (16%). A quarter (26%) had four or more midwives providing care. A high proportion of women (85%) reported not having previously met any of the midwives caring for them during labour and birth (p4, NPEU, 2014).

Support overdue: women’s experiences of maternity services, 2013, NFWI and NCT
This report examines the experiences of 5,500 women who gave birth in the past five years (three quarters of them in 2012) in England and Wales. Key findings: choice remains an aspiration rather an a reality for many women; maternity care is fragmented; women face a postcode lottery of postnatal care. The great majority of women did not know the midwife who cared for them in labour.

The NHS England review of maternity services undertook a significant amount of work to gather the views of women and their families, through engagement events and online responses. A key finding was the desire expressed by women to have maternity care that enabled them to build relationships with their caregivers:

‘Women told us how important it was for them to know and form a relationship with the professionals caring for them. They preferred to be cared for by one midwife or a small team of midwives throughout the maternity journey. It was felt that this could provide better support for women, and enable midwives to better meet their needs, identify problems and provide a safer service. Continuity was also important for obstetric care, especially after a traumatic experience,’ (p32, DoH 2016).

The review process also included outreach events with maternity professionals. Continuity was also identified as one of the key themes in the consultation with health professionals as part of the review in England:
Some midwives commented positively on the option of a ‘case-loading’ model, particularly for vulnerable women. They felt that having a relationship with the individual women they were caring for would improve safety and their job satisfaction. The same can also be said for obstetricians.

At the same time, staff expressed concerns that providing continuity of carer would be difficult to deliver as the system is currently configured, with particular fears being expressed about work/life balance. There was concern that without additional resources, it might not be possible. A large proportion of midwives work part time which made continuity models more difficult to manage.

We heard that there are several elements which can help ensure the success of the continuity of a professional caring for the woman and her baby:

- Midwives who work in a continuity of care caseload team need their time to be ring-fenced, and not diverted to other services – the ebb and flow of the workload needs to be understood and respected.
- Capping caseload numbers to a manageable level so that teams can plan and midwives are not overburdened.
- Flexible working – midwives should be able to manage their own diary, in conjunction with the rest of their team.
- A culture of shared trust and personal responsibility.
- Rotations of midwives between hospital and community (e.g. supporting home births) to maintain skills and promote a continuity model’ (p41, DoH, 2016).

The English review concluded that continuity of carer should be a cornerstone of their maternity service, based on women’s expressed views and high quality evidence about the benefit of continuity in improving outcomes:

Women told the review team that they see too many midwives and doctors over the course of their pregnancy and the birth, and that they do not always know who they are and what their role is. For some women this leads to confusion and they are not able to build up a rapport with healthcare professionals. Relationship or personal continuity over time has been found to have a positive effect on user experience and outcome.

Just as importantly for safety and clinical effectiveness, if too many health professionals are involved without proper coordination, there may not be effective oversight of the care provided. Evidence shows that continuity models have an impact on improving safety, clinical outcomes, as well as a better experience. In particular, there is evidence that for women who find services hard to access and navigate, they have improved access to care, and there is better coordination of their care between midwifery, specialist and obstetric services. Pre-term births have also been found to be reduced through continuity of the care. Therefore, the NHS should offer greater continuity of the healthcare professional supporting the woman, her baby and the family. It should involve:

- a midwife who will normally provide continuity throughout a woman’s journey, if that is what she and her partner want;
- the midwife will usually work in and be supported by a small team of four to six midwives, one of whom could be a buddy and take responsibility for the woman’s care if her midwife is not available;
- each team of midwives should have an identified obstetrician who can get to know and understand their service and can advise on issues as appropriate;
- having a midwife the woman knows at the birth. Ideally this will be her own midwife, but if that is not possible, a midwife from the same team of four to six; and
- where a woman needs on-going obstetric support, this should be from a single obstetric team and the care should be fully integrated across the midwifery and obstetric services.
The aim of providing continuity of carer is to ensure a woman will normally be looked after or supported by professionals she knows and trusts. A need for hospital based care should not mean a woman has to forego continuity. Where a woman knows from the very start of her pregnancy that she will have to go to the hospital most of the time because she needs specialist expertise or to be seen by a multi-professional team, she should be able to have a midwife based at the hospital and get to know the team there. There will be times when due to her circumstances she is looked after by staff she has not met if, for example, an unexpected complication or an emergency arises and she needs to stay in the obstetric unit. If possible the woman’s midwife should be with her in the hospital to deliver the baby, working as part of the team with midwives and obstetricians working in these services, and helping to coordinate her care. **Women should have continuity in the person who is caring for them, their midwife and, where appropriate, their obstetrician.** Through a relationship of knowledge and understanding, the woman and her professional will be better equipped to recognise any changes to risk factors or where something might not be quite right, to ensure appropriate referral (as described in paragraphs 4.13-4.16 (p47-48, DoH, 2016).

The English review acknowledged the necessity for some non-recurring funding to support implementation of a new continuity model of care:

*To fundamentally shift the model of maternity care, each local maternity system requires local leadership and support to manage the transition for a time limited period. This has been costed on the basis of project management and clinical resource to support change locally and training for all staff that will be moving to a continuity of carer model* (p97, DoH, 2016).

**4.0 Conclusions**

There is strong high quality evidence in the form of Cochrane reviews to support the implementation of a model of maternity care that provides continuity of carer through the childbirth journey. Midwife-led continuity models of care have been found to have a range of benefits in relation to birth outcomes with no identified adverse outcomes. Where women require team care due to risk factors or complications, it is of benefit for them to also receive continuity of carer that enables them to build relationships with the health professionals providing their care. The desire for greater levels of continuity of carer comes across strongly in all surveys and consultations with maternity service users.
Appendix One - Search Strategies

MEDLINE, HMIC and MIDIRS

Searched using OVID platform on 29.04.16. No of records found = 68

Only 5 results related to a systematic review of continuity of carer in maternity care upon sifting. Only one in addition to the Cochrane reviews already identified. A further systematic review of alternative models of antenatal care to reduce preterm birth was identified through the review of references in other relevant papers.

Search terms used:

1. Continuity
2. Midwifery
3. Maternity
4. Meta-analysis
5. Systematic review

CINAHL – as above
### Appendix Two – Detailed Study Selection Tables

**Table A2.1 NICE Guideline Search**

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Details</th>
<th>Relevant to rapid review</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guideline CG62 on antenatal care, 2016.</td>
<td>Focused on uncomplicated pregnancies. Includes recommendations about provision and organisation of care, which includes continuity of care.</td>
<td>Yes</td>
</tr>
<tr>
<td>Guideline CG190 Intrapartum care for healthy women and babies, 2014.</td>
<td>Focused on uncomplicated births. Includes recommendation for one to one care and support from a midwife throughout labour and advice about midwife-led care settings for women during labour.</td>
<td>Yes</td>
</tr>
<tr>
<td>Guideline NG3 on diabetes in pregnancy.</td>
<td>No information on organisation of care other than a joint diabetes in pregnancy clinic. No reference to continuity of carer.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline CG107 on hypertension in pregnancy.</td>
<td>No recommendations relating to organisation or model of care, other than identifying the need for ‘an integrated package of care’.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline PH11 on maternal and child nutrition.</td>
<td>No recommendation relating to organisation or model of care.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline CG129 on antenatal care for twin and triplet pregnancies</td>
<td>Identifies the need for care by a ‘multi-disciplinary team’, but does not identify any recommendations around continuity of care or carer within this team.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline CG110 on pregnancy and complex social factors</td>
<td>Guidance identifies the need for ease of access, multi-agency communication but does not identify the model of maternity care or the need for continuity of care.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline NG25 on preterm labour and birth.</td>
<td>No reference to organisation of care, model of care or continuity of care.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline PH26 on smoking in pregnancy.</td>
<td>No reference to organisation of care, model of care or continuity of care.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline PH27 on weight management before, during and after pregnancy.</td>
<td>No reference to organisation of care, model of care or continuity of care.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline on ectopic pregnancy and miscarriage.</td>
<td>No reference to organisation of care, model of care or continuity of care.</td>
<td>No</td>
</tr>
<tr>
<td>Guideline CG192 on</td>
<td>Reference to need for continuity of mental health care between CAMHs</td>
<td>No</td>
</tr>
<tr>
<td>Guideline NG4 on safe midwifery staffing for maternity settings.</td>
<td>Identifies evidence and requirement for one to one midwifery care through labour and childbirth. No reference to model of care including continuity of care(r).</td>
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<tr>
<td>Guideline CG37 on postnatal care.</td>
<td>No reference to organisation of care, model of care or continuity of care(r).</td>
<td></td>
</tr>
<tr>
<td>Guideline CG132 on C-Section.</td>
<td>No reference to organisation of care, model of care or continuity of care(r).</td>
<td></td>
</tr>
<tr>
<td>Guideline CG70 on inducing labour.</td>
<td>No reference to organisation of care, model of care or continuity of care(r).</td>
<td></td>
</tr>
</tbody>
</table>

<p>| Table A2.2 Cochrane Pregnancy and Childbirth Group Search. 561 results relating to pregnancy and childbirth |
|---|---|---|
| Title | Exclude / Include | Reason |
| Sandall et al 2016, Midwife-led continuity models versus other models of care for childbearing women (updated 2012, 2015) (replaced Hodnett 2008 on continuity of caregiver through pregnancy and childbirth) | Include | Matches key question relating to impact of continuity of carer on outcomes |
| Hodnett et al 2015 Continuous support for women during childbirth | Include | Relates to continuity of carer during labour and childbirth |
| Dowswell et al 2015, Alternative versus standard packages of antenatal care for low-risk pregnancy | Exclude | Compared standard number of visits (8-12) with reduced number (4-5) – found negative impact on perinatal mortality and maternal satisfaction; did not explore model of care in terms of provider |
| Dowswell et al. 2009. Antenatal day care units versus hospital admission for women with pregnancy complications. | Exclude | Not relating to overall model of care or continuity of care. Though studies found that day care resulted in fewer interventions with no poorer outcomes than hospital care. |
| Catling et al 2015, Group versus conventional antenatal care for women | Exclude | Not related to provider. Improved maternal satisfaction, but no impact on any other outcomes including preterm birth, birthweight, type of birth. |
| Hodnett et al 2010, Support during pregnancy for women at increased risk of low birthweight babies | Exclude | Additional social support by multi-disciplinary teams and layworkers– not found to reduce preterm or lbw birth, though reduced number of admissions. |
| Dodd et al 2015, Specialised antenatal clinics for women with a multiple pregnancy for | Exclude | Found higher CS rates among women attending specialist clinic but no other differences in outcomes |</p>
<table>
<thead>
<tr>
<th>Improving Maternal and Infant Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hodnett et al, 2012, Alternative versus conventional institutional settings for birth</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Turnbull and Osborn 2012, Home visits during pregnancy and after birth for women with an alcohol or drug problem</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Lavender et al 2013, Telephone support for women during pregnancy and the first six weeks postpartum</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Khunpradit 2011, Non-clinical interventions for reducing unnecessary caesarean section</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Khianman 2012, Relaxation therapy for preventing and treating preterm labour</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Chamberlain et al 2013, Psychosocial interventions for supporting women to stop smoking in pregnancy</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Bond et al., 2015. Immediate delivery or expectant management of the term baby with suspected fetal compromise for improving pregnancy outcomes.</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Stock et al., 2012. Immediate or deferred delivery of the preterm baby with suspected fetal compromise for improving outcomes</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
<tr>
<td><strong>Churchill et al., 2013. Interventionist versus expectant care for severe pre-eclampsia before term.</strong></td>
</tr>
<tr>
<td>Exclude</td>
</tr>
</tbody>
</table>
Table A 2.3 Other Systematic Reviews

<table>
<thead>
<tr>
<th>Title</th>
<th>Exclude/ Include</th>
<th>Reason and Key findings</th>
</tr>
</thead>
</table>
• Midwife-led care for low-risk women was found to be better for a range of maternal outcomes, reduced the number of procedures in labour and increased satisfaction with care  
• The authors found no evidence of adverse outcomes associated with midwife-led care. |
• 461 systematic Cochrane reviews were analysed to develop a new evidence based framework.  
• It was found that 56 outcomes can be improved by practices that lie within the scope of midwifery.  
• Midwifery is associated with cost effective use of resources.  
• Midwives are most effective when integrated into the overall health service. |
Standards for the Organisation and Delivery of Care in Labour, 2007 (joint with RCM and other colleges).

- of Care in Labour. Provides some information on critical care provision, although mainly just statements.

Standards for Maternity Care, 2008 (joint with RCM and other colleges).

- Standards relating to named midwife for all women regardless of risk, one to one care in labour, named midwife to continue coordination of care postnatally. Yes

Good practice guidance on the reconfiguration of women’s services, Good practice guide 15, 2013.

- Focus is on place of birth rather than continuity, will be reviewed in rapid review on place of birth. No

### Table A2.5 RCM Guidance

<table>
<thead>
<tr>
<th>Document</th>
<th>Group/Author/Organisation</th>
<th>Details</th>
<th>Relevant to rapid review</th>
</tr>
</thead>
<tbody>
<tr>
<td>State of Maternity Services Report, 2015.</td>
<td>RCM</td>
<td>Details number of women requiring maternity care number of midwives needed to provide this. Identifies that Scotland does not have a midwife shortage at present.</td>
<td>Yes</td>
</tr>
<tr>
<td>Evidence based guidelines for midwifery-led care in labour, 2012.</td>
<td>RCM</td>
<td>Identifies need for one to one midwifery support in established labour.</td>
<td>Yes</td>
</tr>
<tr>
<td>The contribution of continuity of midwifery care to high quality maternity care, 2015.</td>
<td>Jane Sandall for the RCM</td>
<td>Summarises the policies, evidence and guidelines relating to continuity of midwifery care and its contribution to the improvement of a range of outcomes.</td>
<td>Yes</td>
</tr>
<tr>
<td>Position statement on safe midwifery staffing, 2015.</td>
<td>RCM</td>
<td>RCM recommends the use of the Birthrate plus workforce modelling tool to plan workforce based on local need.</td>
<td>No</td>
</tr>
<tr>
<td>Joint statement on multidisciplinary working and continuity of carer, 2016.</td>
<td>RCM &amp; RCOG</td>
<td>Strongly supports the NHS England Maternity review report on multi-disciplinary collaboration and continuity of carer. Identifies need for adequate staffing levels to support.</td>
<td>Yes</td>
</tr>
</tbody>
</table>

### Table A2.6 Large Scale Reviews of Women’s Experiences of Maternity Care

<table>
<thead>
<tr>
<th>Document</th>
<th>Group/Author/Organisation</th>
<th>Details</th>
<th>Relevant to rapid review</th>
</tr>
</thead>
<tbody>
<tr>
<td>NPEU Safely Delivered: a national survey of women’s experience of maternity</td>
<td>National Perinatal epidemiology</td>
<td>Desire expressed by women for greater continuity of carer through the journey – very low levels of intrapartum continuity</td>
<td>Yes</td>
</tr>
<tr>
<td>Title</td>
<td>Source</td>
<td>URL</td>
<td>Description</td>
</tr>
<tr>
<td>-------</td>
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</tr>
<tr>
<td>Patient Views and Experience of Maternity and Neonatal Services, Scottish Review of Maternity and Neonatal services, 2016.</td>
<td>Scottish Health Council</td>
<td>The issue of fragmentation of maternity care and continuity of carer is described as the key theme to emerge from the consultation process undertaken by the Scottish Health Council with a variety of service user groups in 2015-16. <a href="http://www.gov.scotTopics/People/Young-People/child-maternal-health/neonatal-maternity-review" title="Supporting Documents section">http://www.gov.scotTopics/People/Young-People/child-maternal-health/neonatal-maternity-review (Supporting Documents section)</a></td>
<td>Yes</td>
</tr>
<tr>
<td>Guideline topic: Continuity of Carer</td>
<td>Review question no: all</td>
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<tr>
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<tr>
<td>Checklist completed by: Mary Ross-Davie</td>
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</tbody>
</table>

**SCREENING QUESTIONS**

Hodnett et al ‘Continuous support for women during childbirth’, Cochrane Database of Systematic reviews, 2013

<table>
<thead>
<tr>
<th>Guideline topic: Continuity of Carer</th>
<th>Review question no: all</th>
</tr>
</thead>
<tbody>
<tr>
<td>Checklist completed by: Mary Ross-Davie</td>
<td></td>
</tr>
</tbody>
</table>

**SCREENING QUESTIONS**

In a well-conducted, relevant systematic review:

- The review addresses an appropriate and clearly focused question that is relevant to the guideline review question
  - Yes
  - No
  - Unclear
- The review collects the type of studies you consider relevant to the guideline review question
  - Yes
  - No
  - Unclear
- The literature search is sufficiently rigorous to identify all the relevant studies
  - Yes
  - No
  - Unclear
- Study quality is assessed and reported
  - Yes
  - No
  - Unclear
- An adequate description of the methodology used is included, and the methods used are appropriate to the question
  - Yes
  - No
  - Unclear

**Sandall et al ‘Midwife-led continuity models versus other models of care for childbearing women’, Cochrane Database of systematic reviews, 2016**

<table>
<thead>
<tr>
<th>Guideline topic: Continuity of Carer</th>
<th>Review question no: all</th>
</tr>
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<tbody>
<tr>
<td>Checklist completed by: Mary Ross-Davie</td>
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</table>

**SCREENING QUESTIONS**

In a well-conducted, relevant systematic review:

- The review addresses an appropriate and clearly focused question that is relevant to the guideline review question
  - Yes
  - No
  - Unclear
<table>
<thead>
<tr>
<th>The review collects the type of studies you consider relevant to the guideline review question</th>
<th>Yes</th>
<th>No</th>
<th>Unclear</th>
</tr>
</thead>
<tbody>
<tr>
<td>The literature search is sufficiently rigorous to identify all the relevant studies</td>
<td>Yes</td>
<td>No</td>
<td>Unclear</td>
</tr>
<tr>
<td>Study quality is assessed and reported</td>
<td>Yes</td>
<td>No</td>
<td>Unclear</td>
</tr>
<tr>
<td>An adequate description of the methodology used is included, and the methods used are appropriate to the question</td>
<td>Yes</td>
<td>No</td>
<td>Unclear</td>
</tr>
</tbody>
</table>
## Appendix Three: Summary of Systematic Reviews

<table>
<thead>
<tr>
<th>Authors</th>
<th>Date of Publication</th>
<th>Title of Systematic Review</th>
<th>Publication</th>
<th>Population</th>
<th>Intervention and Comparison</th>
<th>Included reviews/studies</th>
<th>Outcomes</th>
</tr>
</thead>
</table>
on reduction of PIH, amniotomy and perineal outcomes.
Greater levels of satisfaction with care.
Less fetal monitoring, more likely to have known midwife at birth, less antenatal hospitalisation, more breastfeeding initiation.
No difference in Postnatal depression, number of antenatal visits or duration of postnatal stay.

<table>
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</tr>
</thead>
</table>

**Preterm Birth (before 37 weeks)**
- 13,238 women, 8 RCTs, High quality evidence, RR 0.76 (0.64 – 0.91)

**Fetal loss, stillbirth, neonatal loss**
- 17561 women, 13 RCTs, high quality evidence, RR 0.84 (0.71 to 0.99)

**SVD**
- 16,687 women, 12 RCTs, high quality evidence, RR 1.05 (1.03 – 1.08) |
Rowley 1995, Waldenstrom 2001); 13 studies included antenatal, intrapartum and postnatal care, 1 study antenatal and intrapartum only. 8 studies low risk women, 6 studies ‘low and high’ or ‘high risk’ (Biro 2000, Homer 2001, Kenny 1994, North Stafford 2000, Rowley 1995, Tracy 2013). Studies varied in whether care was mainly hospital or community based. 22 studies excluded.

Caesarean section
17,674 women, 14 RCTs, high quality evidence, RR 0.92 (0.84 – 1.00) (not significant)

Instrumental vaginal birth
17,501 women, 13 RCTs, high quality, RR 0.90 (0.83 – 0.97)

Intact Perineum
13,186 women, 10 RCTs, high quality, RR 1.04 (0.95 – 1.13) (not significant)

Regional analgesia
17,674 women, 14 RCTs, high quality, RR 0.85 (0.78 – 0.92)

Secondary outcomes
In midwife-led continuity models, less likely to experience:

Amniotomy
RR 0.80 (0.66 – 0.98), 3523, 4 RCTs

Episiotomy
RR 0.84 (0.77 – 0.92), 17674, 14 RCTs

More likely to experience:

No intrapartum analgesia
RR 1.21 (1.06 – 1.37), 10,499, 7 RCTs
<table>
<thead>
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</tr>
</thead>
<tbody>
<tr>
<td>Turienzo C, Sandall J and Peacock J</td>
<td>January 2016</td>
<td>Models of antenatal care to reduce and prevent preterm birth: a systematic review and meta-analysis</td>
<td>BMJ Open, 6, 1</td>
<td>22,437 pregnant women – low or high risk</td>
<td>Studies using alternative models of antenatal care v standard care as control. The alternative models</td>
<td>15 RCTS up until 2014. Only studies that included preterm birth as outcome measure; used Cochrane handbook of systematic review of Women in alternative models of antenatal care were significantly less likely to experience preterm birth than those receiving standard care – a 16% reduction (RR0.84, 0.74-0.96).</td>
<td>Longer mean labour length 0.50 hours, 3328, 3 RCTs Attendance by known midwife at birth, RR7.04 (4.48 – 11.08), 6917, 7 RCTs No differences in antenatal hospitalisation, aph, induction, augmentation, opiates, perineal laceration needing suturing, pph, breastfeeding initiation, mean length of hospital stay, lbw, apgar, neonatal convulsions, admission to SCBU, mean length of neonatal hospital stay, fetal loss and neonatal death after 24 weeks.</td>
</tr>
</tbody>
</table>
were either midwife-led and continuity models of care or more specialised care in specialised antenatal clinics for women with identified risk factors for premature birth v standard care. According to the interventions criteria to measure quality, (RR0.92), induction of labour (RR0.90) and more likely to have a spontaneous vaginal birth (RR1.05). No difference between groups in any other outcomes. In sub-group analysis, there was a significant effect of midwife-led continuity models on reducing preterm birth (RR0.78), while the specialised care models were not significant (RR0.92). In terms of maternal satisfaction, both alternative models of care were preferred by women to standard care. There appeared to be a trend towards cost-saving in the midwife-led models of care.
References, Bibliography


NICE, 2014, ‘Intrapartum care of healthy women and babies, Clinical guideline 190’ https://www.nice.org.uk/guidance/cg190

NICE 2016 ‘Antenatal care for uncomplicated pregnancies’ https://www.nice.org.uk/guidance/cg62


RCOG, 2013, ‘Reconfiguration of women’s services. Good Practice no.15’,


Sandall et al ‘Midwife-led continuity models versus other models of care for childbearing women’, Cochrane Database of systematic reviews, 2016

Scottish Health Council, 2016, ‘NATIONAL REVIEW OF MATERNITY AND NEONATAL SERVICES : Patient Views and Experience of Maternity and Neonatal Services’
