A Systematic Review and Meta-Synthesis of Qualitative Research on Midwifery Units in High-Income Countries

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Abstract

Background

Midwifery units operate within the maternity care system to provide care for healthy, low-risk pregnancies, emphasising physiological birth, continuity, and minimal intervention. This approach improves outcomes for mothers and babies at lower cost than hospital care alone. However, midwifery unit implementation and utilisation is inconsistent across high-income countries. Identifying key contributors to the effective functioning of midwifery units from a qualitative perspective can support understanding and quality improvement, leading to optimal investment in and implementation of midwifery units.

Aim

Identify and synthesise qualitative evidence on the elements that contribute to a well-functioning midwifery unit from the perspective of service users, midwives, and stakeholders in high-income countries.

Methods

A systematic review and meta-synthesis of qualitative studies was conducted following PRISMA 2020 guidelines and registered with PROSPERO (CRD420251009211). Peer-reviewed studies published between 2015 and 2025 were identified through comprehensive searches of multiple databases. Thematic synthesis was used to extract and interpret key themes across studies.

Results

Sixteen articles from twelve studies conducted in six high-income countries met the inclusion criteria. Five overarching themes emerged: (1) Structure and Environment, including home-like atmosphere and spatial autonomy; (2) Operations and Workforce,

highlighting interprofessional relationships, leadership, staffing, and autonomy; (3) Ethos and Model of Care, centred on midwifery philosophy and continuity; (4) Facilitators of Functionality, such as supportive guidelines and referral pathways; and (5) Stakeholder Perception, encompassing midwives' professional identity and service user experience. Overall midwifery unit functionality was found to be highly interdependent on these elements, suggesting that omitting any one aspect may compromise overall unit performance.

Conclusion

This review provides a current synthesis of qualitative evidence on midwifery unit functionality. The results reinforce the significance of relational care, professional autonomy, and supportive environments. Findings can guide policy and practice to promote sustainable, high-quality midwifery-led care in high-income countries.

Keywords

midwifery units, birth centres, qualitative systematic review, functionality, high-income countries, midwifery care, service delivery, stakeholder experience

1. Introduction

1.1 **Background**

Midwifery units (MUs) operate within the maternity care system to provide care for healthy women with low-risk pregnancies, where midwives serve as the primary care providers. These units can be either freestanding (FMUs), operating independently from obstetric services, or located within hospital settings alongside obstetric care (AMUs) and are grounded in a philosophy of physiological birth, continuity of midwifery care, and reduced reliance on medical interventions (Rayment, *et al,* 2020).

The value of midwifery unit-based maternity care is supported by a substantial and growing body of evidence demonstrating their association with lower rates of obstetric intervention, higher levels of maternal satisfaction, and equivalent or superior neonatal outcomes when compared to hospital-based obstetric units (OUs) (Scarf, *et al*, 2018; Hatem, *et al*, 2008; Yu, *et al*, 2020; Homer, *et al,* 2014; Sandall, *et al,* 2024). Published research on the topic surged following the impactful publication by the Birthplace in England Collaboration Group, which documented the safety of midwifery unit services (Hollowell, *et al,* 2011).

The Birthplace Study showed that for healthy women in England, planned birth in a MU was associated with significantly fewer Caesarean sections and instrumental births than in OUs, without compromising neonatal safety (Hollowell, *et al,* 2011). Subsequent National Institute for Health and Care Excellence (NICE) guidance in the United Kingdom recommended that midwifery units should be offered as a first-line option for low-risk pregnancies (NICE, 2014), and current NICE guidance continues to recommend all pregnant women have the option of obstetric unit, home, freestanding, or alongside midwifery unit setting for their birth (NICE, 2023).

While the benefits continue to be supported by research, the implementation, uptake, and operation of midwifery units remain variable across high-income countries (Batinelli, *et al,* 2020). The proportion of births occurring in MUs remains low, and provision is geographically inconsistent (Walsh, *et al,* 2018; Edmonds, *et al,* 2020; Bradow, *et al,* 2021). Utilisation of MUs is limited even where they exist, raising questions about the wider system factors that encourage or inhibit their selection.

Emerging research points to a complex interplay of organisational, professional, relational, and social factors that influence MU uptake and success (Kennedy, *et al,* 2020; Hunter, *et al,* 2019; Behruzi, *et al,* 2017). Concurrently, external pressures such as resource constraints, staff shortages, and the increasing medicalisation of childbirth continue to shape the operational realities of maternity care provision (Walsh, *et al,* 2020).

1.2 **Rational for the Systematic Review**

While research has focused on safety, cost-effectiveness, or structural implementation strategies, a critical gap remains in understanding how stakeholders perceive and describe the elements that support a well-functioning midwifery unit. These perspectives are vital for informing sustainable, context-sensitive improvements in maternity care, particularly as global health systems seek to expand midwife-led models in alignment with WHO recommendations on respectful, high-quality care (World Health Organization, 2024).

The Midwifery Unit Network undertook a systematic review of midwifery unit function to inform the development of the European Midwifery Unit Standards in 2018 (Rayment, *et al,* 2020). This present study, focusing on current research from the past decade, is the first systematic review on MU functionality in high-income countries since, and provides an updated synthesis of qualitative data to support future revision of the Standards.

Findings from this review will contribute to the existing body of literature by advancing understanding of the characteristics that contribute to a well-functioning midwifery unit.

1.3 **Research Question**

The SPICE Framework (see Table 2, below) is appropriate for qualitative systematic reviews considering the impression of stakeholders on a particular setting and interest, in this case, the functionality of midwifery units (Booth, *et al*. 2019). 'Well-functioning' refers to a product or system positively working according to its purpose and meeting expectations. This terminology was applied to the systematic review element of the multi-step process of developing the Midwifery Unit Standards for Europe (Rayment *et al,* 2020).

Table 1: SPICE Framework

Setting	Perspective	Interest	Comparison	Evaluation
Midwifery Units or birth centers in high-income countries	Midwives, users, or stakeholders involved in the midwifery units	Operational and structural factors contributing to functionality	Not required	Impressions on the elements of a well-functioning midwifery unit

The SPICE framework organises the components of the research topic to address the question: *What are the perceptions and experiences of service users, providers, and other stakeholders regarding the elements that contribute to a well-functioning midwifery unit in high-income countries?*

1.4 **Aim**

This systematic review aims to identify, through an analysis of existing literature, the core components of functionality and the factors that facilitate the effective operation and positive user experiences of midwifery units in high-income countries. Focusing on research from the past ten years, this study aims to analyse the current landscape of midwifery unit provision. The criteria supporting a 'well-functioning' environment may relate to governance, service delivery, organisational structure, or employee or user experience.

1.5 **Significance of the Review**

This review contributes to our understanding of midwifery unit function in high-income countries by synthesising current qualitative literature on the topic. The decision to include only high-income countries in this review was based on the consideration that elements contributing to midwifery unit function and the organisation of midwifery units may differ in high- versus low- and middle-income countries to a degree that warrants context-specific analysis and approach. This review is being conducted at a time when a standardised definition of midwifery units and understanding of the operation of midwifery units in high-income countries is still being developed and the review could impact that development by offering a current and comprehensive analysis.

2. Methods

This systematic review follows the PRISMA 2020 guidelines (Appendix V) to ensure completeness and an accurate process of study selection, analysis, and outcomes reporting (Page, *et al.* 2021). This review was registered with the International Prospective Register of Systematic Reviews (PROSPERO) to further support transparency, on 11 March, 2025 with registration number: CRD420251009211.

A systematic review with meta-synthesis is a rigorous method of identifying, appraising, and synthesising findings from qualitative research. This approach facilitates the generation of new, interpretive understandings by re-analysing primary qualitative studies (Noblit and Hare, 1988; France, *et al,* 2019).

Meta-synthesis goes beyond the aggregation of findings; it involves an iterative process of developing conceptual insights from multiple studies and producing new interpretations grounded in the data. The method is applied in midwifery and health services research to support understanding of complex, context-sensitive phenomena (Sandelowski and Barroso, 2007; Booth, *et al*, 2018). This methodology was selected following a scoping review of the literature.

This review applies a systematic and transparent search, selection, and appraisal of qualitative studies, followed by the synthesis of findings to generate concepts of what constitutes functionality in midwifery units (Thomas and Harden, 2008; Lachal, *et al,* 2017). Thematic analysis combines aspects of meta-ethnography and grounded theory and the method applies to studies exploring effectiveness (Barrett-Page and Thomas, 2009).

2.1 **Theoretical Underpinning**

The theoretical perspective underpinning this meta-synthesis is critical realism, which aligns with the broader epistemological orientation of the review in seeking to understand the underlying structures and mechanisms that contribute to the functionality of midwifery units in high-income countries (Walsh and Evans, 2014).

2.2 **Eligibility Criteria**

Studies included in this systematic review focus on elements of the function of the

midwifery unit; this could be related to organisation and delivery of service, the role of the midwife, or the experience of the midwives, stakeholders, or service users. Inclusion and exclusion criteria are outlined in table 2 (below).

Table 2: Inclusion/Exclusion Criteria

Phenomenon of Interest	Inclusion	Exclusion
1. Study Design	Qualitative or mixed methods studies with a qualitative component. Published in English or with English translation available.	• Quantitative only research • Mixed-methods without a separate qualitative analysis. • Reports, guidelines, opinion pieces or editorials. • Non-peer reviewed article publications. • Language other than English
2. Timeframe	Studies published in the past ten years; 2015 to 2025.	Studies published more than 10 years ago
3. Geography	High income (OECD) countries	Low- or middle-income countries
4. Sample	Service providers, service users, and stakeholders in midwifery-led independent care settings: alongside midwifery units, free-standing midwifery units, birth centers, birth houses, midwife-led units	Not focused specifically on midwifery-led care models or those concerning hospital-based maternity units without professional autonomy for midwives
5. Comparator	No comparator will be applied	No comparator will be applied
6. Outcome measures	Qualitative reporting on elements of well-functioning MUs, including aspects such as governance, service delivery, and user experience.	Quantitative findings

2.3 **Search Strategy**

The search strategy was informed by library resources and tutorials accessed via the City, University of London library system. Truncation and wildcard symbols were used to capture the broadest possible application of word endings and spelling variation. Medical Subject Headings (MeSH) were applied to searches in supporting databases. Search terms included the following combinations (see Table 3, below):

Table 3: Search Strategy

Search terms:	Order	Search strings

Relating to function	1	MeSH terms for functionality
	2	Keyword search: function OR function* OR standards OR performance OR operat* OR element OR feasab* OR barrier* OR facilitator* OR enabler* OR criteria OR organi#ation OR governance OR structure OR leadership OR service* OR experience* OR environment
	3	1 OR 2
Midwifery units	4	MeSH terms for midwifery units
	5	Keyword search: "midwifery unit" OR "midwi* led birth* cent*" OR "birth* unit" OR "birth* cent*" OR "free-standing midwi* unit" OR "alongside midwi* unit" OR "midwi* unit "OR "midwi* led unit" OR "midwi* cent* "OR "low-risk birth* cent*" OR "stand-alone birth* cent*"
	6	4 OR 5
Full search	7	3 AND 6

2.4 **Data Sources and Search Period**

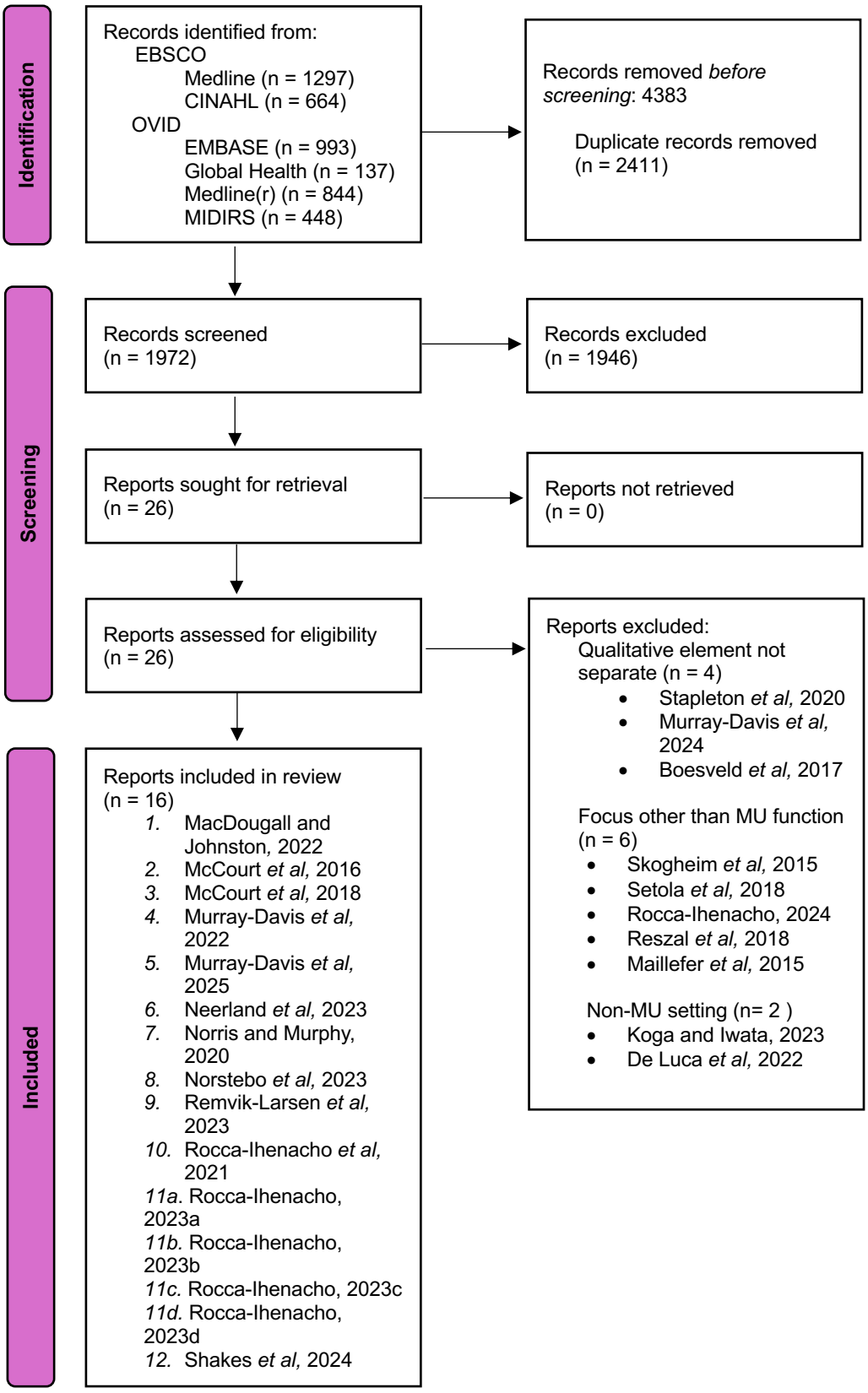
Data searches were conducted between January and March 2025. A comprehensive database search utilized Boolean operators OR and AND and MeSH terms to enhance precision, minimize redundancy, and maximize relevant article retrieval (Higgins, *et al*., 2022). The selected databases included EBSCO (CINAHL, MEDLINE) and OVID (EMBASE, MIDIRS, Medline(r), Global Health), ensuring a broad coverage of peer-reviewed literature. Inclusion of grey literature was considered, however, searches in the above-mentioned databases resulted in a high number of results with a wide breadth of perspectives on the study topic. Searches included records from the past ten years, to prioritise recent and up-to-date research (Appendix IV).

2.5 **Study Selection and Screening**

Search results were uploaded to RefWorks to organise the records, where duplicates were identified and deleted. Titles and abstracts of all studies were screened by the first reviewer. Full-text articles were retrieved for potentially eligible studies and reviewed thoroughly by both the first and second reviewers and considered together in the case of disagreement. An inclusion and exclusion screening form was applied uniformly by both

reviewers to ensure consistency in the selection process. Consensus between reviewers regarding eligibility was reached through discussion and by consulting a third reviewer if necessary. The study selection process is documented using a PRISMA flow diagram (see Table 4, below) which records the number of article abstracts and full-texts screened for inclusion and exclusion.

Table 4: PRISMA flow diagram



2.6 **Quality Assessment**

The methodological quality of the included studies was assessed using Critical Appraisal Skills Program (CASP) for qualitative and mixed-methods studies (CASP UK, 2024). The appropriate corresponding CASP checklist was used to assess the possibility of bias in the design, conduct and analysis of each study (Appendix III).

Each study that was chosen for inclusion in the systematic review was independently assessed by two reviewers using the CASP checklist (Appendix VII). Discrepancies were resolved through discussion, and any studies excluded at this stage are documented in the PRISMA flow diagram (see Table 4, above) and the reason for exclusion is described.

2.7 **Data Extraction**

Studies that passed screening were loaded to NVivo for data extraction (Appendix I). The following information was extracted: 1. Study characteristics including author, year of publication, country, study design and setting. 2. Sample characteristics including sample size and demographics. 3. Study aims, and outcomes related to the aims of this systematic review. Data extraction was conducted by the first reviewer and independently validated by the second reviewer to ensure rigour, the resulting data was discussed and any discrepancies or omissions of detail were resolved.

2.8 **Data Analysis and Synthesis**

The selected articles were imported into NVivo 14 software for data analysis. The data from the abstract, findings, and discussion sections underwent analysis using the three-stage process of thematic synthesis (Thomas and Harden, 2008). This systematic review employed a thematic synthesis approach, beginning with line-by-line coding of the included studies to identify key concepts and meanings within the data. These initial codes were then organised into descriptive themes by grouping similar codes across all studies, in alignment with the methodology proposed by Thomas and Harden (2008). The descriptive themes represented recurring patterns observed throughout the literature. Building upon these, analytical themes were developed through interpretive analysis, which involved inferring the underlying themes conveyed by the study authors and participants. These analytical themes formed the basis of the findings presented in the results section.

3. Results

3.1 **Study Selection**

A total of 4,383 studies were accessed through the included databases, with 2,411 duplicates identified in RefWorks. The remaining 1,972 records were screened by title and abstract with 26 remaining for full-text review. Following the application of inclusion criteria 10 reports were removed for having no qualitative element or for focusing on a specific phenomenon other than function. After screening, 16 reports from 12 studies remained for inclusion in this study, pending quality assessment (see Table 4, above). Four reports were published as multiple parts of the same study and are identified as studies 11a-d in tables and appendices.

3.2 **Study Characteristics**

Studies were conducted in six high-income countries: England (4), Wales (1), Norway (2), Australia (1), Canada (3), and the United States (1). Sample sizes ranged from 7 to 182 participants. Included study designs were organisational ethnography, ethnographic methodology, mixed-methods approach, critical realist ethnography, and qualitative descriptive studies. Sampling types included purposive, convenience, and self-selection, using interviews, focus groups, observations, surveys, and document analysis. Settings met the inclusion criteria of being midwife-led independent locations including alongside and freestanding midwifery units, birth centres and birth houses. Detailed study characteristics are tabulated in the appendix (see Appendix I).

3.3 **Key Elements for a Well-Functioning Midwifery Unit**

Following line-by-line coding and grouping the codes into categories of descriptive themes, the following analytical themes emerged as relevant to the research question of this study (see Table 5, below).

Table 5: Themes and Sub-themes

Primary Theme	**Sub-Themes**
Structure and Environment	• Physical environment • Time and design as essential resources • Location and integration
Operations and Workforce	• Interprofessional relationships • Governance and leadership • Staffing models • Workforce sustainability • Professional autonomy
Ethos and Model of Care	• Midwifery philosophy • Continuity of care • Patient autonomy and decision making • Cultural safety and inclusion
Facilitators of Functionality	• Supportive guidelines • Clear referral pathways • Well-established networks
Stakeholder Perception	• Midwives' professional identity and job satisfaction • Service user experience

Further detail on the distribution of the themes and sub-themes across the included articles can be found in the appendix (Appendix II).

Structure and Environment

Physical environment

Elements of the physical environment of the midwifery unit were discussed in 11 of the included articles, carrying a high degree of importance to midwives and service users alike. Across studies, depictions of the midwifery unit environment focused on the concept of a home-like atmosphere and an unhurried pace which was seen as a facilitator of physiological birth and user-midwife collaboration.

A home-like environment was achieved through physical design, midwifery unit layout, and inclusion of furniture and equipment to promote comfort. The design of the space was utilised to promote calm as observed in a midwifery unit in England (Rocca-Ihenacho, 2023b):

> *"'The MSW [sic] has set the room up for labour. She has also started running the pool, turned on the music and set the lights to be low. In the room there are also a gym ball and a birthing stool visible. When asked about what she was doing she said that they always like to make the room as homely as possible when women arrive.'"*

Norris and Murphy (2020) also illustrate the sense of calm in the midwifery unit, which connects with the themes of *midwifery philosophy* and *service user experience*:

> *"Within this environment the midwives carried on with their important work and, although they were often very busy and multitasking, with all rooms full, the underlying serenity, for the most part, seemed to be preserved."*

The authors of the Canadian study which focuses on the experiences of midwives describe the midwifery unit as offering a home-like environment with the added benefit of hospital proximity:

> *"The AMU provided an additional option for choice of birthplace, 'in between' home and hospital. It has been described by many clients and midwives as 'the best of both worlds.'" (Murray-Davis, et al, 2025).*

The common thread between the studies that explore the physical space of the midwifery unit was tying physical environment to an emotional response of *warmth, comfort,* or *confidence* as well as impacting the practice of midwifery by supporting a certain *practice culture or ethos* that focuses on a *woman-centred approach* (Norris and Murphy, 2020; Rocca-Ihenacho, 2023d; Nørstebø, *et al,* 2023; McCourt, *et al,* 2016; Neerland, *et al,* 2023; Murray-Davis, *et al,* 2022; Rocca-Ihenacho, *et al,* 2021).

Time and design as essential resources

Availability of time and the freedom to navigate appointments at a self-determined pace were considered positive aspects of the midwifery unit environment in multiple studies. MacDougall and Johnston (2022) wrote that:

> *"Participants reported feeling that their interactions with midwives reflected a sense of an abundance of time and related attention."*

While one of their study participants expanded on the subject:

> *"'Whereas the midwives you get to see them for an hour, and you get to connect, have any questions, and they are actually interested in [and] concerned about you, and you know?' ~Marie"*

Time and the associated access to the midwives was considered in contrast to the obstetric care setting where appointments felt rushed or constricted (MacDougall and Johnston, 2022). As reported:

> *"The fact that women did not need to move to a postnatal ward also had a positive impact as the midwife could focus on supporting the transition to parenthood."* (Rocca-Ihenacho, 2023b).

The supportive qualities of time and design represent intangible *resources* essential to the effective function of the midwifery unit:

> *"The AMU was also seen by participants to enhance the appropriate use and availability of technology by having a greater variety of tools readily available for midwives. This included slings, mats and tubs for labour support, and stools and chairs for birthing."* (Murray-Davis, *et al.*, 2025).

Midwifery units resourced with environments that facilitate the provision of midwife-led

care and with the time for ongoing support for the transitioning family were viewed as functioning in a manner that met the expectations and needs of midwives and service users alike (Nørstebø, *et al,* 2023; McCourt, *et al,* 2018; MacDougall and Johnston, 2022; Rocca-Ihenacho, 2023b).

Location and integration

Themes regarding the location of the midwifery unit considered location as "distinct from hospital" and also "in proximity to hospital" with equivalent importance to function (McCourt, *et al,* 2018; Shakes, *et al,* 2024; Murray-Davis *et al,* 2025).

> *"Ineffective past attempts to establish midwife-led care and to fully support physiological birth in the obstetric unit environment had led to a view that there is a need for distinct midwifery units to support midwife-led care."* (McCourt, *et al.,* 2018).

Independent space with well-defined boundaries was emphasised as an essential component to midwifery unit design, relating the physical layout with the successful provision of midwife-led care, user comfort, and professional autonomy (Rocca-Ihenacho, 2023d; McCourt, *et al,* 2016; Remvik-Larsen, *et al,* 2023).

Simultaneously, proximity to hospitals and advanced medical care was seen as a source of safety and reassurance to some providers and users (Shakes, *et al,* 2024). The concept of "close but separate" illustrated a tension for midwifery units of navigating professional boundaries both physical and philosophical. Midwifery units were depicted as a bridge between hospital and community-based providers and the need to collaborate with both was discussed, which some studies identified as a tenuous but essential balance of identity to attain (McCourt, *et al,* 2018; MacDougall and Johnston, 2022).

Within the studies, *integration* was used as a relational term describing this position of collaboration in multiple contexts. Rocca-Ihenacho (2023d) shares the importance of integration with the midwifery community services as a contributor to workforce sustainability, while Murray-Davis, *et al* (2025) consider the benefit of integration as being

part of the “hospital culture” while maintaining “ownership” in an alongside midwifery unit.

Operations and Workforce

Interprofessional relationships

Positive interprofessional relationships supporting the effective operation and workforce sustainability of midwifery units was identified in multiple contexts. Collaboration between midwives and medical colleagues was found to impact care coordination, professional satisfaction, and client experience (Murray-Davis, *et al,* 2025; Neerland, *et al,* 2023; Rocca-Ihenacho, *et al,* 2021; Murray-Davis, *et al,* 2022). One study in a Canadian setting reported: *“All participants described the essential role that effective collaboration played in the unit’s success.”* (Murray-Davis, *et al,* 2022).

Facilitators for fostering positive interprofessional collaboration included *role clarity, supportive protocols,* and *familiarity* (Murray-Davis, *et al,* 2022; McCourt, *et al,* 2018; Rocca-Ihenacho, 2023d).

> *“Educating practitioners on each others’ profession, scope of practice, philosophy of care, in addition to developing personal relationships and working together aids in reducing tensions between practitioners, and improving interprofessional collaboration.”* (Murray-Davis *et al,* 2022)

Practical strategies such as collaborative team-building exercises, rotating work settings for exposure to other styles of practice, and implementing interprofessional input on protocol development for the midwifery unit were identified as being beneficial to interprofessional relationship development (McCourt *et al,* 2018; Murray-Davis *et al,* 2022; Rocca-Ihenacho *et al,* 2021; Neerland *et al,* 2023).

Governance and leadership

Leadership roles in the midwifery unit contributed greatly to the quality of interprofessional relationships and were seen as a supportive strategy to address limitations imposed by hierarchy within the health system (Rocca-Inenacho 2023d; McCourt *et al,* 2018; Murray-Davis *et al,* 2025; Murray-Davis *et al,* 2022; Rocca-Ihenacho *et al,* 2021).

While leadership roles were defined as separate from general midwifery roles, an emphasis was put on the lack of hierarchy within the midwifery unit, and on how leaders were seen as *supportive, approachable,* and *confidence-building* within the team. On the part of the midwives assuming leadership roles, these positions contributed value to their work and gave them a sense of ownership of the midwifery unit; as well as offering an opportunity to advance professionally (Rocca-Ihenacho, 2023d; Murray-Davis *et al,* 2025; McCourt *et al,* 2018).

Murray-Davis, *et al* (2025) observed that *"Having midwives in leadership roles offered them a seat at the table and made them more visible and involved in the hospital."* They went on to report that effective leadership in the midwifery unit contributed also to the function of the hospital, allowing for a cross-pollination of expertise between the midwifery unit and the obstetric team, and influencing practice and policy on a greater scale.

Staffing models

Staff structure was found to facilitate function when supporting the provision of midwifery care in the unit both practically and philosophically. Author Rocca-Ihenacho (2023d) reported: *"Finding a balance between workload and cost-effectiveness was highlighted by staff as a crucial to achieve sustainability."* Participants in the study expressed the need to find balance between the number of births, number of staff, and financial viability while maintaining the essential elements of the midwifery model of care.

Researchers agreed that continuity of care and an abundance of time and access to the midwives were integral to the model of care, while also identifying staff shortage or mismanagement as a barrier to providing the desired style of care. McCourt, *et al* (2018) wrote *"…adequate and appropriate staffing was seen as key for the unit's success."*

Clearly defined leadership, service coordination, self-management of timetables, and sufficient staff allocation were expressed as necessary components of midwifery unit staffing models in the United Kingdom, Canadian, American, and Norwegian studies, highlighting universal importance across contexts (Rocca-Ihenacho, 2023b; Rocca-Ihenacho,

2023d; Nørstebø, *et al,* 2023; MacDougall and Johnston, 2022; Murray-Davis, *et al,* 2025; McCourt, *et al,* 2018; Neerland, *et al,* 2023; Rocca-Ihenacho, *et al,* 2021).

Workforce sustainability

Positive working relationships and a practice culture centred on physiological birth and relational care encouraged motivation and a sense of professional ownership for midwives. One interview participant shared:

> *'So I think that continuous feedback systems in which you own your own work and there is a culture that allows you to get satisfaction from your work, to be responsible for what you do - that's what keeps you going and makes you better as a midwife' (BC7-MW-M-INT).'* (Rocca-Ihenacho, *et al,* 2021)

Investment in the philosophy and quality of care provided by the midwifery unit midwives served as a catalyst for workforce sustainability and was further illustrated in the findings by Norris and Murphy (2020):

> "*The data suggested that all the staff felt that they had a stake in the success of the AMU. They wanted to develop and enhance the positivity around this way of working to ensure its sustainability and continuation..."*

The themes of professional autonomy and service value were strongly correlated with job satisfaction, while efforts to mitigate excessive workload or burnout were seen as critical to sustaining the workforce (Rocca-Ihenacho, 2023b; Murray-Davis, *et al,* 2025; McCourt, *et al,* 2028; Murray-Davis, *et al,* 2022; Rocca-Ihenacho, *et al,* 2021).

Professional autonomy

Autonomy in practice was tied to the concepts of professional expression and practising to the full scope of knowledge without restriction. Autonomy was seen to contribute to delivering care that aligned with the midwifery unit philosophy and gave midwives a sense of ownership over their work (Norris and Murphy, 2020; Murray-Davis, *et al*, 2022; Ihenacho-Rocca, 2023b; Ihenacho-Rocca, 2023d).

In Canada, the researchers found that midwives working in the alongside midwifery unit *"experienced greater autonomy, professional independence and role clarity"* when compared to those working within the obstetric unit (Murray-Davis, *et al,* 2022).

Norris and Murphy (2020) connected similar findings of autonomy and professional fulfilment with settings that support *"midwifery authoritative knowledge"* and highlighted the impact autonomy has on midwifery unit success by encouraging midwives to control the way they practice, including valuing intuition and relational care alongside clinical competence.

Ethos and Model of Care

Midwifery philosophy

Having a shared philosophy within midwifery units was a heavily weighted theme, associated with *quality of care* and *professional cohesion*. As one study noted, *"midwives need to be able to work in an environment and community of practice which mirrors their own philosophy of care"* to foster wellbeing and professional development (Norris and Murphy, 2020). Shared beliefs among midwives created a sense of unity, with one midwife expressing that working in the midwifery unit was *"'…nice and for the first time as a midwife everyone shared the same philosophy…' (BC2-MW-F-INT)"* (Rocca-Ihenacho, 2023d).

Efforts to define "midwifery philosophy" produced common interpretations across studies. One midwife participant shared her insight on the philosophy at her midwifery unit:

> *"It's anticipating their (the women's) needs, it's making sure they're comfortable. Adopting different positions, looking how their labour is going, caring for the husband or partner as well, involving him… Listening to the woman..." (MW 9)* (Norris and Murphy, 2020).

This description aligns with what others describe as a "bio-psycho-social" model of care which puts the client at the centre of care and considers their emotional and social experience alongside physical care needs (Rocca-Ihenacho, 2023c; MacDougall and Johnston, 2022; Neerland, *et al,* 2023; Rocca-Ihenacho, *et al,* 2021).

Relationship building, seeing the client as the expert, and giving accurate and thorough informed consent to clients were seen as integral to building trust and providing effective care that offered a "different" experience than the obstetric unit (Rocca-Ihenacho, *et al,* 2021; MacDougall and Johnston, 2022; Remvik-Larsen, *et al,* 2023; McCourt, *et al,* 2016).

Confidence in the natural birth process and viewing physiological birth as "normative" was considered foundational to midwifery philosophy; suggesting that not only the way the midwives practice, but also how they think, impacts the care they provide. The concept of a reciprocal relationship between ethos and action emerged within this theme (Neerland, *et al,* 2023; Shakes, *et al,* 2024).

Unified philosophy was identified as contributing to an experience of continuity for clients:

> *"Despite not all women having continuity of carer, a shared philosophy of care embedded in the bio-psycho-social model of care led to service users feeling a sense of rapport and trust."* (Rocca-Ihenacho, 2023c)

Continuity by consistent philosophy is important; however, continuity of care as an independent theme was expressed throughout most studies as an essential aspect of midwifery unit function, defined as continuous care provided by a single or small group of providers (Sandall, *et al*, 2024).

Continuity of care

Codes captured under the continuity of care theme were referenced in 11 of the included papers, indicating contribution to the function of midwifery units. Continuity of care was strongly associated with feelings of safety on the part of service users, professional identity for midwives, and as a facilitator of low-intervention physiological birth (Norris and Murphy, 2020; Rocca-Ihenacho, 2023b; Rocca-Ihenacho, 2023c; Shakes, *et al,* 2024; Nørstebø, *et al,* 2023; MacDougall and Johnston, 2022; Remvik-Larsen, *et al,* 2023; Neerland, *et al,* 2023; Rocca-Ihenacho, *et al,* 2021).

One midwife participant in Norway shared:

> *'If we are lucky, many of the women have had prenatal check-ups with me. We've therefore ensured continuity. So that sense of security and confidence are kind of in the box from the start.' (Anne)* (Ramvik-Larsen, *et al,* 2023)

Client *confidence* was attributed to continuity of care in multiple studies; confidence in their ability to birth as an empowering experience, and confidence in their provider. Familiarity with the midwife and her "way of thinking" encouraged trust and collaboration (Rocca-Ihenacho, *et al,* 2021).

> *"Continuity of care was also a factor that, for some women, created a feeling of safety. Knowing the midwives beforehand was an important factor. I knew the midwife before the birth; both I and my husband had confidence in her." (2011/35/third birth/V1)* (Nørstebø, *et al,* 2023)

An important element of midwifery unit function relating to continuity was the role self-governance played in supporting a continuity model in practice. Studies from the United States, the United Kingdom, and Norway shared accounts of lead midwives implementing continuity of care with intentional staffing models and leadership within the midwifery unit (Neerland, *et al,* 2023; McCourt, *et al,* 2018; Remvik-Larsen, *et al,* 2023).

Patient autonomy and decision making

Data identifies collaboration and equality within the midwife-patient relationship as being integral to providing quality care and upholding patient-centred care in midwifery units. The experience of *collaboration* and *equality* were facilitated in tangible ways by providing thorough informed consent and individualised care plans that support the patients' autonomy and decision making (MacDougall and Johnston, 2022; Rocca-Ihenacho, 2023c; Shakes, *et al*, 2024; Murray-Davis, *et al,* 2025; Neerland, *et al,* 2023; Rocca-Ihenacho, *et al,* 2021). Findings from the United Kingdom illustrated this dynamic:

> *"The midwife offered information to the woman and discussed pros and cons of different options. The partnership element meant that there was support offered by the midwife to facilitate a personalised plan of care."* (Rocca-Ihenacho, *et al,* 2021).

Research conducted in Norway further supported the necessity for *agency* and *autonomy* as a unique aspect of midwifery unit care:

> *"Care that supports agency and autonomy. Many participants' narratives of their midwifery care experiences engaged a process of comparison with other forms and experiences of medical or reproductive care."* (MacDougall and Johnston, 2022)

Cultural safety and inclusion

Less weighted than other sub-themes, codes relating to the importance of *cultural safety and inclusion* emerged in four of the included reports and overlapped with themes of *philosophy, environment,* and *autonomy.* In the United States, it was found that:

> *"Relationship-centered care has been identified as part of a successful model of culturally congruent birth center care…"* (Neerland, *et al,* 2023)

Continuity of care also tied into this theme by the common thread of respectful, wholistic care and time spent with the individual as informing the midwife regarding a client's social and cultural needs and providing a care model in which clients feel safe and accommodated (MacDougall and Johnston, 2022; McCourt, *et al,* 2016; Neerland, *et al,* 2023; Rocca-Ihenacho, *et al,* 2021).

Facilitators of Functionality

Supportive guidelines, strong referral pathways, and well-established networks were found to be facilitators of midwifery unit function in multiple contexts.

Supportive guidelines

Protocols and guidelines within the midwifery unit and in relation to collaborating providers served to support essential elements of the unit in providing midwifery-led care, assuring

professional autonomy, and promoting safety (McCourt *et al,* 2018; Murray-Davis *et al,* 2025; Rocca-Ihenacho *et al*, 2021).

> *"It was clear from our data, therefore, that guidelines performed multiple roles in protecting professional, as well as patient, safety and in supporting inter-professional trust and communication."* (McCourt *et al,* 2018).

An emphasis was made on the inclusion of interprofessional input on protocol development, while maintaining the midwife-led model (McCourt *et al,* 2018).

> *" '…it's all in discussion and working together to try and solve those issues…[it] has always been about finding solutions... (N3)' One of the ways this manifested was improving and clarifying inter-unit policies regarding admissions and transfers of care..."* (Murray-Davis *et al,* 2022)

Guidelines provided a framework for collaboration in contexts where midwifery unit care was integrated with the healthcare system such as in the United Kingdom, Canada, and Norway; as well as in settings without guaranteed integration as with the birth centre in the United States and the birth houses in Australia. While not a promise of collaborative relationship, guidelines support the intention of collaboration and this intention was made stronger when multiple stakeholders were involved in their development (Murray-Davis, *et al,* 2025; McCourt, *et al,* 2018; Murray-Davis, *et al,* 2022; Neerland, *et al,* 2023; Shakes, *et al,* 2024; Remvik-Larsen, *et al,* 2023; Rocca-Ihenacho, *et al,* 2021).

Clear referral pathways

As stated by McCourt, *et al* (2018) *"Good management of transfers across unit boundaries is widely acknowledged to be important for safety and for the quality of women's care."* The importance of ease of transfer between care levels was indicated in multiple studies (Murray-Davis, *et al,* 2022; Shakes, *et al,* 2024; Remvik-Larsen, *et al,* 2023; McCourt, *et al,* 2018; Neerland, *et al,* 2023). In Norway, the ability to act on referral without delay or overthinking was illustrated as a given in practice:

> *"The women were transferred to a hospital maternity ward if they expressed a desire for this, or if medical interventions were required: 'We always take action if the situation becomes uncertain. If the midwife's gut is telling her that this is not good, then we transfer the woman.'"* (Remvik-Larsen, *et al,* 2023).

While in the American context, midwives expressed the need to develop relationships and a plan for transfer as essential to facilitating safe care:

> *"Showing clients safety equipment during the orientation, describing an organized and rapid system for transfer to the hospital if needed, building relationships with emergency medical services and fire department personnel, and having conversations with clients about transfer prenatally were all discussed as components of safety."* (Neerland, *et al,* 2023).

Regardless of context, ease of referral was identified as improving experience and safety for clients, and as a contributor to professional autonomy. Reliability of access to referring providers enabled midwives to practice autonomously through collaboration with, rather than dependency on, obstetrician expertise (Neerland, *et al,* 2023; Shakes, *et al,* 2024; Remvik-Larsen, *et al,* 2023).

Well-established networks

Establishing interprofessional and community-connecting networks was seen as integral to sustaining positive relationships and support for midwifery units. Community engagement and co-production with service users were identified as facilitators to effective networking (Rocca-Ihenacho, 2023d; Murray-Davis, *et al,* 2025; Rocca-Ihenacho, *et al,* 2021).

Stakeholder Perception

Midwives' professional identity and job satisfaction

Midwives described their professional identity as closely tied to autonomy, relational care, and working within a philosophy aligned with the "whole package" of midwifery (Rocca-Ihenacho, 2023b). The ability to work in environments that support autonomous practice was seen as fundamental to job satisfaction and wellbeing (Rocca-Ihenacho, 2023d).

Many midwives expressed that working in midwifery-led units allowed them to feel like "real midwives," voicing a desire to practice in ways that attend to the physiological, psychological, and social needs of women and families (McCourt, *et al,* 2016).

The data also showed that collective responsibility and shared identity fostered strong team dynamics, which contributed to feelings of value and professional fulfilment. One participant stated: *"you own your own work…that's what keeps you going and makes you better as a midwife"* (Rocca-Ihenacho, *et al,* 2021). Contrasting with hospital settings, midwifery units were perceived as midwives' spaces, not "someone else's space," reinforcing a culture of belonging that lends to fulfilment as a professional (Murray-Davis, *et al,* 2025).

Service user experience

The presence of a known, continuously available midwife was consistently associated with increased feelings of safety and control for study participants (Rocca-Ihenacho, 2023d; Murray-Davis, *et al*, 2025; Shakes, *et al,* 2024; Nørstebø, *et al,* 2023). Birth environments that prioritised privacy, familiarity, and family involvement were perceived as enhancing patient autonomy (MacDougall and Johnston, 2022). Trust was integral to shaping positive experiences, both trust in the skills and abilities of the individual midwives and in the setting to provide the model of care service users expected. Author Ihenacho-Rocca (2023c) observed:

> *"Service users' views and experiences highlighted an interesting dynamic relation between the need of support and the need of control and how this was linked to a feeling of safety."*

The concept of "being held" emotionally and physically, and a "watchful attendance" on the part of the midwives, provided service users with a sense of individualised and wholistic care (Rocca-Ihenacho, 2023c; Shakes, *et al,* 2024; Nørstebø, *et al,* 2023; MacDougall and Johnston, 2022); encompassing the bio-psycho-social model of care identified in the research by Rocca-Ihenacho *et al* (2021).

4. Discussion

4.1 **Key Findings**

Themes and subthemes identified in this review shared commonality across contexts, despite the included studies being varied in their focus and participant demographics. The features of midwifery unit function from a qualitative viewpoint created a web of interconnected elements that emerged as themes. Analysis of the data indicated an interdependence between the contributing elements; suggesting that overall functionality could be destabilised by the omission of any singular aspect captured within the themes.

Considering the interdependent nature of the facilitators of functionality, the midwifery unit emerged as a self-actualising entity, shaped by the integration of interrelated themes into a cohesive whole. The interdependence observed between contributing elements aligns with the critical realist perspective, reflecting more than surface-level associations (Bhaskar, 2013; Walsh and Evans, 2014).

The self-actualisation of the midwifery unit relied on professional autonomy of the midwife and self-determination of the service user. As primary themes in this study, both autonomy and identity was discussed across all studies and is coherent with other research indicating that professional and personal autonomy are essential to the midwifery model of care (Renfrew, *et al,* 2014; Zolkefli, *et al,* 2020; Van der Pijl, *et al,* 2021).

The concept of birth environment influencing experience and satisfaction is supported by many studies within the past decade (Foureur and Harte, 2017; Folmer, *et al,* 2019; Nielsen and Overgaard, 2020; Nicoletta, *et al,* 2022). Some researchers have analysed the importance of birth environment beyond emotional elements to find correlation between environment and measure of medical interventions and favorable birth outcomes (Nilsson, *et al*, 2020; Foureur, *et al,* 2010). Furthermore, research connects birth environment with provider satisfaction and professional longevity (Davis and Homer, 2016). These findings align with the results of this review, further substantiating the importance of midwifery units being consciously designed physical spaces.

Respect was a prominent theme for midwives and service users, as well as external collaborative providers. Respect appeared in relation to physical and professional

boundaries, self-governance of the midwifery unit by midwives, and appropriate informed consent and choice from the perspective of service users (MacDougall and Johnston, 2022; Nørstebø, *et al,* 2023). Additionally, the role of midwifery within the greater societal context was addressed in multiple studies as crucial to integration of the midwifery unit and as a significant barrier to sustainability when lacking (McCourt, *et al,* 2018; Neerland, *et al,* 2023; Murray-Davis, *et al,* 2022). Respect and trust acted in conjunction, each supporting the other and creating the foundation of positive relationships, in midwife-client and interprofessional contexts (Rocca-Ihenacho, *et al,* 2021).

When facilitating positive relationships, by giving time and attention to their clients, and by inviting external stakeholders into midwifery unit development, the onus fell to the midwife and the midwifery unit to prioritise these relational dynamics (Crowther, *et al,* 2019); which are, as illustrated in this review, essential to all other aspects of midwifery unit care and sustainability (McCourt, *et al,* 2018; McCourt, *et al,* 2016; Murray-Davis, *et al,* 2022; Rocca-Ihenacho, *et al,* 2021). This observation resonates with Bhaskar's stratified ontology and with critical realism's commitment to studying not just *what works*, but *why* and *under what conditions* it works (Walsh & Evans, 2014).

4.2 **Implications for Practice and Policy**

This review helps inform the further development of design and management of midwifery units in high-income countries, and potentially in other settings following cross-context comparison. By identifying the elements that contribute to midwifery unit functionality, this review demonstrates what should be expected and made standard in midwifery units.

Standardising the elements of midwifery unit operations and function would act to mitigate variabilities and improve the generalisability of research in the future. Beyond the impact on research, standardising midwifery units could improve efficiency, increase sustainability, and prioritise professional and service-user wellbeing.

4.3 **Strengths and Limitations**

In the breadth of this study, the focus on the functionality of midwifery units was on the micro- and meso-levels: the midwifery unit and its immediate community of practice. Zooming out to include the macro-level of government policy and regulation and other

areas of systemic barriers or facilitators would give a greater depth of context. Yet, focusing on micro- and meso-levels for analysis facilitated a comparison of experience distinct from wider social dynamics; and this review found that the key elements were equivalent across settings.

A confounding factor of research on midwifery units is the absence of universal definition or even *title* for a midwifery unit. It was a strength of the study to expand the search beyond "midwifery unit" to include research settings which met the inclusion criteria, so as not to exclude valuable research due to a difference of vocabulary.

Including only articles published or available in English and released in the past ten years further limited the available literature. Setting a limited time range aligns with the objective of this review, but the language limitations could have excluded valuable literature published in languages other than English.

Thematic analysis involves individual interpretation which introduces the risk of researcher-affiliated bias. Researcher positionality was considered throughout, and bias was mitigated in this review by following a pre-determined research methodology with systematic search and inclusion criteria reviewed separately and cross-analysed within the research team.

5. Conclusion

This systematic review identified a set of interdependent elements that contribute to the functionality of midwifery units in high-income countries. Findings support MUs functioning as midwife-led facilities supported by interdependent factors such as environment, staffing, leadership, integration with wider services, and a shared midwifery philosophy. These elements were consistent across diverse settings and appear essential for sustaining a high-quality model of care.

A well-designed physical space, adequate time for care, continuity, and effective leadership supported the delivery of personalised, relational care. Integration with broader healthcare systems and clear referral pathways were essential to ensuring safety and professional collaboration, while maintaining the distinct identity of the midwifery unit.

Developing and sustaining well-functioning MUs requires attention to structural, cultural, and organisational factors. Standardising core components of MU operation could improve consistency, support workforce sustainability, and ensure that care remains aligned with midwifery values. These findings offer a foundation for policy and practice development aimed at strengthening the role of MUs within maternity care systems.

Declaration of Interest

No conflict of interest is declared by the authors. The design, methodology, and findings of this review were not impacted by external relationships or pressures.

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Authors' Contributions

L.H. Jackson served as the primary researcher, conducting all aspects of protocol development, data extraction, and analysis. M. Valerio performed data validation, screening, and quality appraisal as the second reviewer of the study. L. Rocca-Ihenacho served as advisor for the review, assisting in developing the research protocol and contributing to the methodology and analysis. M. Cross contributed to idea development and reflective dialogue.

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7. Appendices

I. Study Characteristics

II. Themes and Sub-themes by Study

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Appendix I

Study Characteristics

Study ID	Author, year Country	Study Design	Participants	Study Aims	Setting and Data Collected	Key Findings
1	MacDougall and Johnston, 2022 **Canada**	Qualitative Study	32 clients and supportive others.	To contextualize client experiences and assess how midwifery care fits into reproductive healthcare in the province.	Fredericton Midwifery Centre AMU. Semi-structured interviews.	Participants reported high satisfaction with midwifery services, emphasising competence, expertise, and the value of time and access in care. Identified respectful maternity care as a key strength. Highlighted midwifery as evidence-based practice, challenging traditional narratives that position hospital-based obstetricians as primary experts in birth care.
2	McCourt et al, 2016 **England**	Organisational Ethnography	86 clinical staff and service providers; 72 service users; additional documents and transcripts	To explore how place of birth contributes to concepts of wellbeing for birthing women, families, and midwives in midwifery-led units.	Four NHS Trusts and four AMUs. Participant observations, interviews with service users, midwives, and managers.	Need for physical boundary from the OU in order to provide therapeutic space for birth. Connection of physical space and philosophy of care. Challenges in integrating midwifery units within a predominantly medicalised maternity system.
3	McCourt et al, 2018 **England**	Ethnographic Study	136 participants: 54 clinical staff, 35 managers, 47 postnatal women and partners	To investigate how alongside midwifery units (AMUs) are organised, staffed, and managed, and to explore the experiences of women and maternity staff in these settings.	Four AMUs. Case studies including semi-structured interviews, observations, and documentary review.	AMUs were developed as part of wider service redesigns rather than strategic planning. Identified key organisational factors for sustainability: finance, staffing, training, and guidelines. Midwives valued the environment but faced challenges such as professional boundaries, staffing shortages, and inter-professional tensions.
4	Murray-Davis et al, 2022 **Canada**	Mixed-Methods Evaluation	82 online surveys, 17 semi-structured interviews, and 1 focus group	To describe the experiences of health professionals providing care in Canada's first Alongside Midwifery Unit (AMU) and examine the impact on interprofessional collaboration and role clarity.	Markham Stouffville AMU. Online surveys, semi-structured interviews, and one focus group.	Health professionals reported improved role clarity, interprofessional relationships, and high levels of satisfaction among those giving birth on the AMU. Identified four main themes: promoting safety, clarifying roles, facilitating collaboration, and managing change. Findings indicate that AMU models can be beneficial for health professionals, birthing people, and maternity care systems.
5	Murray-Davis et al, 2025 **Canada**	Qualitative Study	14 midwives	To explore and describe the experiences of midwives working in Canada's first alongside midwifery unit (AMU) and assess the implications for midwifery practice.	Markham Stouffville AMU. Qualitative semistructured interviews and one focus group analyzed using grounded theory approach.	Identified key themes: maintaining midwifery philosophy of care, strengthening relationships, amplifying hospital integration, and growing midwifery leadership. The AMU facilitated improved interprofessional collaboration, autonomy, and integration within the hospital setting.
6	Neerland et al, 2023 **United States**	Qualitative Descriptive Study	12 birth center midwives	To describe US freestanding birth center models of prenatal care and examine how the components of this care contribute to birthing people's confidence in their ability to have a physiologic birth.	Six urban and rural freestanding birth centers. Semi-structured interviews with birth center midwives analysed using thematic analysis.	Six themes emerged: (1) Birth center physical space and organization of care; (2) Dimensions of midwifery care; (3) Continuity of care and seamless service; (4) Empowered birthing person; (5) Physiologic birth as normative; (6) Hospital paradigm and US cultures of birth. Findings highlight how birth center prenatal care fosters confidence in physiologic birth and can inform improvements in maternity care more broadly.
7	Norris and Murphy, 2020 **Wales**	Ethnographic Study	10 dyads (mentors & students)	To explore how the culture and environment of an alongside midwifery-led unit shape the learning experience of student midwives.	Midwifery-led AMU. Observation, interviews, and focus groups with midwifery mentors and students.	Positive and supported workforce can be facilitated by uniformity in practice ethos and by elevating the value of midwives' authoritative knowledge and as experts of physiological birth.

8	Nørstebø et al, 2023 **Norway**	Qualitative Study	182 respondents	To describe what women view as important aspects of care when giving birth in freestanding midwifery-led units in Norway.	Six FMUs. Data collected via open-ended responses from the Babies Born Better (B3) survey, Versions 1, 2, and 3.	Women highly valued peaceful, flexible, and family-friendly care. Identified key aspects of care, including family involvement, continuity of care, and personal midwifery support. Concerns raised about FMU service vulnerability, such as staffing shortages and temporary closures.
9	Remvik-Larsen et al, 2023 **Norway**	Qualitative Study	7 midwives	To gain a deeper understanding of midwives' experiences of facilitating normal birth in midwifery-led units.	Six FMUs and AMUs. Semi-structured interviews analyzed using systematic text condensation.	Highlighted key factors promoting normal birth: strong midwife-client relationships, continuity of care, and a supportive environment fostering midwifery autonomy. Identified barriers, including medicalized hospital culture and lack of midwifery decision-making authority.
10	Rocca-Ihenacho et al, 2021 **England**	Critical Realist Ethnographic Study	82 participants	To explore how relationships and trust function as core components of a well-functioning FMU and their impact on midwives, service users, and unit sustainability.	FMU. Data collected over 15 months via participant observation, semi-structured interviews, and document analysis.	Relationships and trust were identified as fundamental to FMU success. Thematic analysis revealed 12 key themes, with relationships and trust at the core. Identified essential factors: midwifery autonomy, team spirit, interdependency, salutogenesis, and shared leadership.
11a	Rocca-Ihenacho 2023a **England**	Ethnographic Study	82 participants: 45 services providers and other stakeholders; 37 services users	To explore the philosophy, organisational culture, and practices within a freestanding midwifery unit and generate theory on well-functioning midwifery units.	FMU. Participant observation, in-depth interviews, focus groups, document analysis.	Identified key characteristics of well-functioning FMUs, including strong organisational culture, team cohesion, and midwife autonomy. Highlighted the impact of shared leadership, workload balance, and midwifery-led care on service sustainability and quality.
11b	Rocca-Ihenacho, 2023b	Ethnographic Study	See 11a	To meet aim of 11a by examining staff perspectives.	FMU. Participant observation, midwifery staff interviews, focus groups, reflective diaries.	Identified the importance of midwives' identity as 'with woman' caregivers, autonomy, and ownership in fostering a positive work environment. Highlighted the importance of a bio-psycho-social model of care, job satisfaction, and team cohesion for sustainable FMUs.
11c	Rocca-Ihenacho, 2023c	Ethnographic Study	See 11a	To meet aim of 11a by focusing on service users' experiences and perspectives.	FMU. Ethnographic participant observation, service user interviews, and analysis of experiences.	Highlighted the importance of rapport and trust between midwives and service users. Found that women felt safest when they had a balance between control and support. Identified key aspects of FMU philosophy and culture that influenced user experiences.
11d	Rocca-Ihenacho 2023d	Ethnographic Study	See 11a	To meet aim of 11a by highlighting the key organisational characteristics that ensure safe care, positive multidisciplinary collaboration, and sustainability.	FMU. Ethnographic participant observation, staff and management interviews, service user perspectives, and hospital staff inputs.	Identified key organisational factors, including shared leadership, balanced workload, integration with the local community, and a stable team as critical for FMU sustainability. Emphasized the role of a bio-psycho-social model of care and the importance of a supportive, inclusive work environment.
12	Shakes et al, 2024 **Australia**	Qualitative Descriptive Study	10 women who utilised birth houses for labour and/or birth	To gain understanding of women's motivations for accessing and experiences of birth houses and develop insight into their role within Australian maternity services.	Three birth houses across three states. Semi-structured interviews conducted via video-link and thematically analyzed.	Women sought birth houses for safety, convenience, agency, and autonomy. Found that birth houses provided a middle ground between home and hospital. High levels of satisfaction highlight the importance of greater birthplace choice for all women.

Appendix II

Themes and Sub-themes by Study

Study ID	Author, year	**Structural and Environmental Factors**	**Operational and Workforce**	**Ethos and Model of Care**	**Facilitators of Functionality**	**Stakeholder Perception**
1	MacDougall and Johnston, 2022	*Location & integration; Time and design as essential resources*	*Staffing models*	*Autonomy & decision-making; Continuity of care; Cultural safety and inclusivity; Midwifery philosophy*		*Service user experience*
2	McCourt et al, 2016	*Location & integration; Physical environment*	*Governance & leadership; Interprofessional relationships; Staffing models;*	*Cultural safety and inclusivity; Midwifery philosophy*		*Midwives' professional identity & job satisfaction*
3	McCourt et al, 2018	*Location & integration; Physical environment; Time and design as essential resources*	*Governance & leadership; Interprofessional relationships; Staffing models; Workforce sustainability*	*Continuity of care; Midwifery philosophy*	*Clear referral pathways; Supportive guidelines*	*Midwives' professional identity & job satisfaction*
4	Murray-Davis et al, 2022	*Location & integration; Physical environment*	*Governance & leadership; Interprofessional relationships; Professional autonomy; Staffing models; Workforce sustainability*	*Midwifery philosophy*	*Clear referral pathways; Supportive guidelines*	*Midwives' professional identity & job satisfaction*
5	Murray-Davis et al, 2025	*Location & integration; Physical environment; Time and design as essential resources*	*Governance & leadership; Interprofessional relationships; Staffing models; Workforce sustainability*	*Autonomy & decision-making; Continuity of care; Midwifery philosophy*	*Clear referral pathways; Supportive guidelines; Well-established networks*	*Midwives' professional identity & job satisfaction*
6	Neerland et al, 2023	*Location & integration; Physical environment*	*Interprofessional relationships; Staffing models;*	*Autonomy & decision-making; Continuity of care; Cultural safety and inclusivity; Midwifery philosophy*	*Clear referral pathways*	
7	Norris and Murphy, 2020	*Physical Environment*	*Governance & leadership; Professional autonomy; Workforce sustainability*	*Continuity of care; Midwifery philosophy*		*Midwives' professional identity & job satisfaction*
8	Nørstebø et al, 2023	*Location & integration; Physical environment; Time and design as*	*Staffing models*	*Continuity of care; Midwifery philosophy*		*Service user experience*

		essential resources				
9	Remvik-Larsen et al, 2023	*Physical environment*		*Autonomy & decision-making; Continuity of care; Midwifery philosophy*	*Clear referral pathways*	*Midwives' professional identity & job satisfaction*
10	Rocca-Ihenacho et al, 2021	*Location & integration; Physical environment*	*Governance & leadership; Interprofessional relationships; Professional autonomy; Staffing models; Workforce sustainability*	*Autonomy & decision-making; Continuity of care; Cultural safety and inclusivity; Midwifery philosophy*	*Supportive guidelines; Well-established networks*	*Service user experience; Midwives' professional identity & job satisfaction*
11a	Rocca-Ihenacho 2023a	*Methodology only*				
11b	Rocca-Ihenacho, 2023b	*Physical environment; Time and design as essential resources*	*Professional autonomy; Staffing models; Workforce sustainability*	*Continuity of care; Midwifery philosophy*		*Midwives' professional identity & job satisfaction*
11c	Rocca-Ihenacho, 2023c			*Autonomy & decision-making; Continuity of care; Midwifery philosophy*		*Service user experience*
11d	Rocca-Ihenacho, 2023d	*Location & integration; Physical environment*	*Governance & leadership; Interprofessional relationships; Professional autonomy; Staffing models; Workforce sustainability*	*Midwifery philosophy*	*Well-established networks*	*Midwives' professional identity & job satisfaction*
12	Shakes et al, 2024	*Location & integration; Physical environment*		*Autonomy & decision-making; Continuity of care; Midwifery philosophy*	*Clear referral pathways*	*Service user experience*

Appendix III
CASP Scores by Study

Study	Study 1	Study 2	Study 3	Study 4	Study 5	Study 6	Study 7	Study 8	Study 9	Study 10	Study 11a	Study 11b	Study 11c	Study 11d	Study 12
Author, Year	MacDougall and Johnston, 2022	McCourt et al, 2016	McCourt et al, 2018	Murray-Davis et al, 2022	Murray-Davis et al, 2025	Neerland et al, 2023	Norris and Murphy, 2020	Nørstebø et al, 2023	Remvik-Larsen et al, 2023	Rocca-Ihenacho et al, 2021	Rocca-Ihenacho, 2023a	Rocca-Ihenacho, 2023b	Rocca-Ihenacho, 2023c	Rocca-Ihenacho, 2023d	Shakes et al, 2024
Was there a clear statement of the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
Is a qualitative methodology appropriate?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
Was the research design appropriate to address the aims of the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
Was the recruitment strategy appropriate to the aims of the research?	Yes	Yes	Yes	Yes	Yes	Can't Tell	Yes	Yes	Yes	Yes	Yes				Yes
Was the data collected in a way that addressed the research issue?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
Has the relationship between researcher and participants been adequately considered?	Can't Tell	Can't Tell	Can't Tell	Can't Tell	Yes	Can't Tell	Can't Tell	Yes	Can't Tell	Yes	Yes				Yes

Have ethical issues been taken into consideration?	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
Was the data analysis sufficiently rigorous?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
Is there a clear statement of findings?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
How valuable is the research?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes				Yes
Quality Score (Count of 'Yes' responses)	9	8	9	9	10	8	9	10	9	10	10	N/A	N/A	N/A	10