The Perception of Women in Rural and Remote Scotland About Intrapartum Care: A Qualitative Study

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Abstract

Background

The views of mothers are important in shaping policy and practice regarding options for intra-partum care. Remote and rural mothers face unique challenges accessing services, and these need to be well understood. Therefore, our aim was to understand the trade-offs that women who live in remote and rural settings, more than an hour from a maternity unit, face regarding intrapartum care.

Methods

Qualitative semi-structured telephone interviews (n=14) were undertaken in rural Scotland with 13 women who had young children and one who was pregnant. Interviews were transcribed and thematically analysed by two researchers.

Results

Key themes identified were: risk/safety, distance, travel, weather, antenatal care, intervention, type and place of care, the possibility of intra-partum and postnatal transfer, and support by different professional groups. Remote and rural mothers face particular challenges in choosing where to have their babies. In addition to clinical decisions about place of birth agreed with healthcare professionals, they have to mentally juggle the social and economic implications of birth at a distance from family and home surroundings.

Conclusions

Health care staff need to appreciate the impact of non-clinical factors that are important to mothers in remote and rural areas and acknowledge these, even

when they cannot be accommodated. Local and national policy also needs to reflect and respond to the practical challenges faced by rurality.

Key Points

Midwives need to understand the non-clinical factors that are important to mothers in remote and rural areas and acknowledge these, even where they cannot be accommodated. Key issues for mothers include: risk/safety, distance, travel, weather, antenatal care, intervention, type and place of care, the possibility of intra-partum and postnatal transfer, and support by different professional groups. Local and national policy needs to reflect and respond to the practical challenges faced by rurality.

Introduction

Maternal and neonatal healthcare is based on providing continuity of care during pregnancy, labour, birth and the postpartum period [1-3]. In practice, maternity care is organised in a tiered fashion, based on risk assessment. Women are generally provided with choices about their preferred place of birth, from home to small community maternity units (CMU), usually midwife-led, to larger consultant-led obstetric units (CLU). The full choice of birthplace options is primarily available to women who do not have pregnancy complications or underlying medical conditions [4].

Maternity services work in partnership with women and their families and aim to provide women with choice and continuity whilst balancing risk, safety and quality [4-6]. This model is intended to match the right level of care to the needs of individual women and thus enhance outcomes, including: lower rates of induction of labour; fewer intra-partum interventions, and higher rates of spontaneous vaginal births [7-9]. Failures in maternity services, such as at Morecombe Bay [10] and more recently Shrewsbury and Telford NHS Trust [11], have highlighted the need to involve women in service planning and delivery and the need for appropriate risk assessment and rapid escalation of care when this is required. However, there are challenges in providing and delivering the full range of options to women living in geographically isolated and remote areas, as unexpected intrapartum or neonatal complications can be life-threatening when they occur at a distance from specialist care [12]. In addition, remote and rural CMUs can be several hours away from specialist

obstetric, anaesthetic and neonatal support. The interplay between these factors is the focus of this study.

This paper reports a qualitative analysis to support a deeper understanding of pregnant women's trade-offs. This will inform the design of a Discrete Choice Experiment (DCE). The research is part of a wider mixed-methods study to understand women's preferences for maternity care [13], integrating qualitative and quantitative methods to elicit relevant information [14]. The thematic analysis presented provides maternity healthcare professionals, particularly rural midwives, with information from mothers about their decision making. This may help midwives manage the challenging interface between mothers' wishes and clinical risk.

Methods

This study was undertaken in the north of Scotland (NHS Grampian and NHS Highland), where travel to obstetric consultant-led services can often take 1-3 hours, there is relatively infrequent public transport, and even midwifery-led units can be up to 1.5 hours from the homes of pregnant women. The women interviewed did not have to undertake sea crossings. Although it was previously in place, a local 'flying squad' does not currently exist. There is a national air ambulance and paediatric retrieval service, but response times are challenging in relation to acute obstetric or neonatal emergencies.

Telephone interviews were conducted to collect highly contextualised qualitative data about a small group of women's birth experiences in maternity

care in the rural North of Scotland. We undertook 14 telephone interviews with pregnant women and recent mothers. Women were recruited by local midwives as an opportunistic but typical sample. To minimise the risk of distress, women who had experienced a therapeutic or spontaneous abortion or stillbirth, suffered early neonatal loss, or had a baby in neonatal intensive care were not included. Telephone interviews were used to allow women to participate at a time that suited them from their own homes and to reduce travel.

Midwives shared Participant Information Sheets with women and passed on the contact details of interested women to the interviewers (HB, VW). Informed consent forms were emailed to participants two days before the telephone interview. This ensured that participants had two occasions to decide whether or not to take part. The consent form indicated that participants could withdraw at any time.

The interviews were wide-ranging: participants were asked about their experiences of maternity care, knowledge of safe pregnancy, risks related to pregnancy (clinical appropriateness of care), and general preferences and knowledge of risk associated with their choice of birthplace. A topic guide (see Supplementary File) was developed based on previous research [15].

The interviews were audio-recorded with the participants' permission and transcribed verbatim. The transcripts were analysed independently by two researchers (HB, VW) using an inductive thematic approach until saturation was reached and the interviewers agreed that no new themes or sub-themes were identified [16-18]. From their independent reading of the transcripts and

subsequent discussion HB and VW brought together the themes and sub-themes and extracted quotes from each transcript. The anonymised transcripts together with the themes and quotes were then shared with the wider study team.

Ethical approval for this research was received from the Research Ethics Service in Scotland (NHS RES REC reference number 17/ES/0086 and IRAS study number 211209). The study was undertaken in line with the Standards for Reporting Qualitative Research[19].

Results

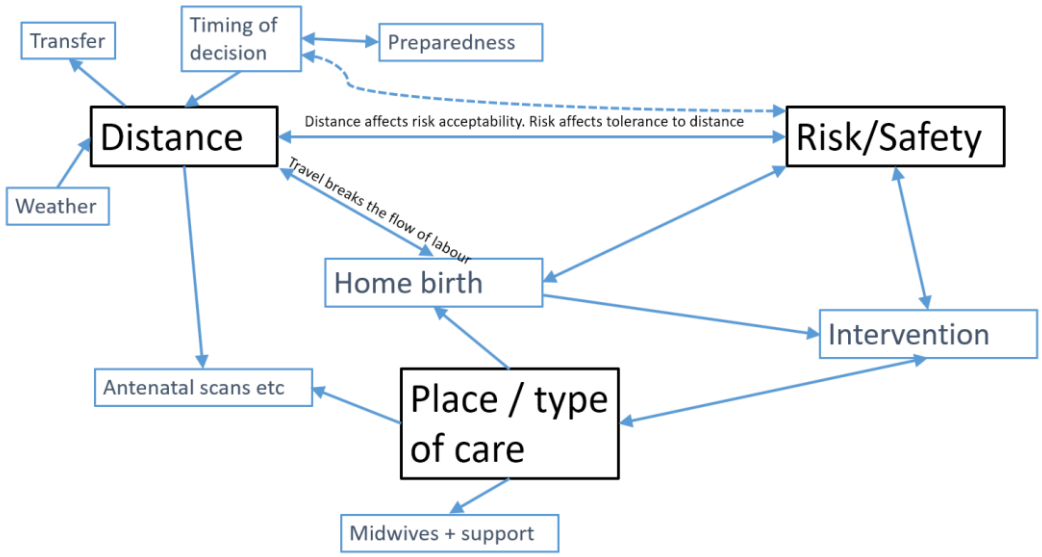
Fourteen women were interviewed: 13 women had at least one child, and one woman was pregnant with her first child. Women had a range of birth experiences, including home birth, birth in a CMU, and birth CLU. Some women had experienced two or more different birth locations.

From the analysis, three main themes were identified: women's perceptions about risk and the safety of different models of maternity care and birth locations; the actual and perceived distance between home and the place of birth, and the type of maternity care available at a place of birth.

Figure 1 summarises the main themes that emerged in the interviews (black boxes). It also shows sub-themes (blue boxes) and the linkages between the themes and sub-themes (directional arrows). The figure highlights that while the main themes are independent factors, there are complex links between them and the sub-themes. Uni or bidirectional arrows are shown to indicate the

interplay between these themes and sub-themes. The importance of factors such as the weather, transport and personal circumstances emphasises the holistic nature of midwifery care and the complex relationship between these themes and women's attitudes toward, and experiences of, maternity care.

Figure 1: Summary of main themes and sub-themes from the interviews with their connections



Risk and safety and pathways of care (Theme 1)

Women spoke about risks to themselves and their babies regarding the safety of antenatal risk assessment and being allocated to a 'red or green pathway of care' for pregnancy and birth. There were diverse and opposing views about the 'safest' type of care. Women interviewed were well informed, aware of the risks they faced during pregnancy and labour, and discussed these with their midwives. Some women perceived they had no choice, often due to their 'red pathway' status, allocated for a clinical or social reason OR that they felt that the distance from emergency services meant that they considered only one of

their available options safe. For instance, one stated that a large hospital with obstetric and paediatric care is the safest option for all women. Another said:
I would probably just go down the hospital (CLU) route because everyone is on hand there, chance of things going wrong are probably slim if you have had a good pregnancy, you just don't know. There is a wee bit risk and being in the hospital I think it is just the best place for everything regardless of whether you had a straightforward birth and you are out the next day or if you had a harder labour and need to be in for longer. I think it is the right place to be. [Participant: 0805180930]

A sub-theme of risk and safety was intervention in labour. Several women associated consultant-led care, or care in a large hospital with access to obstetric support, with more interventions:
I just felt really confident that [the midwife] had risk assessed so much that if risks were coming up, she would advise me properly what to do. And I thought the really, really bad outcome whether you are at home or at hospital it is still a really, really bad outcome. And I felt there was a lower risk of needing intervention and that escalating if I was at home. But I think a lot of that was to do with my relationship with the community midwife and my trust in her and her experience [Participant: 0903181300].

Another mother perceived midwife-led care to be safest for low-risk women:
The evidence is that [midwife-led care is] the safest isn't it! There is lots of evidence it's good, so I am happy to go with that. And the midwife unit in [town] […] it's lovely […] and quite a small unit and very friendly and that was another

reason why I wanted to be there. […] If you are a green pathway low risk labour the birthing pools are brilliant it really worked well for me [Participant 2806181100].

Not all participants interpreted safety in terms of services and healthcare professionals available in a particular location. For example, one woman interpreted safety as a feeling that came from the people who were there to support women during labour:

I don't think that the hospital makes a lot of people feel safe. So, if that is your gut reaction, then you need to think through "how would I feel safer in the hospital situation? And if your midwife makes you feel safe, they probably will keep you safe. Think about it that way, rather than "oooh I need to be in hospital if something goes wrong". One way or the other what makes you comfortable? [Participant: 250618 1130].

Distance (Theme 2)

Women spoke about risks in terms of how quickly they would be able to get help or to the CMU or CLU if something went wrong during birth. Women connected longer distances with higher risk. One had wanted to have a home birth, but after discussing how risk can change quickly during birth, she decided that a CLU, with obstetric and paediatric support, was safer:

I was thinking you get plenty of notice and the fact that I was having scans meant everything was fine, that I would all be fine and you as [the midwife] said and […] sort of explained that there are other things that can happen, if the placenta ruptures and things like this. It was a bit of a reality call, and a bit of a

wakeup call, and I just thought if something did happen and the people that are there with me weren't able to deal with it. I'm over an hour away from hospital and in the middle of nowhere and it's December. I couldn't live with myself knowing that I could have just gone to hospital. What is the aim of the game here? Is it to have some sort of home video that you can show people, or is it to get this child and just make sure that they are here and they are safe? [Participant: 1603181200].

The distance to the CLU was viewed as being difficult to overcome. Road conditions in rural areas meant an ambulance would not be faster than private car, and air ambulances might not always be available. For instance, one mother was concerned that it would not be possible to get to the CMU or CLU quickly enough in an emergency:

Once you miss that window and then you, something does go wrong our options then are a helicopter or a road, if the helicopter is elsewhere you have to go by road. And as I say the ambulance might skin a couple of minutes off the hour but you're not going to be there in 20 minutes that's for sure [Participant: 0805181100].

A mother who had experienced care in different delivery locations compared her experiences:

it is just so far away, as I said it's a three hour trip, one way. Especially at the time of year, as it was the middle of the summer, tourists, road works and everything else as well. So, I felt more reassured being in [local hospital- CMU] knowing I was closer by as well, not that I was concerned [older child] was going

to be any trouble, I suppose. But it was nicer for them, if they had to come and visit, it was only down the road basically. Also, as well, bringing baby home was so much nicer being only an hour away as opposed to being three hours [Participant: 220518 0930].

The journey to the hospital during labour was a source of anxiety to several women in the weeks leading up to the birth:

The trouble is [the road] gets closed quite frequently. It was closed today at [town]. So, I mean I know a mum going down today and I don't know if she will make it down or what. It freaks me out, and in the winter because I am due in [winter month], you can't guarantee the snow gates will be open and things, yes, quite scary [Participant: 270618330].

Women worried about timing their journey, the risk of giving birth in a car without support, and wanted to be sure that they would be admitted to the labour ward because they would be unable to go home and return later:

My labour progressed so much quicker [than with (first child)] that I went from what I thought was early labour […] to suddenly being in second stage really quickly […] this was the middle of the night, [the midwife] basically said you just need to get to [local hospital] as quickly as possible. So we did. […] we jumped in the car […] but despite this the baby was born in the car [Participant: 280618 1100].

Postnatal transfer of the baby to a hospital with paediatric support was seldom mentioned. An exception was a mother who had experienced the baby needing

paediatric care in a previous pregnancy and spoke about this about her current pregnancy:

…and obviously if anything happens the baby would be transferred and that doesn't sit with me at all having been through it when [baby] just got moved downstairs a floor, to then think actually that [large hospital] is going to be for us a two hour journey away again that makes me nervous. Possibly irrationally, I understand as I know it is small number but nonetheless that's the reality [Participant: 2905181400].

Women also worried about the journey home from CLU or CMU with the baby during the winter months when the road conditions could be dangerous and mobile phone signals unreliable:

I was worrying about coming home as well. I'm having to do this hour and half journey with a small baby in the dark […] at that time the roads were really quite dangerous there were pot holes and everything everywhere […] if we get stuck in the snow or our car breaks down we are going to be in the middle of nowhere with a small baby … [Participant: 200618330].

Women wanted to avoid the difficulties of travelling to CLU while in labour, compared to home birth, or the effect of travel on labour progression:

I also realised with the first two I had been labouring really well and really regularly. Then we had driven down the road about an hour and a half then everything had stopped both times. And […] I ended up having a drip to kind of keep things going, which wasn't really how I wanted it to be [Participant: 0903181300].

Place of Birth/Model of care (Theme 3)

Although women perceived shorter travel distances to be safer, their preferences were also influenced by factors shown in the sub-themes, including the type of pain management available, the possibility of transfer, continuity of care, and the birth environment. Several women had very clear preferences about the type of maternity care they wanted/would want. Nevertheless, the preferred type of care differed across the sample. For example, some preferred to give birth in a midwife-led unit (CMU), but their willingness to give birth in a stand-alone unit differed:

my ideal set up would be to have a midwife-led unit, which is in the same building with a consultant round the corner. […]. It all makes sense to me because I wouldn't want a consultant-led birth by choice, I would probably be more inclined to go with the midwife, because I don't like the level of intervention that it could possibly bring. Just knowing that if it goes wrong where the backup and the support is [Participant: 2905181400].

Another mother had chosen to deliver in a stand-alone unit:

I was adamant that I wanted midwife-led care, unless clearly there is a medical reason for the need for higher level care so my gut reaction, even with my second, was to give birth in [local hospital] […] what we didn't discuss was the possibility of home birth [Participant: 2806181100].

Compromises were explored and were clearly influenced by the views of health professionals:

Ideally, I wanted to give birth in a midwife-led unit, but there wasn't one available here. I wanted to give birth in a really small unit and I was also quite keen on the idea of home birth, because of the time of year it was quite likely to be snowy which it was, so they weren't really keen for me to have a home birth in case they couldn't have got me to the hospital because of the weather, or something went wrong […]. I'm a red pathway and that meant they really weren't very keen for me to have a home birth. And in the end then I decided that actually it would be better if I was in the hospital in case something did go wrong [Participant: 200618330].

In nearly all interviews, home births were discussed spontaneously because women had either experienced a home birth or actively chosen not to have one. Women's views on home birth varied widely. Some women believed a home birth to be the best type of care. A common idea expressed about home birth was that childbirth did not need to take place in a hospital setting. For instance, one woman expressed a strong preference for home birth and explicitly linked this to safety:

It was really I just couldn't see any reason why I needed to go to hospital and it was just the confidence that my own body would be able to do it. And that from what I understood very quickly about home births that the midwife would be there and if anything went wrong it tended to go wrong slowly and they would get me to hospital. […] It wasn't because I felt that [large hospital] wouldn't have been a particularly good hospital [Participant: 2506191130].

Other women chose not to have a home birth due to safety concerns, either their own or those of healthcare professionals. For instance, one woman stated that she preferred to deliver in a location with access to a range of care in case of complications:

I don't think I would do it [home birth]. I just want to be somewhere there is medical professionals just in case anything went wrong or if I need something, painkillers or something like that. At least for the first one, and if I was ever to have a second one maybe I might reconsider but I just think you are better off being somewhere just in case [Participant 2909171200].

Discussion

Maternity policy supports women's choice of place of birth. However, there is arguably a greater tension in remote and rural areas between providing intrapartum care at home or in a local CMU than elsewhere. In a previous review of qualitative studies of rural maternity care [15], the main themes emerged were similar to our findings: the challenges rural women face accessing a full range of services; women's expectations about service quality, and safety of care. Studies of remote Canadian services found that women recognised that their childbirth experience was affected by geographic location, the available healthcare resources, and their parity [20]. Access challenges affected women and also their family and had financial implications. Women tried to overcome these challenges by good forward planning, having induced labour, timing pregnancy to avoid winter due dates, presenting late to avoid transfer, or choosing to give birth at home. All women were aware of the logistical problems of giving birth away from home and worried about on-route

birth. Most women were anxious about the financial costs of being away, childcare, and the cost to their partner of missed work. In other studies, CLU care was associated with increased safety [21, 22], although many women in these studies had, or thought they had, little choice of place of birth.

The risks created by the distance and time it takes to access emergency facilities in a CLU when these are needed impact adversely on outcomes, as demonstrated by mortality audits [12].

Risk and safety

The interviewees expressed diverse and even opposing views about the safest type of maternity care. Most interviewees had a preference for unit-based care as opposed to home birth. Many women recognised the benefits of local CMU midwife care even if they were not eligible or chose to travel further to access CLU care for different reasons (such as access to epidural services). Mostly, women related their choice to reducing anxiety about transfer in the event of something going wrong. Also of importance was the finding that women felt that safe care was related to knowing and trusting their health professionals, especially midwives and obstetricians, even if the shared decisions made reduced their choice of birthplace [22].

Distance

Willingness to travel appears to be greater among women living in very remote rural areas compared with those living in less remote areas. It reflects remote and rural lifestyles in general, where preparedness for the unknown can be perceived as key to reducing risks. Women viewed the risks they faced in terms of the time it would take to get help or transfer to consultant-led care. Some

women were more accepting of long distances than others, which was related to past experience. Our findings correlate with a previous literature review [23]. Women frequently spoke about how the distance between their home and the place of birth affected their maternity care. A long-distance caused women to worry in the weeks leading up to the birth about how safe their journey would be and whether they would get to the hospital on time. As reported in previous literature [24] women spoke about the risks to themselves and their baby in terms of the safety of the different types (level) of care and the different birth options that they considered. They reported that these options were discussed with their midwives before final decisions were made.

Place of Birth/Model of Care

Women built on their previous experience and the types of care they were familiar with. This largely supports previous work showing that women prefer systems of care that they are familiar with [24]. While they highly value local community maternity units (CMUs) and continuity of care and carer, this did not stop some women from travelling to a consultant-led unit for birth as they associated this with having all services readily available rather than a long journey away. This is consistent with service reviews suggesting that the provision of adequate ‘safety net’ services that can deal with emergencies are highly valued [11].

Place of birth was influenced by social and financial factors, particularly in relation to home births, which were discussed in nearly all interviews, however, views on home birth varied widely. This is consistent with findings from previous studies [21-23, 25], where the interconnections between experience,

expectations and preferences are complex and support the opinion that maternity care should be provided along a continuum of care, from a social to a medical model, dependant on the need [26]. This recognises that needs can be psycho-social, linked particularly to continuity of care in CMUs, which has been shown to reduce intervention in labour and improve outcomes [8].

Strengths and Limitations

The study sample was analysed until saturation was reached and provided up to date in-depth analysis of the views of women in remote and rural areas. As a result, clear themes were identified that are relevant to policy and practice.

The limitation of the study is that the sample may not necessarily generalise to other counties, with different types of maternity care, infrastructure and cultural expectations [27]. The sample is relatively small, was opportunistic, and did not include the views of those who did not give consent to take part. This study has not included quantitative data on outcomes or other approaches to triangulation, which would be valuable in supplementing the qualitative data we have gathered. Collaboration with similar research in other geographies would also strengthen the findings.

Conclusion

In-depth study of the views of women is important in informing policy and delivery of maternity care and communication with pregnant women [28]. Our findings present challenges for service redesign around intrapartum care as current policy focus on provision of locally based midwife-led care may not

accurately reflect women in remote and rural area's preferences. Women clearly articulated that they formed their opinions based on experience and were able to weigh up the advantages and disadvantages associated with birth choices in local CMUs and distant CLUs. Key issues for mothers included: risk/safety, distance, travel, weather, antenatal care, intervention, type and place of care, the possibility of intra-partum and postnatal transfer, and support from different professional groups.

Maternity healthcare professionals need to understand the clinical and non-clinical factors important to mothers in remote and rural areas and incorporate these factors into current and future policy development. Local and national policy needs to reflect and respond to the practical challenges faced by rurality, principally, the ability to respond to obstetric and neonatal emergencies in a timely way to reassure mothers of the intrapartum safety of their local CMUs and timely access to appropriate support in an emergency situation.

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Conflicts of interst

The authors have no competing interests to declare.

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Authors contributions:

The research was initiated by HvW;HvW VW, HB and SE designed the study; HB and VW undertook the interviews and initial qualiltative analysis. All the authors have contributed to the paper and approved its contents.

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Figures

Figure 1: Summary of main themes and sub-themes from the interviews with their connections

Tables

None

Supplementary File

Supplementary File 1

Supplementary Material for *"Remote and rural mothers' perceptions of choices and trade-offs around intrapartum care: a qualitative study"*

TOPIC GUIDE FOR CONDUCT OF THE INTERVIEWS IN MATERNITY CARE:

Total time for Interview (60 mins)

Confirm consent and take verbal consent if required

Opening round (10 mins)

Introduction of researchers and short summary of the project *(without expanding on the nature of the topics to follow in discussions)*

Ask interviewee about their family/recent birth. Researcher / facilitator to start this off.

Part 1. Opinions on the location of birth (15 minutes)

[If participants gave birth before] Thinking back to your last pregnancy…

Can you tell me where you gave birth? and how you decided to give birth there?

Additional prompts if needed:

Were you confident about your decision?

Why did you decide to give birth there?

Did you discuss where to give birth with your midwife/consultant/family?

Would you choose the same place again? If not, why?

In your opinion, what are the advantages/disadvantages of giving birth in small/large/local/distant unit?

[If participants are first time mothers]

Prompts:

Have you decided where to give birth?

[If yes] How did you decide this?

[If no] Where would you like to give birth? Why?

Additional prompts if needed:

Did you discuss where to give birth with your midwife/consultant/family?

In your opinion, what are the advantages/disadvantages of giving birth in small/large/local/distant unit?

Part 2: Understanding and attitudes toward risk during delivery (15 minutes)

What is a safe birth?

Additional prompts if needed:

What do you think are the different risks involved in delivering in local (small CMU / obstetric consultant-led distant unit?

Did/Have you discussed possible risks you might face / might have faced during your birth with your midwife/consultant?

Do you think you have/had all the risk information you need/ed to make your decision about the location of birth?

Do/Did you fully understand the risks and their implications?

How do you feel about [risks/complications they mention]? –[prompt around control and worry they may have over these risks]

What factors helped (tipped) how you made your decision about place of birth

Did you feel you were involved in the decision about your place of birth

Closing questions

Thinking about what we have discussed. Imagine a close friend was deciding where to deliver, what advice would you offer her?

If you could change things to promote better maternity care in your community, what would they be?