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Understanding how midwife-led continuity of care can be implemented and under what circumstances: a realist review

Renate Simmelink ,[1,2] Elise Neppelenbroek ,[1,3] Anneke Pouwels,[4] Nadine van der Lee,[5] Eva Pajkrt,[6] Kirsten A Ziesemer,[7] Hanneke W Harmsen van der Vliet-Torij,[8] Corine J M Verhoeven,[9,10] Ank de Jonge,[11,12] Marianne Nieuwenhuijze[4,13]

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For numbered affiliations see end of article.

Correspondence to
Renate Simmelink;
r.simmelink@amsterdamumc.nl

ABSTRACT

Objectives To understand how and under what circumstances midwife-led continuity of care (MLCC) can be implemented in high-income countries.

Design A realist review was conducted to examine interactions between contexts, mechanisms and outcomes.

Methods An initial programme theory described a hypothesis of how MLCC might be implemented successfully. Literature from a systematic search on the implementation of MLCC was synthesised and supplemented with unstructured searches to identify literature that reinforced the emerging concepts. The synthesis was an iterative process, endorsed in consultation with stakeholders, leading to a refined programme theory.

Results A total of 45 documents were included. The mechanisms identified can be grouped around macrolevel challenges, leadership, role ambiguity and conflict, and personal and professional boundaries. Despite strong evidence supporting MLCC, diverse stakeholder interests and power dynamics hinder its implementation. Implementing MLCC disrupts established roles and power structures, creating uncertainty and anxiety at all levels. To successfully navigate healthcare providers through the transition, both formal and informal leaders must demonstrate the courage and vision to challenge existing norms.

Conclusions Realist methodology allowed the identification of mechanisms that often remain unnoticed but significantly impact the implementation of MLCC. Concrete policies and guidelines are essential to ensure consistency in care delivery. Collaborative efforts and a shared philosophy among all stakeholders, combined with strong leadership that builds trust and addresses anxiety, can create a supportive environment for MLCC implementation.

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STRENGTHS AND LIMITATIONS OF THIS STUDY

⇒ To our knowledge, this is the first realist review to explain how and under what circumstances midwife-led continuity of care (MLCC) can be implemented in high-income countries.
⇒ Using the realist approach has led to a deeper understanding of the complex interplay of contextual factors and mechanisms influencing the implementation of MLCC.
⇒ A broad range of documents was included to develop our findings.
⇒ The diversity of our research team, combined with stakeholder meetings, ensured a rigorous and comprehensive analysis.
⇒ This review did not result in a fixed, practical framework or guideline to answer the question of what enables midwives to implement MLCC in high-income countries; MLCC is too complex for one-size-fits-all solutions that suit every context.

INTRODUCTION

Midwife-led continuity of care (MLCC) results in better maternal and perinatal outcomes, higher satisfaction among women and increased job satisfaction among midwives than other models of care.[1–3] The WHO guidelines for antenatal and intrapartum care recommend MLCC in regions with well-functioning midwifery programmes.[4] Despite the high-quality evidence supporting MLCC, access to this model is limited, both within individual countries and internationally.[3 5]

The MLCC model has been defined as care where 'the midwife is the lead professional in the planning, organisation and delivery of care given to a woman from initial booking to the postnatal period'.[3] Globally, there are considerable variations in the organisation of midwifery services.[6] Some models of MLCC provide continuity of care to a defined group of women through a team of midwives sharing a caseload, often called 'team midwifery'. Here, a woman will receive her care from a number of midwives

in the team, the size of which can vary.[3] Another model, often called 'caseload midwifery', aims to offer better relational continuity by ensuring that women receive care from one midwife, sometimes together with a practice partner.[7]

Women receiving MLCC are more likely to have a spontaneous vaginal birth, to report more positive birthing experiences and are less likely to experience a caesarean section, vaginal assisted birth and may be less likely to experience episiotomy.[3] For women with social risk factors, MLCC appears to have a protective effect on preterm birth and low birth weight.[1 8] Although there are concerns that some aspects of MLCC models may negatively impact midwives, such as increased availability outside working hours, inadequate staffing levels and difficulties with work–life balance,[9–11] most midwives working in MLCC experience lower levels of burn-out,[12] anxiety and depression, compared with those working in standard models of care.[13]

In response, various formats of MLCC models have been implemented internationally. However, the number of women having access to MLCC varies among countries. With the exception of New Zealand, none of the high-income countries, as defined by the World Bank, managed to scale up MLCC to being the standard of care for all women.[14] Barriers to expanding or implementing MLCC are establishment funding, availability of midwifery staff and lack of strong support for the innovation.[15] On the other hand, leadership that builds trusting relationships across all practice and organisational boundaries, staff involvement and ongoing evaluation of progress and impact develops the context for successful implementation of MLCC.[16 17]

For a deeper understanding of a complex intervention, like MLCC implementation, it is essential to identify and understand both contextual factors as well as underlying mechanisms. Complex interventions comprise multiple components that interact with nonlinear causal pathways.[18] The impact of a complex intervention on an outcome is highly dependent on the context in which it takes place and the mechanisms that may or may not be activated.[19 20] By examining the underlying mechanisms and contextual factors, this realist review aims to provide a deeper understanding of how, why and under what circumstances MLCC can be implemented successfully in high-income countries. The main question that will be answered is: 'How do various contextual factors influence mechanisms underlying the implementation of MLCC in high-income countries?'. The following subquestions were posed:

- What is the full set of resources that comprise MLCC?
- What are the degrees of implementation of MLCC?
- What is it about MLCC that enables midwives to implement this in high-income countries?
- What are the intended and unintended outcomes of implementing MLCC for organisations and the healthcare system?

METHODS

Design

A realist review was conducted to examine interactions between contexts, mechanisms and outcomes and to gain an understanding of how MLCC can be implemented and under what circumstances. A realist review is an iterative, theory-driven approach which acknowledges that programmes or interventions are not always successful and work better in certain circumstances than in others.[21–23] Programmes or interventions implemented in different contexts provoke different mechanisms and result in different outcomes. A realist review is not focused on determining the average effect of an intervention. Instead, the aim is to explain how, for whom, under what circumstances and why an intervention works, based on existing evidence. The results of the synthesis are translated into a realist programme theory and are expressed in the form of context-mechanism-outcome configurations (CMOCs).[21 22 24] Table 1 gives an overview of used definitions.

This realist review was conducted and reported according to the RAMESES publication standards[25] and conducted from May 2023 to July 2024. The pattern of this realist review involves a set of iterative phases: identifying the review question; searching the literature and establishing initial programme theories; quality appraisal of the literature; extracting the data using CMOCs; analysing and synthesising data to identify substantive theory.

As customary in the realist approach, some changes were made to the protocol registered on PROSPERO (CRD42023446437) while conducting this realist review. The title and research questions were revised during the review and updated as the review parameters were shaped. As the review progressed, the team felt the need to involve an expert in realist methodology to ensure adherence to the realist principles and to refine our analytical approach.

Initial programme theory development

The aim of the initial programme theory was to describe a hypothesis on how the implementation of MLCC can be successful. Prior to this review, the first and third author conducted 41 interviews and 8 focus groups with various stakeholders on the subject, leading to an unpublished dataset. This dataset was input for formulating an initial programme theory. In addition, the first author conducted an unstructured search for evidence, and the first three authors drew on their experience as midwives. The formulated initial programme theory in the form of 'if-then statements' was presented in a Dutch stakeholder meeting to which 33 individuals were invited, including obstetricians, hospital-based midwives, community midwives, professional associations, health insurance companies and a client organisation. Stakeholders were selected and invited based on their relevant expertise and to ensure the necessary diversity and variation in maternity care models required for this review. During this

Table 1 Glossary of realist terms

Term	Definition
Realist review	A theory-driven approach in synthesising quantitative, qualitative or mixed-methods research from a perspective based on Realism. It answers questions of the general format 'What worked, for whom and in what circumstances, how and why?'.[21–23]
Programme theory	An explanation for how a programme works. Realist reviews attempt to develop and test programme theory. The review usually starts by developing an initial programme theory, which will be refined using literature and stakeholder input. The final product is a refined programme theory.[22 23]
Context	Refers to the broader contextual backdrop in which the programme is situated. Context includes the external level, the institutional level, the interpersonal level and the individual level. As conditions in these levels may change over time, the context may reflect aspects of those changes. Contextual elements may influence the relation between mechanism and outcome; in some cases, the outcomes will influence the context.[22 23]
Mechanism	The generative force that leads to certain outcomes. Mechanisms are the reasoning, reaction or response (mechanism response) of the various actors to the programme resources (mechanism resource). Implementation of MLCC will offer or take away resources from stakeholders. These resources may be material, financial, social, emotional or political. This, in turn, will trigger a certain reasoning and response from stakeholders, leading to intended or unintended outcomes. Identifying the mechanisms elevates the review from a description of 'what happened' to 'why it happened, for whom and under what circumstances'.[19 20 22 23]
Outcomes	Outcomes result from activating different mechanisms in different contexts and are either intended or unintended and can be proximal, intermediate or final.[22 23]
Context-mechanism-outcome (CMO) configurations	CMO configuring is a heuristic used in realism to generate causative explanations for how a programme, or a part of a programme, works. The development of CMO configurations draws out and reflects on the relation between context, mechanism and a certain outcome and acts as the building blocks for programme theory.[19 22 23]
Substantive theory	Substantive theory refers to existing theories within certain disciplines that help identify mechanisms or features of context and explain how overall sets of findings fit together.[30]

meeting, the if-then statements were confirmed, refuted or adjusted. The resulting statements can be seen in online supplemental material 1.

Searching process

The search was set up in collaboration with a medical information specialist (KAZ). Search terms, including synonyms, closely related words and keywords, were used as index terms or free-text words: "continuity of care", "midwife" and "implementation". To test search terms, a pilot search was performed using several databases. After refining the search strategy, the following bibliographic databases were searched comprehensively for published and unpublished studies through 1 August 2023: Ovid/Medline, Embase.com, Clarivate Analytics/Web of Science Core Collection, EBSCO/CINAHL and EBSCO/APA PsycINFO. Limitations on human studies were applied in all databases. Additional searches consisted of handsearching bibliographies and reference lists of the included studies, systematic reviews, grey literature (Google Scholar), relevant websites, national and international reports and guidelines, books, dissertations, and theses. Citation tracking was used to cross-check whether all relevant studies had been identified. Only studies from high-income countries, as classified by the World Bank, conducted within the last 10 years were included, as contexts change over time. The searches contained no methodological search filters or language restrictions.

Duplicate articles were excluded using an automated deduplication tool (DedupEndNote, V.0.9.7.), followed by manual deduplication in EndNote (V.X20.0.3) by KAZ. The full search strategy used for each database is detailed in online supplemental material 2.

Selection and appraisal of documents

Studies were eligible for inclusion if they included regions or practices from high-income countries that had implemented or considered implementing some form of continuity of care by midwives, whether or not this had been successful. Studies were included if they addressed one or more of the research questions. Studies were selected in two stages. First, titles and abstracts were screened by the first two authors RS and EN. Second, the full text of potentially relevant studies was screened for full compliance with the criteria by two authors, always one being RS, and the second being either EN or AP. For this process, the data extraction tool Rayyan was used.[26]

Subsequently, a quality assessment of the included articles on relevance, richness and rigour was conducted independently by RS and EN, and eight by RS and AP. Relevance refers to providing relevant information to answer the research question(s) and the extent to which the article can contribute to the theory-building of our intervention, the implementation of MLCC.[25] The degree of relevance was categorised on a 5-point scale: low, low/medium, medium, medium/high and high. Articles with low relevance were excluded. Richness was defined as the method used to ensure that the included documents provided a significant level of depth to contribute meaningfully to theory building.[27] Rigour was defined

as the method used to generate data that were credible and trustworthy.[25] Thus, relevance, richness and rigour depended on the purpose of this specific realist review.[25] To facilitate this assessment, a custom-made Excel file was developed to systematically document and categorise the quality criteria for each article. If there were discrepancies between the two reviewers, a third reviewer (AP) was consulted.

Data extraction

All documents were uploaded into MAXQDA, V.2020, to allow for detailed and systematic analysis. The first two authors (RS and EN) independently coded the first five of the included papers to identify programme theories, descriptive contexts (C), mechanism resources (MRc), mechanism responses (MRp) and outcomes (O). The coding process was both deductive and inductive. Codes were created deductively based on the initial programme theories. New codes were created inductively as new contexts or mechanisms related to the outcome emerged. Disagreements about potential contexts or mechanisms were discussed until consensus was reached. A third reviewer (AP or AdJ) was consulted if consensus could not be reached. The remaining papers were analysed by the first author, with regular consultation with EN, AP and AdJ.

Analysis and synthesis process

Following the realist methodology, analysis and synthesis were an iterative process. The creation of a refined programme theory led to subsequent searches for specific aspects of the programme theory. During the coding process, memos were written to summarise the causal processes that were thought to be at work. By moving back and forth between memos, references and whole documents, CMOCs were built iteratively. The answers to the research questions are embedded within these CMOCs, as they represent the underlying causal processes explaining how, when and why specific outcomes occur in particular contexts. Although theory is developed by synthesising a variety of sources, realist methods encompass retroductive reasoning.[28 29] Retroduction uses a combination of inductive and deductive logic, complemented by insights or hunches. Retroductive reasoning identifies causal mechanisms that may underlie emerging patterns, even though they cannot be directly observed or are not explicit in the existing evidence.[28 29] Therefore, the ideas and reasoning of the researchers were discussed in the research team to approach the theory from different perspectives. In the process of theory building, substantive theories were identified that could help explain how the totality of the findings might fit together. Substantive theory refers to existing theories within certain disciplines.[30] A second stakeholder meeting, involving the same individuals invited to the first meeting, was then held to validate the refined programme theory. A summary of the review process can be seen in figure 1.

Patient and public involvement

A client organisation was involved in this study through two stakeholder meetings. Their input helped shape the initial programme theory and validate the CMOCs, ensuring the findings aligned with client perspectives.

RESULTS

The literature search generated a total of 5261 references: 1288 in Ovid/Medline, 1102 (excluding 286 conference abstracts) in Embase.com, 1195 in Clarivate Analytics/

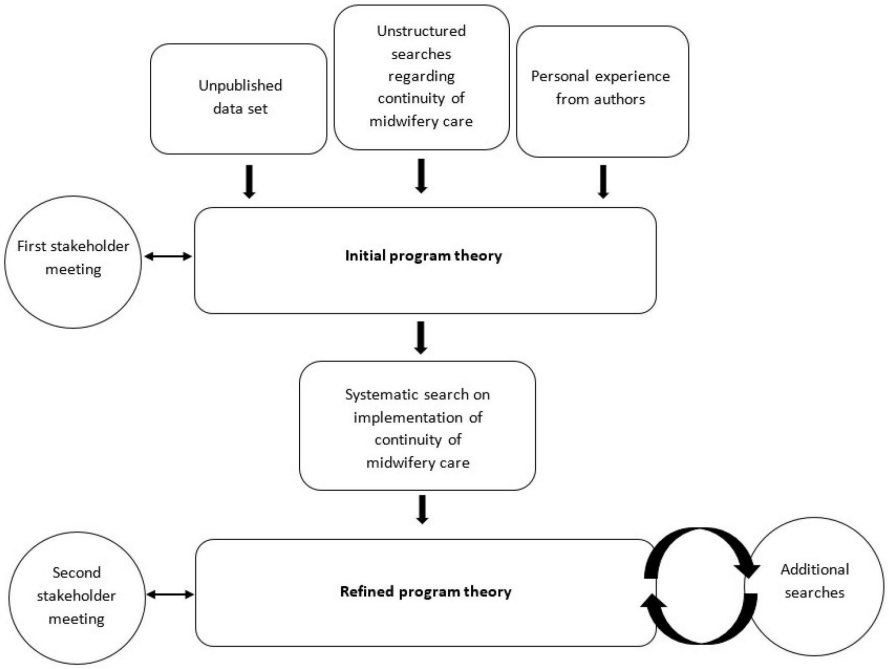

Figure 1 Development of a refined programme theory on the implementation of MLCC. MLCC, midwife-led continuity of care.

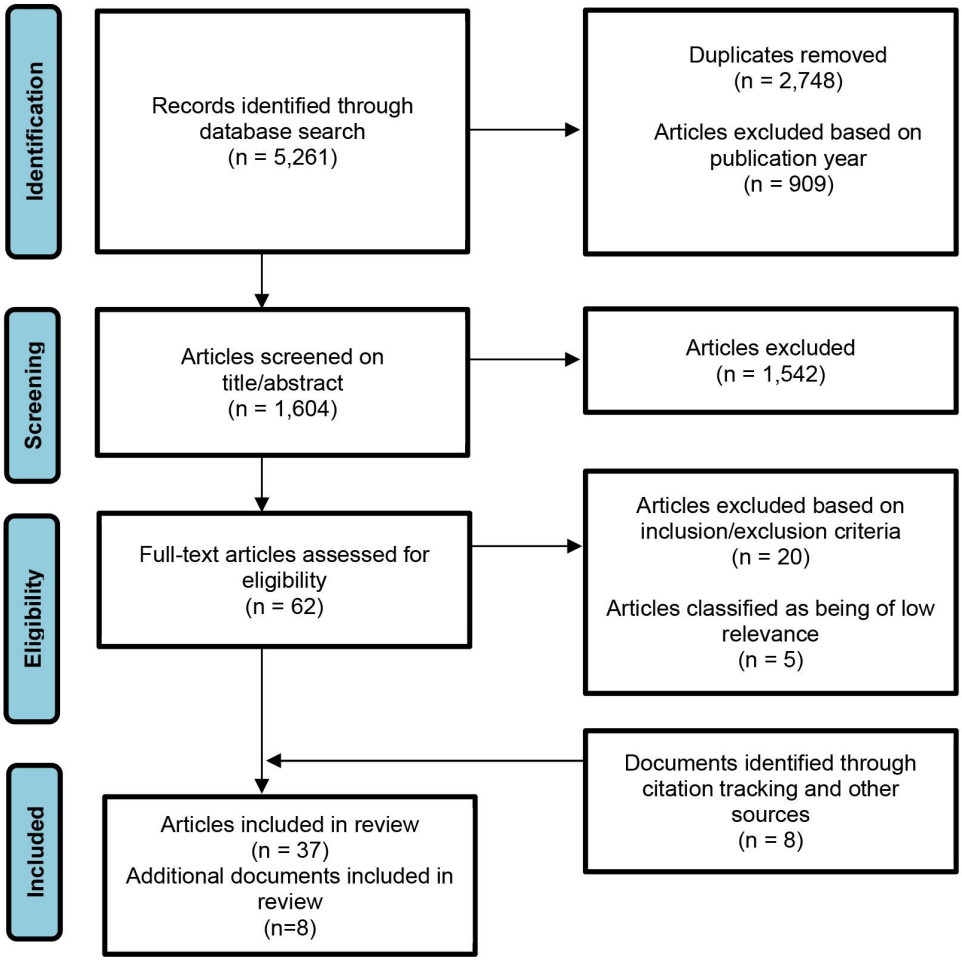

Figure 2 Flow diagram detailing the search results of the realist review. Diagram design guided by recommendations made by the PRISMA group. (Adopted from: Page *et al*.[80]). PRISMA, Preferred Reporting Items for Systematic Reviews and Meta-Analyses.

Web of Science Core Collection, 1471 in EBSCO/CINAHL and 203 in EBSCO/APA PsycINFO. After restricting to publication year 2013 (last 10 years), and removing duplicates of references that were selected from more than one database, 1604 references remained for screening on title and abstract. 62 full-text articles were assessed for eligibility, of which 54 were assessed by RS and EN and 8 were assessed by RS and AP. Consensus was reached on three articles only after consultation with a third (AP) or fourth (AdJ) author, leaving 37 articles for inclusion. Iterative searches for additional literature resulted in the inclusion of five articles, one book, one newsletter and one unpublished dataset. The flow chart of the search and selection process is presented in figure 2.

Document characteristics

The documents included in this review encompass a variety of sources, including peer-reviewed articles and grey literature, of which 16 originated from the UK and 14 from Australia. The remaining documents were from the Netherlands (4), Canada (3), Denmark (1), Sweden (1), Ireland (1), New Zealand (1) and the USA (1). The majority of these documents are based on qualitative data and provide an in-depth insight into the experiences and perspectives of stakeholders involved in MLCC. Key characteristics of the documents included are tabulated in online supplemental material 3.

Substantive theory

According to RAMESES II, theory and CMOCs should be described at a middle level of abstraction.[30] For recognisability in the field of maternity care, it was decided to describe the theory and CMOCs in a concrete manner rather than at an abstract level. To make our findings generalisable and applicable to similar cases, such as model change in other healthcare fields, they are linked to substantive theory. The substantive theories that seemed most appropriate for understanding the challenges of implementing MLCC are role theory and power (conflict) theory.[29 31] Together, these theories provide a comprehensive framework for understanding the complex interplay of roles and power in implementing MLCC.

Role theory elucidates how individuals' roles within organisations and societies are defined, enacted and evolve. Roles refer to the social position people hold (eg, midwife, obstetrician, leader, mother) and the behaviour associated with that position.[29 31] Power theory focuses

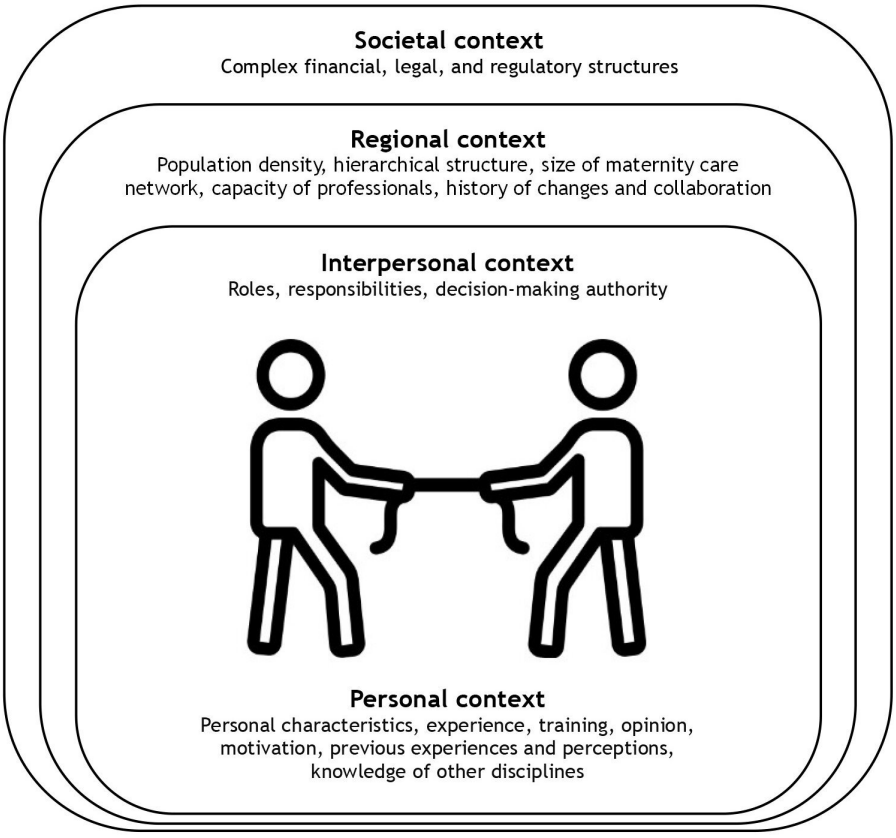

Figure 3 Framework on the multilevel contextual influences.

on the power dynamics within social systems, examining how power is distributed, exercised and contested among individuals and groups.[29 31] In the context of MLCC implementation, role theory highlights the complexity of changing established roles and norms, while power theory underscores the challenge of altering traditional power structures.

Refined programme theory

The literature illustrates the complex web of factors influencing MLCC implementation, with a multifaceted interplay between societal, regional, interpersonal and personal factors. A framework has been developed to conceptualise the multilevel contextual influences that may affect the reasoning of stakeholders involved in MLCC implementation (figure 3).

Healthcare providers, including midwives and obstetricians, and other stakeholders, such as managers, professional organisations and policy-makers, are accustomed to specific roles and power dynamics within the current maternity care model. The implementation of MLCC disrupts these established roles and power structures, creating uncertainty and anxiety at all levels. This includes anxiety about the change itself, the unknown aspects of the new model, the potential impact on job roles and the potential loss of job components or authority.[32–45] The profound changes that come with the implementation of MLCC require bold realignments within the healthcare system.[33 39 46] To successfully navigate through these complexities, both formal and informal leaders must demonstrate the courage and vision to challenge existing norms and guide healthcare providers through the transition.[32 34 35 39 46–48]

Analysis of the included articles and documents revealed 16 CMOCs, with 4 CMOCs captured under each of the following themes:

- Macrolevel challenges.
- Leadership.
- Role ambiguity and conflict.
- Personal and professional boundaries.

Only selected CMOCs that underpin each theme are presented. The description delineates the elements constituting the C, MRc, MRp and their corresponding O. All four themes are discussed along with key literature references. The literature rarely provided a clear description of all three components, making retroductive reasoning critical to ensure complete CMO configurations. A full list of all 16 CMOCs can be found in online supplemental material 4.

Macrolevel challenges

Despite government policies supporting the benefits of MLCC in some countries, its implementation remains challenging.[35 39 46 49–51] Financial structures are most often mentioned as having a major impact on the potential to integrate MLCC into the healthcare system.[34 35 38 41 45 49 52–58] Traditional fee-for-service models ensure that MLCC generates less financial income for

healthcare organisations, as preventive care leads to fewer interventions.[35 37 45 59] A changed financing system should be based on providing the best possible care for the client, rather than reinforcing conflicting interests between professionals and organisations.[40 45 60]

> 'One of the biggest problems faced by the birth centre has been financial. Inpatient obstetrical care and normal newborn care are not moneymakers for any hospital. In the case of the birth centre, the small volume combined with high percentage of women that are publicly funded makes it a target for hospital executives looking to cut costs. It has taken significant effort to demonstrate the financial and nonfinancial benefits of the birth centre to the hospital.'[59] (p 306)

Inequitable funding models between disciplines can lead to perverse incentives. Similarly, unequal or unclear legal and regulatory rules can lead to interpersonal conflicts. In addressing these systemic barriers, MLCC involves a shift in roles and responsibilities among care providers, which can lead to potential role conflicts. A description of this mechanism is presented in table 2, CMO1.

Healthcare systems allow for diverse interpretations of government recommendations. When hospitals are run as independent businesses, they have considerable autonomy in how services are organised and provided. Each hospital has some freedom to decide which facilities to invest in and how to allocate resources. The variation is exacerbated by the diverse approaches taken to meet the increasing pressures on healthcare systems to optimise resource allocation and reduce expenditure while maintaining or improving the quality of services. Table 2, CMO2, gives insight into the polarisation that can result.

Leadership

To facilitate the transition to MLCC, healthcare systems need visionary leaders with the courage to challenge and adapt to the current norms. These leaders, who can be either formal leaders, such as hospital administrators and senior clinicians, or informal leaders, such as influential midwives and obstetricians, play a crucial part in redefining roles, managing power dynamics and alleviating fears.[16 32 34 35 42 46–48 50 52 54–56] Formal leaders have the authority to implement structural changes, allocate resources and set organisational priorities. Informal leaders, on the other hand, influence their peers through their actions, attitudes and informal networks. Their support and endorsement of MLCC can significantly impact the broader acceptance and success of the model. The mechanism is shown in CMO3, table 2.

The implementation and sustainability of MLCC is highly dependent on the individuals occupying leadership positions at all levels within the healthcare system. Leaders' personal contexts have a significant impact on decisions to adopt, support and sustain MLCC initiatives. A leader who is supportive of MLCC will create a supportive environment and advocate the model's benefits. When new leaders who are less supportive of MLCC assume positions of authority, they may prioritise alternative care models or redirect resources away from MLCC, undermining its viability and sustainability.[35 47 52 53 57 61 62]

Obstetricians often have more direct access to policymakers and greater political influence,[45 63] which can impact the balance of roles in maternity care and affect the implementation of MLCC initiatives. This influence may outweigh the consideration of scientific evidence in the implementation of MLCC.[32 35 39 45 46 58 63]

> 'This change leader midwife's efforts were also countered by one of the medical professional organisations, which put forward the opinion during the consultation phase of the implementation process that if this change occurred, 'mothers and babies will die', despite this being completely at odds with the evidence.'[32] (p 41)

Clients can also take on the role of informal leaders by putting pressure on healthcare professionals and policy-makers to respond to their preferences and needs. The mechanism that can lead to the implementation of MLCC is shown in CMO4, table 2. However, it is important to note that not all client demands or protests lead to concrete actions or changes.[62]

Role ambiguity and conflict

Conflicting perceptions of roles, responsibilities and power structures between midwives, obstetricians and other healthcare professionals can lead to tensions, misunderstandings and inefficiencies in care. Healthcare professionals may resist changes to traditional care models due to concerns about shifts in power and authority within interprofessional teams. The mechanisms in place are shown in table 3, CMO5, with a distinction between midwives and obstetricians.

With a predominant emphasis on the medical model of care in maternity care networks,[39 49 55 56] the medicalisation of childbirth elevates obstetricians to a position of greater power and authority, often placing them at the top of the hierarchy.[35] To implement MLCC, a significant shift in power dynamics is required, making midwives fully accountable and autonomous for their practice, with the authority to independently manage and coordinate care, and the ability to refer to an obstetrician when necessary.[16 36 39 40 45 50 51 64 65] This shift requires redefining roles and establishing clear boundaries to support the midwives' autonomy within the maternity care model. Even in countries where midwives have achieved an autonomous position, they still encounter limitations to their independence, often imposed or dictated by stakeholders with other interests.[36]

> 'Most panel members in the study agreed that integration of maternity care in The Netherlands is important to enhance continuity of care, client-centred care and collaboration between maternity healthcare professionals in primary and secondary care. Panel

Table 2 CMOCs underpinning the two themes macrolevel challenges and leadership

Macrolevel challenges	CMO 1 macrolevel challenges
	Healthcare systems are characterised by complex financial, legal and regulatory structures. (C) The implementation of MLCC faces systemic constraints, such as financial resources, restrictive legal frameworks governing scope of practice and regulatory policies that prioritise standard care. (MRc) Government policies, guidelines and reports that endorse the potential benefits of MLCC, can help to enable the necessary systemic changes and can be seen as inspirational. On the other hand, limited financial resources may result in budget constraints that restrict investments in training and support for interprofessional teams. Restrictive legal frameworks can limit midwives' autonomy and scope of practice, thus hindering their ability to fully engage in MLCC. Regulatory policies that prioritise standard models of care may create disincentives for healthcare organisations to adopt innovative approaches, such as MLCC. (MRp) Government support and incentives that prioritise MLCC, may lead to maternity care networks embracing MLCC as the preferred model of care. However, macrolevel barriers can lead to microlevel interpersonal conflicts between healthcare providers over roles, responsibilities and decision-making authority within interprofessional teams. These interpersonal conflicts can undermine trust, communication and teamwork. As a consequence, healthcare providers may experience tensions, misunderstandings and power struggles as they navigate competing priorities, perspectives and expectations within the restrictive maternity care system. (O)[35 37 39–41 43 45 46 54 55 58 60 61 63 64 66]
	CMO 2 is increasing pressure on healthcare systems
	Healthcare systems are under increasing pressure to optimise resource allocation and reduce healthcare expenditures while maintaining or improving the quality of services. Maternity care organisations face challenges in recruiting and retaining sufficient numbers of professionals. (C) MLCC emphasises personalised, relational continuity over standardisation, centralisation and efficiency. (MRc) Stakeholders supporting centralisation, may view centralised models as the best way to address staff shortages, ensure access to specialised care and manage high-risk pregnancies. However, stakeholders supporting MLCC may view relational continuity as the best way to reduce healthcare expenditure and retain maternity staff, by reducing unnecessary interventions, increasing job satisfaction and promoting a positive experience for women. (MRp) Competing priorities can lead to polarisation between stakeholders, hindering collaboration. Both groups may act on the belief that they want to provide the best possible care but may have different beliefs and perspectives on what constitutes the best care. (O)[35 38 43 45 46 49 52 55 57 58 60 61 72]
Leadership	CMO 3 support from leaders
	Leaders within healthcare organisations, such as hospital executives, heads of departments or clinical directors, have the authority to allocate resources, make policy decisions and set organisational priorities that determine the models of care provided, including shaping the implementation and integration of new models of care. (C) The transition from standard care to MLCC requires a different allocation of resources, training and policy changes. Other stakeholders, such as midwives and obstetricians, depend on the decisions and support of leaders to make the transition. (MRc) Leaders who are supportive and active in promoting MLCC can create an enabling environment for MLCC. However, leaders who are hesitant or opposed to MLCC, may be reluctant to allocate resources, invest in training and support or advocate for policy change. (MRp) The enabling environment created by supportive leaders, can lead to increased buy-in and commitment from other stakeholders. Maternity care networks with leaders who are resistant to MLCC may experience delays, conflicts or inequities in the provision of MLCC. (O)[15 16 32 34 35 38 39 42–48 50 52–54 56 65 73 81]
	CMO 4 client advocacy
	In a healthcare system where women have varying levels of influence and access to resources, the model of maternity care is influenced by the demands and preferences of influential clients. (C) Women with access to information and resources may advocate for MLCC as they seek personalised, holistic maternity care, with better health outcomes. This advocacy may stem from previous experiences with maternity care or a desire for alternatives to traditional models of care. (MRc) Women with influence, such as those with higher socioeconomic status, education or social connections, may have greater access to information, resources and decision-making power, enabling them to advocate effectively for MLCC. Women with less influence may face barriers such as limited access to healthcare services, lack of knowledge about available care options and the potential benefits, and systemic inequalities that hinder their ability to advocate for MLCC. (MRp) Women's advocacy for MLCC can lead to increased awareness, demand and uptake of MLCC within the healthcare system. By putting pressure on healthcare professionals and policy-makers to respond to their preferences and needs, clients can drive the implementation of the model. This increased demand for MLCC can lead to policy changes, resource allocation and organisational reforms. (O)[33 39 44 46 54 72 78 79]

C, contexts; MLCC, midwife-led continuity of care; MRC, mechanism resource; MRp, mechanism response; O, outcome.

members agreed that professional autonomy of the primary care midwife is an important condition when integrating care. The primary care midwives would like to expand their tasks and responsibilities during labour but consensus among professionals was only reached for them to continue providing care in case of prolonged ruptured membranes.'[36 (p 203)]

Personal and professional boundaries

The MLCC model may introduce challenges to achieving a healthy work–life balance. Midwives working in MLCC are enabled to take on expanded roles and responsibilities within interdisciplinary teams, which may be experienced as increased work demands. Balancing the demands of MLCC with personal well-being and family

Table 3 CMOCs underpinning the two themes role ambiguity and conflict, and personal and professional boundaries

Role ambiguity and conflict	CMO 5 role conflict
	There is a division of roles in society, where obstetricians are expected to be primarily responsible for overseeing and managing maternity care. In many hospitals, there is a hierarchical structure in which obstetricians hold authority and decision-making power. (C) The implementation of MLCC leads to a shift in roles and power dynamics. The implementation of MLCC creates a discrepancy between the traditional roles and expectations of obstetricians and midwives, and the evolving roles introduced by MLCC. (MRc) Midwives who feel empowered by MLCC may experience greater autonomy and decision-making authority in providing holistic care to women throughout the pregnancy and childbirth continuum, whereas midwives who experience uncertainty and anxiety about taking on greater responsibility and authority may be concerned about their competence or fear potential backlash from medical colleagues. (MRp) Empowered midwives may be willing to collaborate with other stakeholders to address the challenges of implementing MLCC, whereas the anxiety of uncertain midwives may hinder collaboration with other stakeholders. (O) Obstetricians who recognise the potential benefits of MLCC may see added value in the evolving role of midwives, whereas obstetricians who struggle with the role change may find their established authority and professional boundaries challenged by the increased involvement of midwives and perceive this as undermining their authority. (MRp) Obstetricians who support the integration of MLCC into the maternity care system may advocate for collaboration, sharedbdecision-making and mutual respect, while resistance to the changes brought by MLCC may lead to conflicts over decision-making authority, patient management and clinical practice. These conflicts may manifest themselves in strained communication, lack of mutual respect and difficulties in establishing collaborative relationships between obstetricians and midwives. (O)[35–37 39–42 44–46 49 50 56 58 59 61 63 66]
Personal and professional boundaries	CMO 6 work–life balance
	In a society with a patriarchal norm, there is a disproportionate division of responsibilities for domestic tasks, where women are expected to take on more tasks and are primarily responsible for caregiving roles. As midwifery is a female-dominated profession, the extent to which female midwives are relieved of personal responsibilities such as childcare or informal care determines how the midwife can organise her work. (C) Providing MLCC is associated with the need to be more available for on-call duties, leading to a greater need for flexibility and shared care for personal obligations. (MRc) This leads to feelings of empowerment and autonomy for midwives who experience flexibility and feelings of frustration, stress and internal conflict for those who do not. (MRp) Those experiencing flexibility report reduced levels of burnout, improved job satisfaction and increased motivation to continue providing MLCC, whereas those lacking flexibility tend to experience increased levels of burnout. The latter midwives will explore other ways of doing their work that are more compatible with their personal lives. (O)[33 34 38 41 42 48 50 51 55 57 64 66 69 73]
	CMO 7 shared philosophy
	Midwives often come from diverse backgrounds and may hold varying philosophies and practices regarding maternity care. (C) To implement MLCC, it is essential to bring together midwives who share a common philosophy and approach to care. (MRc) Mutual understanding, trust and a sense of shared purpose are fostered by aligning the team around a shared philosophy. This alignment helps to reduce misunderstanding and conflict and ensure that all midwives are working towards the same goals and standards of care. (MRp) As a result, a cohesive and collaborative team culture emerges, leading to the successful implementation and sustainability of MLCC within the team. (O)[15 35 38 39 48 53 54 64–67 69 73]

C, contexts; CMOCs, context-mechanism-outcome configurations; MLCC, midwife-led continuity of care; MRc, mechanism resource; MRp, mechanism response.

responsibilities requires a supportive working environment and clear expectations about workload management. The ability to provide MLCC is strongly influenced by the personal lives of midwives. The more roles an individual has, the higher the likelihood of experiencing stress in an MLCC model.[31] The influence of experienced flexibility is described in CMO6, table 3. One of the most challenging aspects of MLCC is the extensive on-call duties, which have a significant impact on midwives' personal lives.[34 38 41 43 44 49–51 55 57 66 67]

> 'A key barrier to the rapid implementation of a continuity of carer model is that many staff have become accustomed to working in a non-continuity model, and have built their non-work arrangements around this. This is not an easy matter to untangle.[68 (p 2)]

It is, therefore, essential to maintain an appropriate caseload size. Caseload sizes vary according to the level of continuity provided and the risk status of the clients.[15 33 34 69–71] For full continuity of care throughout the whole childbirth continuum, an average caseload size of 35–40 per full-time midwife seems typical.[15 16 41 50 67 71–74] A caseload that is too high reduces time with women, the ability to manage on-call work effectively and the quality of care.[69] The size of the midwifery team is also important: a team that is too large loses continuity, while a team that is too small lacks sufficient back-up. To avoid high turnover or dropout within the team, it is important to create a cohesive team with a shared philosophy. A shared philosophy fosters a supportive working environment, which is essential for the sustainability of the MLCC model, as described in table 3, CMO7. Although not clearly stated

in the literature, it is likely that a shared philosophy is important not only among midwives but at all levels of the healthcare system.[53 54 58]

DISCUSSION

The synthesis of 45 documents led to a deeper understanding of how and under what circumstances MLCC can be implemented. The CMOCs highlight the resources that comprise MLCC, the mechanisms that enable midwives to implement MLCC in high-income countries, and the factors that influence the degrees of implementation. Additionally, this review revealed both intended and unintended outcomes of MLCC implementation for midwives, organisations and the healthcare system.

The literature on the implementation of MLCC demonstrates the complexity, characterised by multifaceted interplay between societal, regional, interpersonal and personal factors. The mechanisms involved can be grouped around macrolevel challenges, leadership, role ambiguity and conflict, and personal and professional boundaries. In order for stakeholders to invest in MLCC, it is important to address feelings of anxiety and uncertainty. Changing roles and power dynamics within MLCC can lead to conflict and ambiguity, highlighting the need for clear role definitions and support. Both formal and informal leaders play a crucial role in addressing these challenges and supporting and facilitating the transition. A complicating factor is the number of stakeholders involved from diverse backgrounds and contexts, each with their own interests and priorities. This can lead to a situation where those with the most power and influence ultimately determine the outcome.

Comparison with existing literature

Despite the evidence supporting MLCC, a division remains between proponents and opponents of this model, resulting in a diversity of care provided. To ensure consistency of care, a societal prioritisation of healthcare strategies with less ambiguity and more concrete directives is essential. This review highlights the multiple barriers to the implementation and sustainability of MLCC. Recognising and naming these barriers is a starting point for developing effective strategies and for building alliances to overcome them. Acknowledging power imbalances helps to reduce the power of those who maintain or create these barriers, thereby facilitating the implementation of MLCC.[61]

In settings where diverse stakeholders are involved, such as primary care professionals, medical specialists, hospital directors and local government, the power dynamics stemming from their diverse backgrounds, mandates and hierarchical positions may hinder the implementation of MLCC. Similar findings have been reported in social science research. Weert *et al* described that mechanisms such as interpersonal processes in collaboration, the exchange of norms and values, power dynamics and trust processes influence the quality of collaboration in maternity care.[75] Gessler further explains that crossing boundaries requires leaving one's intellectual comfort zone and engaging with the terminologies, policies and values of another discipline.[68] This boundary-crossing may threaten egos and feel like undermining one's expertise, which is why people often resist such collaborative efforts.

This review shows that healthcare providers with cross-disciplinary understanding can better appreciate the unique contribution each profession brings to maternity care. To overcome the wide disparities in power within maternity care networks and to promote a collaborative rather than competitive approach to boundary relations, professionals need the ability to navigate knowledge acquisition and develop a professional identity across different domains, a skill known as 'knowledgeability'.[76] This ability makes them recognisable as reliable sources of information and enables them to effectively implement change based on their knowledge and expertise. Sociocultural learning theories could help to develop this skill and play a crucial role in the education of medical and midwifery students.[76] Interprofessional education is an example of learning through social interaction, where students from different disciplines learn with, from and about each other and has shown to have a positive impact on attitudes of learners.[77] However, further research is needed to fully understand their potential and application after graduation.

Moreover, client advocacy appears to play a crucial role in the adoption and sustainability of MLCC. As informed and vocal advocates for their care preferences, clients can drive demand for MLCC. The literature shows that when women are well informed about the benefits of MLCC, they are more likely to advocate for its implementation.[54 78 79] Client advocacy can be manifested through various channels, such as participation in maternity service user groups, providing feedback to healthcare providers and engaging in public health campaigns. Healthcare leaders and policy-makers should recognise and amplify women's voices to create a more client-centred care model that supports the principles of MLCC. Although the client's voice can be very powerful, there is little literature on how best to inform the client on health benefits of various care models. Besides, not all client demands or protests have led to concrete actions or changes.[62] Therefore, it can be important to publicly discuss interests that outweigh client preferences.

Strengths, limitations and future research directions

The strength of this review lies in the composition of our research team, which included a database expert and healthcare professionals from various disciplines and research departments, ensuring objectivity and a comprehensive consideration of all perspectives. Additionally, this review incorporated multiple data sources, including literature and interviews and included various stakeholder perspectives. These stakeholders had the opportunity to share their insights during the two stakeholder meetings,

which further enriched the analysis. By combining these data, we were able to access the specific context in which MLCC may or may not be successfully implemented while remaining attentive to potential rival theories. To ensure adherence to realist principles throughout the review process, the research team benefited from consultations with an expert in the field. Adhering to realist methodology, data were not appraised or weighted based on methodological hierarchies or sources but were selected based on relevance, rigour and richness to address the research question. This method allowed the identification of mechanisms that often remain unnoticed but significantly impact the implementation of MLCC.

A fundamental limitation of this review is that it did not result in a fixed, practical framework or guideline to answer the question of what enables midwives to implement MLCC in high-income countries. This study has illuminated the complexity of implementing MLCC and shows that there are no ready-made solutions. To address this limitation and provide more actionable insights, a subsequent realist evaluation conducted in a specific context and using primary data could offer tailored answers to this research question. However, a realist evaluation conducted in the context of the National Health Service shows that MLCC implementation cannot rely solely on midwives and needs effective leadership.[16]

Additionally, while this review included data from international sources, it is important to note that the various stakeholders consulted during the development of the programme theory were exclusively from the Netherlands. This national focus may have influenced the interpretation of results and their applicability to other contexts. However, these stakeholders were independent experts with significant knowledge of maternity care models in other high-income countries.

Lastly, it is important to recognise that not all midwives wish to work in an MLCC model.[50 55 56 73] Research indicates that midwives' preferences for working in an MLCC setting are influenced by several factors, including work–life balance considerations, professional identity and the perceived demands of MLCC.[73] Therefore, it is essential to explore the specific circumstances in which midwives are able and willing to engage in MLCC. Identifying these conditions can inform targeted strategies to increase midwives' participation and satisfaction, thereby improving the overall implementation of MLCC.

Conclusions and recommendations

This realist review has highlighted the complexity of MLCC implementation in high-income countries. Despite strong evidence, diverse stakeholder interests and power dynamics hinder the implementation of MLCC. Concrete policies and guidelines are essential to ensure consistency in care delivery. By recognising macrolevel barriers, leaders can develop strategies to overcome them. Collaborative efforts and a shared philosophy among all stakeholders, combined with strong leadership that builds trust and addresses anxiety, can create a supportive environment for MLCC. Assessing the impact of sociocultural learning theories on the education and training of healthcare professionals can provide guidance on how to promote interdisciplinary collaboration and knowledgeability. Finally, further research should focus on understanding the specific conditions under which maternity care stakeholders are able to implement and willing to engage in MLCC.

Author affiliations
[1]Midwifery Science, Amsterdam UMC Locatie VUmc, Amsterdam, The Netherlands
[2]Quality of Care, Amsterdam Public Health Research Institute, Amsterdam, The Netherlands
[3]Amsterdam Groningen Midwifery Academy, Amsterdam, The Netherlands
[4]Research Centre for Midwifery Science, Zuyd University of Applied Sciences, Maastricht, The Netherlands
[5]Obstetrics and Gynaecology, Spaarne Gasthuis Haarlem Zuid, Haarlem, The Netherlands
[6]Obstetrics and Gynaecology, Amsterdam UMC Location AMC, Amsterdam, The Netherlands
[7]Vrije Universiteit Amsterdam, University Library, Amsterdam, The Netherlands
[8]Obstetrics and Birth Care, Hogeschool Rotterdam, Rotterdam, The Netherlands
[9]Obstetrics and Gynecology, Maxima Medisch Centrum Vrouw Moeder Kindcentrum, Veldhoven, The Netherlands
[10]Midwifery, School of Health Sciences, University of Nottingham, Nottingham, UK
[11]Primary and Long-term Care, University of Groningen, Groningen, Netherlands
[12]Amsterdam Reproduction and Development, Amsterdam UMC Locatie VUmc, Amsterdam, The Netherlands
[13]Maastricht University Care and Public Health Research Institute, Maastricht, The Netherlands

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ORCID iDs
Renate Simmelink http://orcid.org/0000-0002-4300-4461
Elise Neppelenbroek http://orcid.org/0000-0003-1500-0655

REFERENCES

1 Rayment-Jones H, Dalrymple K, Harris J, *et al*. Project20: Does continuity of care and community-based antenatal care improve maternal and neonatal birth outcomes for women with social risk factors? A prospective, observational study. *PLoS One* 2021;16:e0250947.
2 Homer CS, Leap N, Edwards N, *et al*. Midwifery continuity of carer in an area of high socio-economic disadvantage in London: A retrospective analysis of Albany Midwifery Practice outcomes using routine data (1997-2009). *Midwifery* 2017;48:1–10.
3 Sandall J, Fernandez Turienzo C, Devane D, *et al*. Midwife continuity of care models versus other models of care for childbearing women. *Cochrane Database Syst Rev* 2024;4:CD004667.
4 World Health Organization. WHO recommendations. Intrapartum care for a positive childbirth experience. 2018.
5 World Health Organization. Transitioning to midwifery models of care: global position paper. Geneva. 2024.
6 UNFPA Wal. The State of the World's Midwifery 2021, 2021. Available: https://www.unfpa.org/sites/default/files/pub-pdf/21-038-UNFPA-SoWMy2021-Report-ENv4302_0.pdf
7 McCourt C. Supporting choice and control? Communication and interaction between midwives and women at the antenatal booking visit. *Soc Sci Med* 2006;62:1307–18.
8 McRae DN, Janssen PA, Vedam S, *et al*. Reduced prevalence of small-for-gestational-age and preterm birth for women of low socioeconomic position: a population-based cohort study comparing antenatal midwifery and physician models of care. *BMJ Open* 2018;8:e022220.
9 Yoshida Y, Sandall J. Occupational burnout and work factors in community and hospital midwives: a survey analysis. *Midwifery* 2013;29:921–6.
10 Todd CJ, Farquhar MC, Camilleri-Ferrante C. Team midwifery: the views and job satisfaction of midwives. *Midwifery* 1998;14:214–24.
11 Taylor B, Cross-Sudworth F, Goodwin L, *et al*. Midwives' perspectives of continuity based working in the UK: A cross-sectional survey. *Midwifery* 2019;75:127–37.
12 Dawson K, Newton M, Forster D, *et al*. Comparing caseload and non-caseload midwives' burnout levels and professional attitudes: A national, cross-sectional survey of Australian midwives working in the public maternity system. *Midwifery* 2018;63:60–7.
13 Dixon L, Guilliland K, Pallant J, *et al*. The emotional wellbeing of New Zealand midwives: Comparing responses for midwives in caseloading and shift work settings. *nzcomjnl* 2017;53:5–14.
14 Bradford BF, Wilson AN, Portela A, *et al*. Midwifery continuity of care: A scoping review of where, how, by whom and for whom? *PLOS Glob Public Health* 2022;2:e0000935.
15 Dawson K, Forster DA, McLachlan HL, *et al*. Operationalising caseload midwifery in the Australian public maternity system: Findings from a national cross-sectional survey of maternity managers. *Women Birth* 2018;31:194–201.
16 McInnes RJ, Aitken-Arbuckle A, Lake S, *et al*. Implementing continuity of midwife carer - just a friendly face? A realist evaluation. *BMC Health Serv Res* 2020;20:304.
17 McInnes RJ, Martin CJH, MacArthur J. Midwifery continuity of carer: Developing a realist evaluation framework to evaluate the implementation of strategic change in Scotland. *Midwifery* 2018;66:103–10.
18 Craig P, Dieppe P, Macintyre S, *et al*. Developing and evaluating complex interventions: the new Medical Research Council guidance. *BMJ* 2008;337:a1655.
19 Greenhalgh TPR, Wong G, Westhorp G, *et al*. What is a mechanism? What is a programme mechanism?: The RAMESES II project, 2017. Available: http://www.ramesesproject.org/media/RAMESES_II_What_is_a_mechanism.pdf
20 Dalkin SM, Greenhalgh J, Jones D, *et al*. What's in a mechanism? Development of a key concept in realist evaluation. *Implement Sci* 2015;10:49.
21 Wong G. Realist evaluation, realist synthesis, realist research – what's in a name, 2017. Available: https://www.ramesesproject.org/media/RAMESES_II_RE_RS_RR_whats_in_a_name.pdf
22 Pawson R, Greenhalgh T. Realist synthesis - RAMESES training materials, 2013. Available: http://www.ramesesproject.org/media/Realist_reviews_training_materials.pdf
23 Jagosh J. Realist Synthesis for Public Health: Building an Ontologically Deep Understanding of How Programs Work, For Whom, and In Which Contexts. *Annu Rev Public Health* 2019;40:361–72.
24 Pawson R, Greenhalgh T, Harvey G, *et al*. Realist review--a new method of systematic review designed for complex policy interventions. *J Health Serv Res Policy* 2005;10 Suppl 1:21–34.
25 Wong G, Greenhalgh T, Westhorp G, *et al*. RAMESES publication standards: realist syntheses. *BMC Med* 2013;11:21.
26 Ouzzani M, Hammady H, Fedorowicz Z, *et al*. Rayyan-a web and mobile app for systematic reviews. *Syst Rev* 2016;5:210.
27 Dada S, Dalkin S, Gilmore B, *et al*. Applying and reporting relevance, richness and rigour in realist evidence appraisals: Advancing key concepts in realist reviews. *Res Synth Methods* 2023;14:504–14.
28 Greenhalgh TPR, Wong G, Westhorp G, *et al*. Retroduction in realist evaluation: The RAMESES II project, 2017. Available: https://www.ramesesproject.org/media/RAMESES_II_Retroduction.pdf
29 Wright JD. *International encyclopedia of the social & behavioral sciences, 2nd edn*. Elsevier, 2015.
30 Greenhalgh TPR, Wong G, Westhorp G, *et al*. "Theory" in realist evaluation: The RAMESES II project, 2017. Available: https://www.ramesesproject.org/media/RAMESES_II_Theory_in_realist_evaluation.pdf
31 Spielberger C. *Encyclopedia of applied psychology*. Tampa, Florida: University of South Florida, 2004.
32 Bayes S, Juggins E, Whitehead L, *et al*. Australian midwives' experiences of implementing practice change. *Midwifery* 2019;70:38–45.
33 Hajjaj JP. Continuity and consultation. *Br J Midwifery* 2020;28:674–6.
34 Continuity of carer. *Midwives (1995)* 2019;34–8.
35 Jervis B. Continuity within the NHS: it can and does happen, but why not for everyone? Part one -- a macro level analysis. *MIDIRS Midwifery Digest* 2016;26:297–303.
36 Perdok H, Mokkink L, van Dillen J, *et al*. Opinions of Maternity Care Professionals About Integration of Care During Labor for "Moderate Risk" Indications: A Delphi Study in The Netherlands. *Birth* 2014;41:195–205.
37 Munro S, Kornelsen J, Grzybowski S. Models of maternity care in rural environments: barriers and attributes of interprofessional collaboration with midwives. *Midwifery* 2013;29:646–52.
38 Burau V, Overgaard C. Caseload midwifery as organisational change: the interplay between professional and organisational projects in Denmark. *BMC Pregnancy Childbirth* 2015;15:121.
39 McKellar L, Newnham E, Fleet J-A, *et al*. Midwifery-led care in South Australia: Looking back to move forward. *Women Birth* 2021;34:e537–45.
40 Perdok H, Jans S, Verhoeven C, *et al*. Opinions of maternity care professionals and other stakeholders about integration of maternity care: a qualitative study in the Netherlands. *BMC Pregnancy Childbirth* 2016;16:188.
41 Harris JM, Watts K, Page L, *et al*. Reflections on an educational intervention to encourage midwives to work in a continuity of care model - exploration and potential solutions. *Midwifery* 2020;88:S0266-6138(20)30105-4.
42 Hollins Martin CJ, MacArthur J, Martin CR, *et al*. Midwives' views of changing to a Continuity of Midwifery Care (CMC) model in Scotland: A baseline survey. *Women Birth* 2020;33:e409–19.
43 Wiseman O, Emmett L, Hickford G, *et al*. The challenges and opportunities for implementing group antenatal care ('Pregnancy Circles') as part of standard NHS maternity care: A co-designed qualitative study. *Midwifery* 2022;109:S0266-6138(22)00085-7.
44 Prussing E, Browne G, Dowse E, *et al*. Implementing midwifery continuity of care models in regional Australia: A constructivist grounded theory study. *Women Birth* 2023;36:99–107.
45 Amsterdam UMC MS. Unpublished dataset of interviews with various maternity care stakeholders on the implementation of antenatal cardiotocography in primary care. 2021.
46 Adcock JE, Sidebotham M, Gamble J. What do midwifery leaders need in order to be effective in contributing to the reform of maternity services? *Women Birth* 2022;35:e142–52.
47 Craig G. Continuity of carer. *AIMS Journal* 2016;28.

48 University EN. The all you need to know about continuity of carer newsletter, 2024. Available: https://sway.cloud.microsoft/Aye20HfQNBimcbLS?ref=email
49 Brown M, Dietsch E. The feasibility of caseload midwifery in rural Australia: a literature review. *Women Birth* 2013;26:e1–4.
50 Homer CS. Models of maternity care: evidence for midwifery continuity of care. *Med J Aust* 2016;205:370–4.
51 Styles C, Kearney L, George K. Implementation and upscaling of midwifery continuity of care: The experience of midwives and obstetricians. *Women Birth* 2020;33:343–51.
52 Corrigan AE, Lake S, McInnes RJ. Normalisation process theory as a conceptual framework for continuity of carer implementation. *Women Birth* 2021;34:e204–9.
53 Turner S, Crowther S, Lau A. A grounded theory study on midwifery managers' views and experiences of implementing and sustaining continuity of carer models within the UK maternity system. *Women Birth* 2022;35:e421–31.
54 Clavel N, Paquet C, Blais R. Facilitating the Implementation of Midwifery Services: The Case of Montérégie, Quebec. *CJMRP* 2015;14:8–16.
55 Dawson K, McLachlan H, Newton M, *et al*. Implementing caseload midwifery: Exploring the views of maternity managers in Australia - A national cross-sectional survey. *Women Birth* 2016;29:214–22.
56 Hewitt L, Dahlen HG, Hartz DL, *et al*. Leadership and management in midwifery-led continuity of care models: A thematic and lexical analysis of a scoping review. *Midwifery* 2021;98:S0266-6138(21)00065-6.
57 Larsson B, Thies-Lagergren L, Karlström A, *et al*. Demanding and rewarding: Midwives experiences of starting a continuity of care project in rural Sweden. *Eur J Midwifery* 2021;5:8.
58 McCaffery S, Small K, Gamble J. Rural Australian Doctors' Views About Midwifery and Midwifery Models of Care: A Qualitative Study. *Int J Childbirth* 2022;12:34–43.
59 Perdion K, Lesser R, Hirsch J, *et al*. A Midwifery-Led In-Hospital Birth Center Within an Academic Medical Center. *J Perinat Neonatal Nurs* 2013;27:302–10.
60 De Jonge A, Downe S, Page L, *et al*. Value based maternal and newborn care requires alignment of adequate resources with high value activities. *BMC Pregnancy Childbirth* 2019;19:428.
61 Jervis B. Continuity within the NHS: what could prevent it from happening? Part two — a midwifery practice analysis. *MIDIRS Midwifery Digest* 2016;26:448–51.
62 Reed B, Edwards N. *Closure: how the flagship albany midwifery practice, at the heart of Its South London community, was demonised and dismantled*. Pinter & Martin, 2023.
63 De Vries R. How (not) to create value based integrated maternity care: Lessons from the Netherlands. *Int J Integr Care* 2018;18:45.
64 Barker M, Fenwick J, Gamble J. Midwives' Experiences of Transitioning Into Private Practice With Visiting Access in Australia: A Qualitative Descriptive Study. *Int J Childbirth* 2019;9:145–57.
65 Cummins AM, Catling C, Homer CSE. Enabling new graduate midwives to work in midwifery continuity of care models: A conceptual model for implementation. *Women Birth* 2018;31:343–9.
66 Kuipers Y, Degraeve J, Bosmans V, *et al*. Midwifery-led care: A single mixed-methods synthesis. *Int J Healthc Manag* 2023;16:35–50.
67 Edmondson MC, Walker SB. Working in caseload midwifery care: the experience of midwives working in a birth centre in North Queensland. *Women Birth* 2014;27:31–6.
68 Gessler M. Learning in landscapes of practice: Boundaries, identity, and knowledgeability in practice-based learning. *Innov Educat Teach Int* 2017;54:96–7.
69 Dharni N, Essex H, Bryant MJ, *et al*. The key components of a successful model of midwifery-led continuity of carer, without continuity at birth: findings from a qualitative implementation evaluation. *BMC Pregnancy Childbirth* 2021;21:205.
70 AIMS Campaign Team. Implementing Better Births: Continuing the campaign for continuity of carer. A call to action! *AIMS Journal* 2018;30.
71 Lang N, Jose S, Rogers A, *et al*. Better Births: early findings from North-West London. *Br J Midwifery* 2019;27:555–61.
72 Bayes S. Implementing Woman-Centred Midwifery Practice: How Do We Make it Happen. *Australian Midwifery News* 2017;17:8.
73 Thorpe D, Neiman S, White J, *et al*. A midwifery team's journey implementing and sustaining continuity of care. *Br J Midwifery* 2022;30:518–25.
74 Rayment-Jones H, Murrells T, Sandall J. An investigation of the relationship between the caseload model of midwifery for socially disadvantaged women and childbirth outcomes using routine data--a retrospective, observational study. *Midwifery* 2015;31:409–17.
75 Weert GVD. *Imperfect integration: governing collaboration through networks in healthcare*. Radboud Universiteit Nijmegen, 2023.
76 Wenger-Trayner E, Wenger-Trayner B. *Learning in a landscape of practice: A framework. Learning in landscapes of practice*. Routledge, 2014:13–30.
77 Guraya SY, Barr H. The effectiveness of interprofessional education in healthcare: A systematic review and meta-analysis. *Kaohsiung J Med Sci* 2018;34:160–5.
78 Relyea MJ. The rebirth of midwifery in Canada: an historical perspective. *Midwifery* 1992;8:159–69.
79 Grigg CP, Tracy SK. New Zealand's unique maternity system. *Women Birth* 2013;26:e59–64.
80 Page MJ, McKenzie JE, Bossuyt PM, *et al*. The PRISMA 2020 statement: an updated guideline for reporting systematic reviews. *BMJ* 2021;372:n71.
81 Hanafin S. Considerations in integrating hospital-based midwifery services into the community. *Br J Community Nurs* 2017;22:92–6.