Qualitative service evaluation of a rural midwife-led ultrasound service: listening to women

n the last 10 years, there has been a drive towards evidence-based practice and patient-centred care to improve clinical effectiveness and patient safety through the inclusion of patient experience in healthcare quality improvement (Luxford et al. 2011; Doyle et al, 2013). All health boards in Wales are under scrutiny to ensure that they have high standards of maternity care, and that quality improvement is forefront in providing a safe and effective maternity service that provides equity and engagement for service users. Several health board reviews cite 'listening to the women using the service' as an essential element in patient care and service evaluation (Royal College of Obstetricians and Gynaecologists, 2019; Kirkup, 2022; Ockenden, 2022). On 1 April 2023, the Health and Social Care (Quality and Engagement) (Wales) Act came into force, requiring improvements in communication and engagement through a citizens advice body to ensure service user experience is used to drive forward improvement. The Act expands on the duty of quality to include not only safe and effective care, but also person-centered, timely, efficient and equitable care.

There is also an international move from 'provider-focused' to 'patient-focused' care, and considerable research has been carried out on the barriers and benefits of this approach (Engle et al, 2021; Zakkar et al, 2022). Gleeson et al (2016) identified that organisational barriers are the most common encountered when gathering and using patient experience data. These barriers include a lack of time and resources with the added complexity of competing priorities, such as financial and patient care. Organisational culture, staff resistance and a lack of support from senior leaders exacerbate the barriers to using patient experience. The aim of publishing this service evaluation is to improve senior leaders' and midwives' knowledge and understanding of the importance of patient experiences, and demonstrate the enriched data that can be obtained through qualitative studies in maternity services to drive service delivery and change (Coulter et al, 2014; Larsen et al, 2019).

In Wales, one in three people live in an area defined as rural. The challenges of delivering a healthcare service

Abstract

Background/Aims Patient experience is needed to understand if a service is meeting the needs of the population it serves. In rural areas, accessing maternity services can be challenging for women. Local provision should be explored and consistently reviewed to adapt to changing social requirements and expectations. The aim of this study was to examine a rural midwifery-led ultrasound service 5 years after implementation and post COVID-19, to ascertain if the service provides a positive service user experience.

Methods A qualitative service evaluation was carried out using semi-structured interviews with four service users. Data were analysed using content analysis.

Results Positive aspects of the service included continuity of care, communication, time to care, financial benefits and inclusivity in care and care decisions. It was noted that the ultrasound service was in the opposite direction from their homes to the obstetric service if participants needed to be referred for consultant opinion the same day. The significant underlying theme was the positive impact on mental wellbeing and patient experience in pregnancy when attending the service.

Conclusions There was a high level of satisfaction with the service. Engagement of a broader spectrum of women would provide deeper insight into the service and robust evidence for any service development.

Keywords

Obstetric ultrasound | Patient experience | Rural maternity

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Table 1. Interview guide

Guiding questions

- 1. Explain your experiences of having scans in this pregnancy
- 2. Have you experienced continuity and has this made a difference to you experience? Explain
- 3. Have you had any difficulty booking scan appointments and how have they affected other commitments in your life?
- 4. Has having a health board ultrasound service made it easier for you to attend appointments, and has it made a difference to you having support at those appointments?
- 5. Is the service local to you and how has this impacted you?
- 6. If there had been no local ultrasound service how would this have impacted on you and your family (finances, travel, work)?
- 7. Can you expand on your experiences with the sonographers (attitude, compassionate, friendly etc)?
- 8. How do you feel about the communication from the sonographer and from the service as a whole?

in a rural location are exacerbated by the increasing population and rising complex needs. (Welsh NHS Confederation, 2018). The 10th MBRRACE-UK report into maternal deaths raised concern over the current state of maternity services, in particular the increase of inequalities and social complexities (Knight et al, 2023). In rural areas, this is compounded by three major barriers, increased distance from maternity care, sociocultural factors and socioeconomic constraints (Koblinsky et al, 2016). A detailed literature search found no research that specifically evaluated the impact of rurality on maternity care in the UK. In Canada, pregnant women in living in rural areas were found to be more likely to be socioeconomically disadvantaged, resulting in a higher prevalence of chronic medical conditions (Lisonkova et al, 2016). In addition, women in rural areas had to travel considerable distance and duration for maternity care.

The aim of this study was to explore the experiences of women accessing a rural maternity ultrasound service and focus specifically on three key areas: the experience of receiving an ultrasound scan locally, continuity of care and the impact of care in a local setting on the woman and her family. The themes provide evidence to underpin improvements to service delivery, and form an essential element in the recommendations for further exploration into patient experience, in order to develop the framework planning for the midwife-led ultrasound service.

Methods

A qualitative service evaluation was used to explore patient experience in a health board in Wales, using a deductive approach. This approach was chosen to assess if the ultrasound service is currently meeting its objective of improving patient experience.

Participant selection and recruitment

The Welsh Patient Administration System was used to collate a list of 137 potential participants that were 36 weeks or more pregnant at the time of collation. The list comprised women from all eight maternity units across the health board. The women were assessed against inclusion and exclusion criteria. Women were excluded if under 18 years old, because of the safeguarding implications, and it was decided to interview only those who could converse confidently in English, to reduce the risk of misinterpretation during coding and thematic analysis. To ensure comprehensive data, only women who had received their dating, anomaly and at least two growth scans in the health board midwife-led ultrasound service were chosen. The 46 women on the list were sent a covering letter with the explanatory participation leaflet through the post to their home address.

The original intention was to gain a purposive sample to ensure a selection of women was chosen, but it become evident that because of the lack of cultural diversity in the health board, a representative sample was more appropriate. The sample size was determined when sufficient information was obtained to provide significant data for the thematic analysis approach, also known as 'information power' (Braun and Clarke, 2022).

Six women expressed an interest in participating in the service evaluation and four were interviewed. One declined to be interviewed following further discussion and the other cancelled as a result of a family emergency.

Data collection

The interviews were held face to face and arranged at a time and date convenient to the participant and researcher. An offer was made to undertake the interview at the participants' home address, but all declined, preferring to attend the local maternity unit. An invitation was given for the participant to be accompanied by their partner or support person. Two women attended with a partner, one with her mother and one woman attended on her own.

A pilot interview was conducted using a work colleague, to trial the prompt questions shown in *Table 1*. The object of the interview was to direct the conversation to cover three key areas:

- Were ultrasound scans received locally and what was the patient experience?
- Was there adequate continuity of care?
- Was the local setting of care beneficial to the woman and her family?

In the three key areas, the topics discussed included communication, sonographer attitude, accessibility and The conversations were semi-structured using the prompt questions in *Table 1* and lasted 30–45 minutes. The interviews were transcribed semi-verbatim immediately following the interview, with each participant allocated a pseudonym to ensure anonymity.

Data analysis

The transcriptions were analysed using content analysis with a thematic analysis model (Braun and Clarke, 2022). Transcript coding and analysis commenced as soon as possible after each interview, to support reflective practice and enable constant comparative analysis using Braun and Clarke's (2022) six phase approach. Each participant's recording was listened to several times to ensure the emphasis and meaning of each participant response was heard and analysed prior to coding, as part of the initial phase of thematic analysis.

Data analysis involved the following stages.

- 1. Becoming familiar with the data by listening to the recordings and reading the transcripts
- 2. Generating initial codes using sematic and latent coding
- 3. Development of themes
- 4. Reviewing themes
- 5. Defining themes
- 6. The write up.

In the second stage, the transcripts were sectioned and allocated semantic codes in line with the three key areas being reviewed. Latent codes were then given to each of the sections in accordance with any underlying concepts. The sections were separated so that they could be grouped accordingly into themes. The themes were then reviewed in stage 4 and analysed for any patterns that developed into the sub-themes. *Figure 1* shows the thematic map developed in stage 4. In stage 5, the themes were defined to ensure that they were clear and relevant prior to stage 6.

A reflective journal was kept during the service evaluation to minimise bias (Brauna and Clarke, 2022). This was particularly important as the researcher was instrumental in the implementation of the service and had worked in the service until recently. Validity and rigour were established through a detailed process and coding method.

Ethical considerations

Ethical approval was obtained from the Health Board Research and Development Ethics Committee (reference number: 42) and the University Faculty Research Ethics Committee.

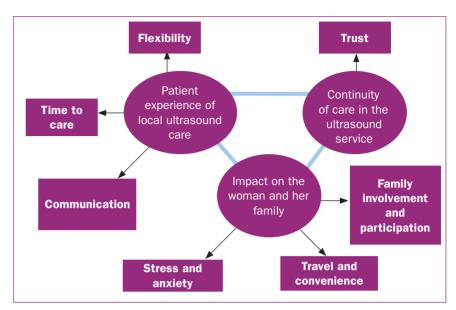


Figure 1. Thematic map

All participants were provided with a participant information leaflet, which was discussed prior to the interview. It was clarified at the interview with the participant that they understood the information leaflet provided and reiterated that they had the right to withdraw from the interview and research at any point. Written and verbal consent was obtained to record the conversation using a digital voice recorder. Data were stored in accordance with national and local information governance legislation and policies to safeguard patient confidentiality.

The researcher is a midwife sonographer who had worked full-time in the service from its launch in the health board and continues to perform scans one day a month to maintain skills. None of the women interviewed had met the researcher in a professional capacity prior to the interview. Questions were open ended and a semi-structured questioning approach was used to ensure consistency, reducing researcher influence.

Results

All women interviewed were local to the health board and aged 22–45 years old. Three were primigravida and all were under the care of a consultant obstetrician from a commissioned service. The multigravida had two children and had been scanned in those pregnancies by a commissioned service visiting the health board prior to the establishment of the midwife-led service. The participants' gestation ranged from 36–38 weeks. The participants had received their dating and anomaly scan, and were receiving serial growth scans 2–3 times a week in the health board. The growth scans were for hypertension, underactive thyroid, gestational diabetes and maternal age over 40 years. One of the participants

was also a smoker and had been referred for ongoing anxiety and depression prior to pregnancy. All women had an ethnic classification as White British and spoke English as their first language.

Three themes emerged from the data, with eight subthemes. The three main themes were patient experience of local ultrasound care, continuity of care in the ultrasound service, and impact on the woman and her family. The themes and subthemes are shown in *Table 2*.

Patient experience of local ultrasound service Time to care

The participants expressed increased satisfaction with the local ultrasound scans compared to those that had received scans in an out-of-county obstetric-led unit. The main reason for this was that the participants felt a greater degree of personalised care was provided in a less pressurised environment. This related to feelings of inclusivity, provided a sense of reassurance and built the confidence to ask questions. The participants felt that time was taken to care for them as individuals.

'They didn't have time to waste in [commissioned obstetric unit] so it was less personal. So, when you went in, as lovely as they were, they just wanted to get the job done and off you go. Whereas when I come here [local ultrasound service], it's a lot more personal and it feels as though people are spending time understanding how you're feeling about it' Mary

'Came away happy and always felt if we had any questions, we could ask them and felt included'. Rachel

Flexibility

The participants commented positively on the service opening hours, noting the flexibility to make appointments to fit around work, school and other commitments. When asked if expanding the opening

hours would improve their experience, the participants stated that it would not make a significant difference.

'It was always good that we could make appointments on the way to work or on the way home from work. They have been very good to work around us. It's always been easy to make appointments'. Anne

"It [ultrasound service] accommodates as well time wise for work because we work in the area'. Mary

Communication

An aspect of communication can be seen in all sub-themes but was emphasised by the participants as of particular importance when discussing their patient experiences in general. There was a high level of satisfaction with the verbal and written communication from the service. The participants particularly appreciated the midwife sonographer's professionalism and friendly attitude.

'As we go along, they always say exactly what we're looking at in that moment and things to look at and what they're doing that day specifically, and obviously if they're quiet, don't worry and lots of reassurance. I feel informed and happy'. Rachel

'They always check when I am free first and then they'll check the diary and see what works best'. Anne

Continuity of care in the ultrasound service *Trust*

The relationship between midwife sonographer and woman was important as it created a positive experience. The level of trust was seen by participants as correlated to the level of reassurance and the feeling of safety. This allowed them to open up and ask questions, and provided confidence in the sonographers' integrity, strength and knowledge.

'It's a nice experience even if we're coming and there's always that thought that something might be wrong you know that it'll be okay'. Mary

'It feels like they remember, so it does feel a lot more personal rather than seeing someone different each time. I think it's better as well because they have an idea of what they saw last time'. Anne

Impact on the woman and her family Stress and anxiety

Stress and anxiety had a direct negative impact on women and their families. This impact highlighted the importance of mental wellbeing during pregnancy. 'It's easy for us to plan to come together'. Rachel

'When I go for my scan, they are constantly reassuring me, talking me through it...Puts my mind at rest'. Tanya

Travel and convenience

The participants reported difficulties linked to geographical remoteness, travel costs and a lack of public services. Tanya found this particularly stressful as she did not drive and relied on family and friends for lifts. Although Tanya did use public transport for local journeys, she found there to be limited availability for longer distance travel. The geographical constraints and distance from a consultant unit were sources of stress and anxiety. The rise in fuel costs as well as the time required to attend the consultant unit were underlying concerns for all the participants, who believed that there was a positive impact on their stress levels from the provision of a local service.

'Convenience-wise it's been nice as I work from home and I can just do it in my lunch break. It's so close and I don't have to travel, which would add a bit of stress'. Rachel

'Wasn't any [public transport] that would get me there in time and get me home in time for my kids from school...Mum's local, so it would have been difficult if we had to travel. It's nice to know it's not putting anybody out'. Tanya

'It would have been a lot of fuel, especially now with the fuel prices and everything'. Mary

'I went last week [to the obstetric unit], and I was in traffic for about an hour. There was one day I couldn't work because I was going to the hospital'. Anne

The only negative feedback was that in some cases the women had to travel in the opposite direction between where they lived and the obstetric unit if they needed to be referred for a same-day review.

'There's only one negative is that [the ultrasound service] is in the opposite direction to where we live if you have to go to the [obstetric unit]. That can't be helped'. Anne

Family involvement and participation

The involvement of partners, mothers, other children and close friends was seen as important to the participants. They wanted to share their pregnancy experience with

those closest to them, and social support added to their psychological wellbeing. The support provided stability and emotional security during a time of heightened anxiety. Attendance at the appointments was considered by partners as essential for women and themselves.

'[The] midwife sonographer said once we knew everything was okay, then [Tanya's children] could come in and just see the baby on the screen. They absolutely loved it just to be part of the experience'. Tanya

'[Discussing partner attending] If it was far away, no, or we would have worked around it with doing extra hours or less holiday things like that...You don't really want to do that, so having it locally has been good for both of us'. Rachel

Discussion

In this review of patient experiences with a rural midwife-led ultrasound service, the women interviewed highlighted difficulties associated with maternity care in a rural area. These limitations were linked to geographical and social remoteness that encompassed travel restrictions, financial implications and the inconvenience to daily living. Partners and family offered a social support network in all aspects of pregnancy and it was important for women to share their pregnancy with those closest to them. Their experience was further influenced by the attitude of the midwife sonographer, the level of continuity and the feeling of personalised care, which had the greatest impact on women's psychological wellbeing. Building a rapport with healthcare professionals enabled a level of trust to form, allowing women to be open and engage with their maternity care plan.

Flaherty et al (2022) reported on the importance of a social support network for women through a literature review on the effects of restrictions during the COVID-19 pandemic. Women that had to attend appointments unaccompanied had intense feelings of being alone and isolated, which heightened their stress and anxiety. Lalor et al (2023) confirmed these findings, and added that women felt overwhelmed by information, vulnerable and fearful that they would be alone if something went wrong. These emotions were heightened among first-time mothers, women who had previous complications and those with high-risk pregnancies. Feelings of disappointment and anxiety were reported by women's partners, who felt excluded from antenatal appointments. In the future development of any healthcare service, the impact on the whole family, as well as the patient, needs to be considered, in conjunction with the additional geographical and social

Key points

- It is important to be aware of mental wellbeing when considering all aspects of maternity service provision.
- Patient experience has a positive impact on service improvement and must be considered when undertaking any service development.
- Access to local maternity care improves the experience for the whole family and allows women to participate in the decision-making process for her pregnancy because of increased levels of continuity and trust.
- Obstetric ultrasound appointments can cause high levels of anxiety and stress for women and should be conducted with this in mind.

implications. This is especially important in maternity services, where it has been shown that public health promotion has the biggest impact on future illness and health inequality (Field, 2010).

The present study's participants experienced a high level of continuity in the local ultrasound service. This has been attributed to improvements in maternal satisfaction, as women value this approach to care, most noticeably among those with social complexities who struggle to access services (McRae et al, 2016; Sandall, 2017). It is important to remember that women are all unique and that the concept of continuity can have different meanings to women. Therefore, in the spirit of patient–centered care, and in recognising this diversity of experiences, the service needs to provide care that is flexible and appropriate for the woman's circumstance and needs (Jenkins et al, 2015).

Although it was found that women valued flexibility in the date and time of their appointment, they did not acknowledge any value in expanding opening times outside of normal working hours. On analysis and understanding of the service, the researchers understood that the flexibility offered regarding the time and date was deemed sufficient.

The major finding of this evaluation was the service's impact on psychological wellbeing. Although the importance of perinatal wellbeing has long been recognised, until recently, there has been limited investment in resources. Midwives have reported awareness, but lacked the knowledge to fully understand the impact of patient experience on a woman's wellbeing and outcomes, and how to address this in practice (Fletcher et al, 2021). Opportunities for patient and staff engagement can highlight pinch points that affect wellbeing allowing resources to be targeted and the overall patient experience to be improved.

Limitations

The participants found it difficult to discuss the ultrasound service in isolation without also including the care of their community midwife. It is anticipated

that this is partly because of its location in the maternity units, but also because the service was led by midwife sonographers. Additionally, although the women sampled were representative of the majority of women in the health board, the research requires broadening to include the voices of those in minority groups.

Conclusions

There is limited information available on the effect of rural living on maternity care, especially in the UK. However, there is considerable evidence supporting the use of patient experience in healthcare as part of quality improvement. There are barriers in the process of gathering and using patient experience, but the drive and realisation of its potential are moving it forward. Investment in training is needed for frontline and senior staff to appreciate and understand its use.

The service evaluation identified that psychological wellbeing and communication threaded through all themes and had the greatest impact on women's health and experience. The evaluation gave an understanding of the factors important to women; however, it is imperative that this is broadened outside of the remit of this study. It is recommended that a larger service evaluation is conducted to fully appreciate the impact of local rural services on the pregnant population in the health board. This would also include those in marginalised groups not captured in this evaluation. This would add valuable data at a national level for maternity policy development and at a local level for service development. Feedback to the service staff must form part of the evaluation as part engagement and the learning culture as staff must continually reflect and strive to see things through the eyes of the patient.

Overall, the patient experience was very positive, going above and beyond women's expectations. The themes found in this study demonstrated feelings of quality, safety and efficiency as women felt engaged in their care and this offered the best outcome for them and their families. BJM

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CPD reflective questions

- Is the maternity service you work in meeting both its aim and objectives and the expectations of service users?
- What are the barriers to meeting service user expectations?
- Are there simple service changes that would have an impact on patient experiences?
- How is your maternity service engaging with service users regarding patient satisfaction and service change?
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