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Factors that influence the provision of good-quality routine antenatal services: a qualitative evidence synthesis of the views and experiences of maternity care providers (Protocol)

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[Qualitative Protocol]

Factors that influence the provision of good-quality routine antenatal services: a qualitative evidence synthesis of the views and experiences of maternity care providers

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ABSTRACT

This is a protocol for a Cochrane Review (Qualitative). The objectives are as follows:

- To identify the factors influencing the provision of quality ANC according to health care providers

- To explore how these factors relate to, and help to explain the findings of, the related Cochrane intervention reviews

BACKGROUND

There has been widespread and continuing concern about rates of maternal and neonatal deaths and serious morbidity across the world (UN 2015). Antenatal care (ANC) offers the promise of screening women and their fetuses for actual and potential problems as the pregnancy progresses, and for treating any complications that arise. Antenatal care is therefore a core component of maternity care provision in most contexts around the world. The main measures for the adequacy of ANC provision are the time of the first visit and the number of antenatal sessions attended (WHO 2002). Current World Health Organization (WHO) recommendations for routine ANC for women with no existing or historical health problems are a four-session programme during pregnancy, starting before 16 weeks gestation, with specific interventions and activities at each visit (WHO 2002). This is termed Focused Antenatal Care (FANC). The number of visits and the content of each visit are based on the WHO Antenatal Care Trial published in 2001 (Villar 2001).

Although the percentage of women who attend ANC early in pregnancy and who go on to attend at least three more sessions is rising, it is still very low in some countries, particularly in Sub-Saharan Africa (Hogan 2010). Evidence suggests that when services are provided in central locations and transportation is infrequent, expensive or non-existent, this is a clear barrier to attendance, especially in cultures where women do not have the autonomy to decide to attend and/or to pay for transportation (Campbell 2006).

However, more recent data suggest that, even when services are more accessible and affordable, women do not always use them, especially if they are members of marginalised population groups (Downe 2009; Finlayson 2013). This observation holds true in both high- and low-income settings. These studies also note that the biomedical assumptions supporting formal ANC might not fulfil the needs of all pregnant women, especially in cultures where a more psychosocial approach is culturally normative. A recent review of what women want and need during pregnancy reveals that antenatal care needs to provide social support and tailored information as well as monitoring well-being and providing interventions and therapies where these are required (Downe 2016). This review informed a framework for future ANC provision comprising three equally important domains, each provided by practitioners with good clinical and interpersonal skills within a high-quality health system: clinical practices (interventions and tests), relevant and timely information, and psychosocial and emotional support. The recent, revised WHO ANC guidelines for a positive pregnancy experience highlight the importance of the provider, shifting the terminology from ANC 'visit' to 'contact' to reflect the significance of the relationship between woman and provider (WHO 2016). The growing recognition of the degree to which women are subject to disrespect and abuse by caregivers in formal maternity care systems also provides an insight as to why women may not attend ANC, or why they may attend just once (Bohren 2015; White Ribbon Alliance 2011).

Alongside the narratives of pregnant and postnatal women, qualitative data is emerging from maternity service providers suggesting that in some settings, staff are also exposed to disrespect and abuse (Bowser 2010), from vertical or horizontal bullying in the workplace (Khalil 2009), or from threats of physical or sexual assault during their commute (Wilson 2016). Studies have documented these experiences in countries of all income brackets. More prosaically, staff may face barriers to providing good-quality antenatal care (or any antenatal care at all) because of a lack of essential resources, equipment and drugs (Matsuoka 2010). This limits staff capacity to ensure that facilities are attractive and clean, and that they can provide an adequate response to both routine needs and emergencies (Sharma 2015). Beyond this, provision of care in rural locations is limited by understaffing when professionals who might be interested in working in these locations are put off from doing so by lack of good-quality housing or schooling for their children (Lehmann 2008). In high-income countries, too, staff and resource shortages influence the provision of quality antenatal care (RCM 2015), but even when resources are sufficient, problems may arise due to the increasingly technical content of care and especially the extent to which this hinders positive interpersonal interaction between healthcare providers and pregnant women and their companions (Nyman 2013). These issues can have a negative influence on staff morale and a subsequent impact on the quality of care provided (Smith 2009).

The same psychosocial factors identified as important by women attending ANC also appear to affect staff morale and job satisfaction. Maternal health professionals cite the opportunity to develop authentic, woman-centred relationships as an integral component of quality ANC (Carolan 2007; Everett-Murphy 2010). Alternative models of care delivery, such as midwife-led care (incorporating continuity of care) or group-based approaches (e.g. Centering Pregnancy; Manant 2011) may be more conducive to the type of relationship-based care that women and staff desire. In terms of clinical outcomes, a Cochrane Review comparing different models of maternity care supports this view, reporting that midwife-led models of care produced better maternal and infant outcomes compared to other models of antenatal care (Sandall 2016). While the combination of clinical surveillance and woman-centred continuity of care appears to be associated with positive outcomes and mutual satisfaction, it is still not clear how this approach can be adopted and/or adapted in different contexts, particularly in low-income settings where resources may be scarce.

Qualitative research is the ideal vehicle for answering questions of acceptability and for exploring subjective factors that might frame delivery of ANC programmes. Data arising from qualitative studies can indicate how staff can be encouraged and supported to design and provide better-quality ANC that is more effective, acceptable and accessible. Qualitative data can inform individual studies and reviews of effectiveness by suggesting outcomes that are relevant to staff, by generating hypotheses that can be tested out in future subgroup analyses, and by providing possible explanations for results of individual studies and reviews. In addition, these methods can inform guidelines by answering questions around the acceptability and feasibility of implementing different aspects of ANC in policy and practice.

By synthesising the findings from relevant qualitative studies using meta-ethnographic techniques (Noblitt 1988), and by utilising a pre-determined framework approach (based on the theory of reasoned behaviour; Fishbein 2010), we may identify a wide range of potential factors relating to health system, behavioural, sociocultural and political dimensions.

This review is designed to provide insights to further develop guidelines and care provision in the future, serving as a complement to the existing Cochrane Reviews of ANC provision (Catling 2015; Dowswell 2015).

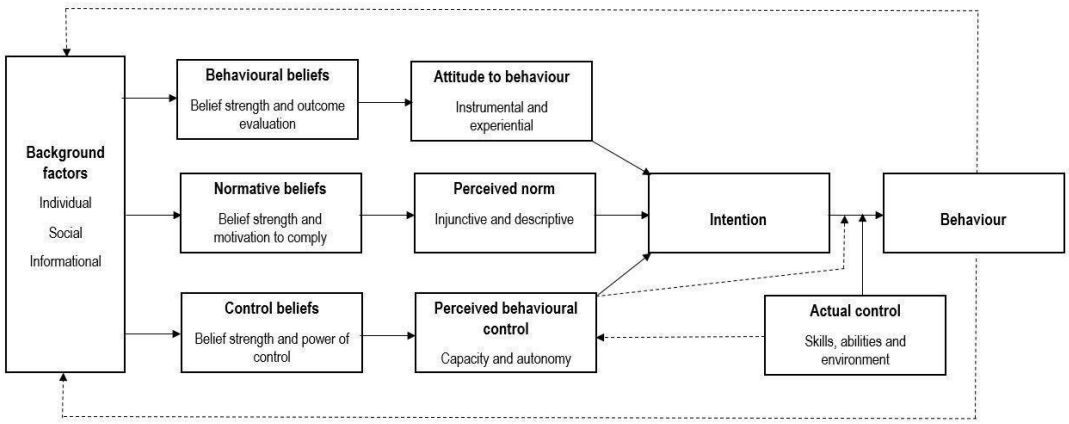
Description of the topic

Antenatal care has been defined as the routine care that all healthy women can expect to receive during their pregnancy (NICE 2008). Globally, there is wide variation in the number and content of routine ANC sessions provided, including a greater or lesser degree of technical monitoring and testing (Dowswell 2015). Generally, the central purpose is prophylactic, through the monitoring and

support of whole populations of pregnant women and of their babies to maximise the health and well-being of the majority and to identify, treat and/or refer the minority who develop actual or potential complications as the pregnancy progresses.

There is little theoretical research that is directly focused on the views and experiences of healthcare provision, though there is a wide spectrum of research on components like knowledge, understanding of and beliefs about benefits, and design features, such as the AAAQ (available, accessible, acceptable, appropriate and of good quality) model (Potts 2008). The review team jointly chose the Reasoned Action Approach (RAA) as the theoretical underpinning for the review (Fishbein 2010), as it is widely used in healthcare behavioural research and appeared, a priori, to have a good potential explanatory power for the phenomenon of interest. In accordance with recent guidance on choosing theories for use in systematic reviews (Noyes 2016), we made this decision only after exploring a number of other theories, including organisational theories such as Donabedian's Structure and Process Outcome Theory (or derivatives) and Webers Theory of Bureaucracy (Donabedian 2003; Weber 1964), as well as motivational behavioural theories such as the Health Belief Model (Strecher 1997). However, from our professional and research knowledge of the field, we believed that the relevant factors for healthcare professionals in general and for antenatal care in particular (across settings and cultures) would probably combine both structural/organisational/resource issues as well as human motivation and behaviour. We therefore selected the RAA theory, as it amends the original purely behavioural model of the theory of planned behaviour/reasoned action, adding in background factors including individual, social and informational variables. Logic models based on this theory should include input factors relating to attitudes, subjective norms and behavioural control. These input factors are hypothesised to lead to the output of intended behaviour. In the right context, intended behaviours then result in actual behaviours. The RAA further states that the input factors are, themselves, preceded by three psychosocial domains relating to behavioural, normative and control beliefs. Based on this, we hypothesise that the degree to which staff actually provide good-quality ANC services is mediated by their intentions (or lack thereof) to do so. These intentions are themselves moderated by pre-existing attitudes and beliefs about the capacity to provide services, which are in turn mediated by local social norms around the philosophy and ideal content of ANC and the degree of control that staff have over enacting those beliefs and norms, for example, through autonomy in practice and easy access to the resources needed to carry out their duties. Figure 1 presents the proposed logic model based on the RAA. We will initially examine the studies included in the review to establish emerging themes and determine their fit with the initial theoretical logic model. We will then construct amended logic model(s) to take account of all the findings, as a basis for informing future quantitative reviews, practice guidelines, and implementation in policy and practice. A related review will look at the views of pregnant women in terms of factors influencing their uptake of antenatal care.

Figure 1. Theory of Reasoned Action



Description of the phenomenon of interest

The phenomena of interest for this review are the factors that influence the provision of high-quality antenatal care from the perspective of healthcare providers.

Why is it important to do this review?

Given the low levels of uptake of ANC in some countries and among some population groups, it is important to determine how ANC can be rendered more acceptable and accessible so that it can fulfill its promise of benefiting women and babies. A recent qualitative review of what matters to women in the context of ANC highlights effective interventions, supportive relationships, and technically competent and caring staff as integral components of the service (Downe 2015). Service providers play a key role in implementing and delivering ANC and are likely to offer valuable insights into their ability to deliver a high-quality service that is acceptable and accessible to women**.**

The beneficiaries of this review will be the staff providing ANC and the women (and their offspring) using it, provided that policy makers, funders and health workers use the findings alongside the existing quantitative Cochrane Reviews to design, fund and provide ANC that is better aligned with health providers' needs and expectations. The review will complement an existing review looking at the factors associated with the delivery of intra-partum and postpartum care from the perspective of skilled birth attendants (Munabi-Babigumira 2015), plus existing qualitative and quantitative reviews related to the uptake and delivery of ANC, as described in Table 1.

OBJECTIVES

- To identify the factors influencing the provision of quality ANC according to health care providers

- To explore how these factors relate to, and help to explain the findings of, the related Cochrane intervention reviews

METHODS

Criteria for considering studies for this review

Types of studies

This is a systematic review of qualitative primary studies. According to Merriam, "qualitative researchers are interested in understanding the meaning people have constructed, that is, how people make sense of their world and the experiences they have in the world". (Merriam 2009). To achieve this, the review will include studies using qualitative designs and approaches, such as ethnography, phenomenology, case studies, grounded theory, observational studies and mixed methods. These studies will use appropriate methods of data collection for the methodology employed, including interviews, focus groups, open-ended survey questions, diaries and other narrative data collection methods. We will exclude studies that collect data using qualitative methods but do not perform a qualitative analysis (for example, where qualitative data are only reported using descriptive statistics). We will include mixed methods studies where it is possible to extract findings derived from qualitative research. We will include studies regardless of whether they have been carried out alongside studies of effectiveness of ANC, so long as they are of an appropriate standard according to our chosen quality appraisal tool (Downe 2007; Walsh 2006).

Types of participants

We will include studies that report the views and experiences of staff based in primary, secondary and tertiary care settings, who are employed by public, private or charity funders to provide routine antenatal care services. Our definition of clinical staff includes skilled birth attendants who fulfil the WHO 2004 definition of a skilled birth attendant, i.e. an "accredited health professional such as a midwife, doctor or nurse that is trained to proficiency and has the necessary skills to manage a normal pregnancy, childbirth and provide postnatal care as well as the skills to detect, manage and refer any complications in the mother and neonate" (WHO 2004).

We will also include any studies that collect data from managers of healthcare facilities and other providers who may work with skilled birth attendants as part of the team at a facility. These providers work closely with skilled birth attendants and may have views and experiences of factors that influence the provision of antenatal care.

We will include studies among auxiliary cadres such as auxiliary nurse midwives and associate clinicians (non-physician clinicians) if these staff are employed at the health facility, work independently or as part of a team, and are recognised within that setting as skilled birth attendants. Although auxiliary cadres do not currently meet the international definition of skilled birth attendants, we will include them in this review, for settings where they are recognised as skilled providers of care. We will include studies that document student nurses' or midwives' attitudes and experiences without using hypothetical scenarios only if the students are participants alongside skilled birth attendants and we cannot distinguish their views from those of other participants. We will exclude studies in which only students participate, as we are concerned with factors affecting the delivery of care in routine settings rather than in teaching settings.

In some instances, we may not be able to tell if health providers fit our definition of skilled birth attendants. In these instances, we

will contact the authors of the study for more information and include these studies as long as the health providers are recognised as skilled birth attendants in that particular setting.
We will also include lay health workers where they are paid directly or indirectly to provide ANC.
We will exclude studies that focus exclusively on trained or untrained traditional birth attendants, as they lie outside the definition of skilled birth attendants and do not tend to provide 'routine' ANC in health facilities. We will not include staff who are commenting on their experiences and views of delivering or providing specialist antenatal services for women/babies with specific conditions (such as HIV, malaria, or in -utero interventions for malformation), as this review is designed to complement reviews of routine antenatal care for healthy women and babies. In addition, we will not include papers if they only report on what service providers think about the views and experiences of women receiving ANC. We are interested in provider perceptions of routine ANC from their own perspective rather than their views on what women may or may not think about the service.

Setting

The review will include any setting where routine ANC is provided (e.g. outpatient/antenatal clinics or antenatal wards in hospitals, birth centres, local health centres, community centres, children's centres, and/or the woman's home or other local venue).

Types of interventions

We will include studies about routine antenatal care provision for healthy women and babies. We define antenatal care as routine care provided for healthy women during their pregnancy. We will include studies exploring the views and experiences of any or all of the following components of ANC.

- *Content of care*: consultations, tests, treatments, information, advice, and support related to maintaining and monitoring a healthy pregnancy and helping women to prepare for birth and parenting, where these are provided as part of publicly or privately funded, formal ANC provision for the woman/fetus without complications.
- *How care is provided*: including the perceived attitudes and behaviours of staff as well as the biomedical, psychosocial, relational and other approaches to care provision.

The review will not include:

- ANC programmes/interventions designed for women and babies with specific complications; or
- programmes/interventions that are only about antenatal education (for childbirth and/or for parenting). These programmes do not include clinical care, tests, and treatments, and they are not usually provided routinely to whole populations of women.

Phenomena of interest

The phenomena of interest for this review, therefore, are the factors influencing the delivery of good-quality routine antenatal care, based on the views and experiences of healthcare providers.

Search methods for the identification of studies

Electronic searches

We will search PDQ-Evidence (www.pdq-evidence.org) for related reviews in order to identify eligible studies for inclusion, as well as the following electronic databases.

- MEDLINE - OvidSP
- Embase - OvidSP
- CINAHL Complete - EbscoHost
- PsycINFO - EbscoHost
- AMED - EbscoHost
- LILACS - Virtual Health Library
- AJOL (African Journals Online)
- Social Science Citation Index - EbscoHost

We chose these databases based on exploratory searches and we anticipate that they will provide the highest yield of results. We will use text word searches utilizing title, abstract and keyword functions and will include index terms relating to health personnel and qualitative research. Where possible we will also include database specific limiters to identify qualitative research utilizing the 'best balance of sensitivity and specificity' function. An example of a MEDLINE search strategy is shown in Appendix 1.
We will include eligible studies published between 1 January 2000 and the date the search is run. This date range is intended to capture provider views and experiences of care provision since the introduction of focused antenatal care programmes.
We will not impose any language or geographic restrictions.

Searching other sources

We will handsearch the reference lists of included papers and perform forward citation tracking to identify additional references that may be relevant. We will then subject these papers to the same inclusion/exclusion and quality-checking criteria as those identified from the search terms above.
We will check the contents pages of over 50 relevant journals as they are issued through Zetoc alerts, over the period the review is undertaken. We want to ensure that we pick up any studies that are published as the review is progressing to ensure we capture as much of the data as possible.
We will not include Conference abstracts or PhD and Masters theses.

Data collection and analysis

Selection of studies

Assessing abstracts and full text according to the inclusion criteria

We will collate records identified from different sources into one database and remove duplicates. Two members of the team (SD, KF) will independently assess each abstract to determine eligibility against the inclusion criteria. The authors will then retrieve and independently assess the full text of all the abstracts that have been assessed as potentially relevant and then agree on the final list of included studies. In the event of continuing lack of agreement for a particular study, a third team member (OT) will adjudicate. Where appropriate, we will contact the study authors for further information.

Translation of non-English language papers

For papers in a language other than those understood by the review authors (English, French, Spanish, Portuguese, Turkish), we will initially have the abstract translated through open source software (Google Translate). If this indicates inclusion, or if the translation is inadequate to make a decision, we will ask members of the multilingual networks associated with the research teams of the review authors to translate the full text. If we cannot do this for a study in a particular language, we will list the study as 'awaiting classification', to ensure transparency in the review process.

Conceptual translation between languages and cultures is a recognised issue in both qualitative and quantitative research (Al Amer 2015; Stevelink 2013). Regmi 2010 discuss the issues of translation (a direct and literal word-for-word process) and transliteration (a process of translating meaning that may not be word for word) in undertaking qualitative research in different language and cultural groups. They use the term 'elegant free translation' (Birbili 2000), which is an approach that, in Birbilis analysis, can help the reader to 'know what is going on' even if it is less faithful to the original text. Regmi 2010 see this as a process involving transcription of only the key themes or few quotes along with a description of the context (via a kind of transliteration). They recognise that this process risks the loss of some precision and meaning but see it is a pragmatic solution to the complexity and resource demands of full translation in primary qualitative research.

Given that the current review did not aim to be philosophically phenomenological, and that the key aims are about the relatively broad concept of influencing factors, we have taken the pragmatic decision to use the 'elegant free translation' approach to the transliteration of our included studies, rather than translating them word for word. We will apply this approach both at the stage of decisions about inclusion, and for data extraction and analysis.

Potential sampling from the included studies

Large numbers of studies can threaten the quality of the analysis in qualitative evidence syntheses. In addition, syntheses of qualitative studies aim for greater variation in concepts as opposed to an exhaustive sample that aims to avoid bias. To allow for the broadest possible variation within the included studies, if more than 30 studies are included following our search, we will consider using maximum variation purposive sampling to select from the eligible studies (Benoot 2016). Key areas of variation that we may consider will include the cadre of healthcare worker, the type of ANC provision and the geographical setting. Once these variables have been determined, we will create a sampling frame and map all eligible studies onto the frame. We will then review the number of studies in each frame and reach a decision regarding how many studies in each cell we will include in the review.

Recording of study characteristics

We will record study characteristics using a form designed specifically for this review. The study characteristics form will record details of first author, date of publication, language, country of study, context (urban/rural), participant group (parity, sociodemographics), type of ANC received (caregiver group, location, focused antenatal care (FANC) or other), theoretical/conceptual perspective of the study, research methods, sample size, method of analysis, and key themes (as recorded by the authors in each case).

Assessing quality and risk of bias of included studies

Our inclusion criteria specify that to be included a study must have used qualitative methods for both data collection and data analysis. This criterion constitutes a basic quality threshold, and we will discard studies that do not meet this standard. In addition, to assess the methodological quality of included studies, one author will apply a quality appraisal framework to each study. A second author will check for discrepancies. We will resolve disagreements through discussion or by consulting a third reviewer. We will use the A-D grading of Downe and colleagues and the criteria of Walsh and Downe (Downe 2007; Walsh 2006). This includes an assessment of the study scope and purpose, design, sampling strategy, analysis, interpretation, researcher reflexivity, ethical dimensions, relevance and transferability; a number of other qualitative reviews have used this approach successfully (e.g. Downe 2009; Finlayson 2013; Downe 2015). We will then grade studies against Lincoln and Guba's summary criteria, as follows (Lincoln 1985).

A. No, or few flaws. The study credibility, transferability, dependability and confirmability is high.

B: Some flaws, unlikely to affect the credibility, transferability, dependability and/or confirmability of the study.

C: Some flaws that may affect the credibility, transferability, dependability and/or confirmability of the study.

D: Significant flaws that are very likely to affect the credibility, transferability, dependability and/or confirmability of the study.

We will analyse studies with a grading of C or more. We will list studies that we grade as less than C, but we will not include them in the central analysis. As apparent from the summary criteria given above, grading a study as D in our taxonomy means that it is judged to have 'significant flaws which are very likely to affect the credibility, transferability, dependability, and/or confirmability of the study.' We acknowledge that some qualitative researchers believe that all qualitative data have potential value in understanding phenomenon of interest, but we have argued consistently that including poor-quality studies in systematic reviews risks a misunderstanding of the final phenomenon, which has potentially important consequences if the findings are to be used in a practice or policy context (Walsh 2006). However, given the global nature of the review we may be more lenient towards studies conducted in settings that would otherwise be under-represented in the final analysis (e.g. if there were relatively few studies from Africa) to ensure the review incorporates provider experiences from as wide a range of settings as possible. This is a similar approach to that adopted by Glenton and colleagues in their review of lay health worker programmes (Glenton 2013)

Data extraction and analysis

Following the principles of meta-ethnography (Noblitt 1988), data extraction and analysis will take place simultaneously for each included study in turn. We will extract author-identified themes from the primary papers and log them onto an Excel spreadsheet. We will code the themes and use them to generate second-order concepts, recorded on the next page of the spreadsheet. We will examine emerging concepts for similarities and, where appropriate, collapse them into new themes (recorded on the final page of the spreadsheet). These final themes will form the basis for the synthesis. Meta-ethnography uses an approach based on constant comparative analysis, where the analysis is built up study by study. The process requires the researcher to be open to the emergence of new themes, ensuring that unexpected phenomena can be captured and examined by subjecting the initial assumptions about what is in the data to both confirmation ('reciprocal analysis') and disconfirmation ('refutational analysis') against each study in turn. This ensures that the product of the review is continually refined as each study is included. Using the principles of framework analysis (Gale 2013), this process will not start from a position of no knowledge but will be used to test and, where necessary, amend the original theoretically informed logic model (the 'framework') given in Figure 1. This incorporates elements of the 'best fit' framework synthesis approach where 'new' themes emerging from the synthesised data will be added to the a priori concepts in the framework as they arise (Carroll 2013).

We will then use these findings to ratify and/or amend the components of the logic model iteratively. Two reviewers will undertake the analysis and resolve any disagreements on the thematic structure/theory/amendments to the logic model by consensus throughout the extraction and analysis process.

Framework analysis is used when there are some existing theories about what might be in the data. In the case of the current review, we had already determined that we were looking for factors influencing the provision of quality antenatal care by healthcare providers within the more general data on their views and experiences, and that the theory of reasoned behaviour might offer good explanatory power for the findings (as expressed in the logic model given in Figure 1). In summary, our approach will incorporate the following steps,

1. Choose the a priori theory for likely utility (the reasoned action approach).
2. Undertake a meta-synthesis of the included papers.
3. Map the metasynthesis themes and line-of-argument to the a priori theory.
4. Amend the a priori theory where necessary to ensure all the data are accounted for.
5. Draw up logic models (based on the line of argument) to assess the fit of the new theory for the total data set and for subgroups in the data set.

Planned subanalysis

Providing there is sufficient data to work with we also plan to perform a subanalysis according to income levels in the study setting by comparing studies conducted in high income countries (HICs) against studies conducted in low- and middle-income countries (LMICs). We believe that differences in resource levels (equipment, staff and infrastructure) may affect the provision of good-quality antenatal care.

Reflexive note

In keeping with quality standards for rigour in qualitative research, the review authors considered their views and opinions on antenatal care as possible influences on the decisions made in the design and conduct of the study, and, in turn, on how the emerging results of the study influenced those views and opinions. SD believed at the outset that staff motivation for providing maternity care in general, and antenatal care in particular, varied from complete vocational commitment to a simple need to earn enough income to pay for everyday costs of living. She also believed that many staff working in this area are highly committed to providing good-quality care, but that, for others, gender, power, and hierarchy issues, together with resourcing problems, have resulted in lack of motivation and burn-out for some staff working in this area, with a consequent lack of concern for the well-being of women and babies using ANC. KF believed that staff were generally drawn to maternity care because of a desire to provide a comprehensive array of clinical expertise, hands-on care and emotional and psychological support to pregnant women and babies.

We will therefore use refutational analytic techniques to minimise the risk that these pre-suppositions would skew the analysis and the interpretation of the findings.

Given the rapidly evolving nature of this area of research, we will also note our reflections on some of the methodological and theoretical issues that arise during the course of this review.

Appraisal of the confidence in the review findings

We will use the GRADE-CERQual tool (Confidence in the Evidence from Reviews of Qualitative research) to assess the confidence that the review findings merit (Lewin 2015). The GRADE CERQual Project Group developed this approach in 2004, which uses the following four concepts to assess confidence.

1. *Methodological limitations*: the extent to which there are problems in the design or conduct of the primary studies that contributed evidence to a review finding.
2. *Relevance*: the extent to which the body of evidence from the primary studies supporting a review finding is applicable to the context (perspective or population, phenomenon of interest, setting) specified in the review question.
3. *Coherence*: the extent to which the review findings are well grounded in data from the contributing primary studies and provide a convincing explanation for the patterns found in these data.
4. *Adequacy*: an overall determination of the degree of richness and quantity of data supporting a review finding.

The above assessments will result in an overall assessment of our confidence in each individual review finding as either high, moderate, low or very low. We will conclude the appraisal of confidence in each review finding by drafting a table that will summarise the key findings, level of confidence in each, and an explanation for our assessment of each finding.

Line of argument synthesis and final logic models

We will then synthesise the final thematic structure into a 'line of argument' synthesis. This is a phrase or statement that summarises the main findings of the study and the theoretical insights that they generate. A line of argument synthesis includes logical connections between concepts, and it will therefore reflect the final logic model(s) that are constructed from the data. In the case of the current review we will use the line of argument and the resulting logic model(s) to explain what might underpin the ability of staff to provide quality antenatal care, in terms of social, behavioural and control beliefs, and organisational or contextual components that interact with these factors to prevent the delivery of quality antenatal care. These could be used to interpret the findings of existing quantitative reviews in this field; to explain how and why the outcomes identified in the accompanying ANC guideline 'work', for who and in what context; and to identify areas for future effectiveness research in this field. The models will also demonstrate the extent to which the RAA explains these factors on the basis of the data included in the review.

Using the synthesised qualitative findings to supplement the Cochrane intervention reviews

As part of data synthesis, we plan to explore how the findings from our review relate to and help explain the findings of the related Cochrane intervention reviews (see Table 1). We will also look to compare and contrast the findings from our review with those from a related review exploring healthcare professionals' views on the delivery of intrapartum and postpartum care (Munabi-Babigumira 2015). The findings will also be used to inform panel judgements on the acceptability and value of proposed components and interventions for new WHO ANC guidelines. In this review, we will build on the emerging experience of others in the field by using a narrative approach to explore how the reviews relate, and how the findings from the qualitative review inform the findings from the intervention reviews and vice versa. At least two reviewers will work together to map our review findings in relation to the intervention reviews and to the ANC guideline development process.

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* *Indicates the major publication for the study*

ADDITIONAL TABLES

Table 1. Qualitative and quantitative reviews related to the uptake and delivery of ANC

Review	Title	Focus	Methodology	What the current review adds
Dowswell 2015	Alternative versus standard packages of antenatal care for low-risk pregnancy	Effectiveness of reduced schedule of ANC visits (FANC)	Quantitative (Cochrane Review)	Data that might explain why reduced visit schedules work/don't work for some women/groups
Catling 2015	Group versus conventional antenatal care for women	Effectiveness of different approaches to ANC	Quantitative (Cochrane Review)	Data that might explain why reduced visit schedules work/don't work for some women/groups
Downe 2009	Why marginalised women don't use ANC (HIC)	Exploration of women's views and experiences of non-use of ANC in HICs	Qualitative metasynthesis	A wider scope, as the proposed review includes all women from all settings and includes facilitators as well as barriers
Finlayson 2013	Why women don't use ANC (LMICs)	Exploration of women's views and experiences of non-use or limited use of ANC in LMICs	Qualitative metasynthesis	A wider scope, as the proposed review includes all women from all settings and includes facilitators as well as barriers
Phillippi 2009	Women's perceptions of access to prenatal care in the USA	Exploration of women's views and experiences of access to ANC in the USA	Qualitative metasynthesis	A wider scope, as the proposed review includes all women from all settings
Downe 2015	What matters to women	Exploration of what pregnant women might want and need to support them through pregnancy	Qualitative metasynthesis	This review excluded women who were reporting on their actual experience of ANC. The proposed review will include

Table 1. Qualitative and quantitative reviews related to the uptake and delivery of ANC (*Continued*)

				these accounts
Munabi-Babigumira 2015	Factors that influence the provision of intrapartum and postnatal care by skilled birth attendants in low- and middle-income countries: a qualitative evidence synthesis	Exploration of the attitudes, views, experiences and behaviours of skilled birth attendants and those who support them, to identify factors that influence the delivery of intrapartum and postnatal care in low- and middle-income countries	Qualitative evidence synthesis	Data that might identify the barriers and facilitators associated with the delivery of intrapartum and postpartum care from the perspective of healthcare providers

APPENDICES

Appendix 1. MEDLINE search strategy

#	Searches	Results
1	Prenatal Care/ or Perinatal Care/ or Maternal Health Services/ or Maternal-Child Health Services/	37806
2	(antenatal care or antenatal service? or antenatal support or prenatal care or prenatal service? or prenatal support or antepartum care or antepartum service? or antepartum support or perinatal care or perinatal service? or perinatal support or maternal care or maternal service? or maternal health care or maternal healthcare or maternal support or pregnancy care or pregnancy service? or pregnancy support).ti,ab,kw	21772
3	1 or 2	49966
4	exp Health Personnel/	446351
5	(Staff or provider$ or health care provider$ or nurs$ or midwife$ or midwives or physician$ or doctor$ or obstet$ or medical professional$ or clinician$ or skilled birth attendant$ or auxiliary or lay health worker$).ti,ab,kw	1213677
6	4 or 5	1449700

(*Continued*)

7	3 and 6	17809
8	qualitative research/	33348
9	7 and 8	504
10	limit 7 to "qualitative (best balance of sensitivity and specificity)"	4640
11	9 or 10	4666
12	limit 11 to yr="2000 -Current"	3668

CONTRIBUTIONS OF AUTHORS

OT conceived of and commissioned the study. SD and KF drafted the protocol with revisions from OT. All authors read, amended and approved the manuscript.

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