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Patient Safety in Community-Based Independent Midwifery: A Global Systematic Review of Conceptual Models and Frameworks

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Abstract

Independent, community-based midwifery, defined as midwife-led care delivered outside obstetrician-led hospital wards, including home births, freestanding or alongside birth centers, and continuity-of-care teams for predominantly low-risk pregnancies, requires clear conceptual guidance to ensure patient safety. Guided by PRISMA 2020, we conducted a global search of Scopus, PubMed, Web of Science, and CINAHL (January 2013–December 2025). Of 1,215 records screened, 34 studies (2015–2025) met inclusion and were synthesized thematically. Six clusters of frameworks emerged: continuity-of-care and community-integrated models; reflective and ethical practice models; education and professional training frameworks; policy and governance reform; interprofessional communication and collaboration; and spatial, cultural, and structural influences on care. Illustrative examples include the Midwifery Continuity of Carer model (operationalizing relationship-based safety via smaller caseloads and coherent pathways), the US MERA consensus framework (standardizing regulation and scope to support safer system integration), the MIDWIZE midwife-led care framework, and the WHO Safe Childbirth Checklist. Cross-cutting implementation enablers included relational trust, professional ethics, system integration, experiential learning, and equity-oriented design. Practically, these frameworks inform training (simulation and reflective pedagogy), strengthen handover protocols and interprofessional norms, guide person-centered facility and service design, and support regulatory alignment to broaden safe access to midwife-led care. Policy relevance lies in adopting standardized regulatory models and capacity-building approaches to embed continuity, cultural safety, and accountability, with potential downstream gains in maternal–newborn outcomes.

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Introduction

Independent midwifery practices vary substantially across contexts. In high-income, urban settings, midwife-led care typically benefits from clearer regulatory support, greater professional autonomy, and timely referral pathways. By contrast, rural and low-resource environments are often shaped by infrastructural gaps, professional isolation, constrained emergency access, and narrower decision space for midwives, while simultaneously requiring broader service scopes such as family planning, immunization, and child health within independent clinics (Finnajakh et al., 2021; Kornelson, 2024). Educational preparation for rural postings remains uneven, with limited rural placements and context-specific training. Even within the same country, practice patterns diverge: Dutch data show wide variation in induction rates across midwifery networks without consistent gains in perinatal outcomes and midwives' attitudes in urban hospitals can differentially shape decisions on induction and cesarean (Dominiek et al., 2020).

These heterogeneous conditions heighten the salience of conceptual guidance for safety. Recent work foregrounds continuity-of-care, reflective and ethical practice, education/professionalism, governance and regulation, interprofessional communication, and spatial or cultural design as levers for safer midwife-led services (Mathias et al., 2021; Almond & Lloyd, 2024; Milton et al., 2025; O'Reilly et al., 2025). Yet despite this growth, the evidence remains fragmented: from 1,215 records screened in our

review, only 34 studies (2015–2025) explicitly present or apply models/frameworks for patient safety in independent midwifery, underscoring the lack of an integrated synthesis and the urgency to consolidate contemporary guidance for diverse settings. Aligning with global agendas on maternal–newborn safety, an up-to-date mapping of models and their actionable components is needed to inform training standards, service design, and regulatory alignment across both developed and developing contexts.

Accordingly, this review has two concise objectives: (1) to identify and analyze conceptual models or theoretical frameworks that support patient safety in independent, community-based midwifery; and (2) to synthesize the core implementation components consistently emphasized as prerequisites for effective, context-responsive adoption.

Methods

This systematic literature review followed PRISMA 2020 to ensure transparency and reproducibility. For conceptual clarity, we defined independent midwifery practices as regulated, midwife-led services delivered outside obstetrician-led hospital wards, encompassing home births, freestanding or alongside birth centers, and community-based continuity-of-care models primarily serving low-risk pregnancies. Traditional or unregulated birth attendants were excluded unless operating within an integrated, regulated midwife-led model under formal collaboration or supervision; studies focused exclusively on physician-led, hospital-based maternity care were also excluded.

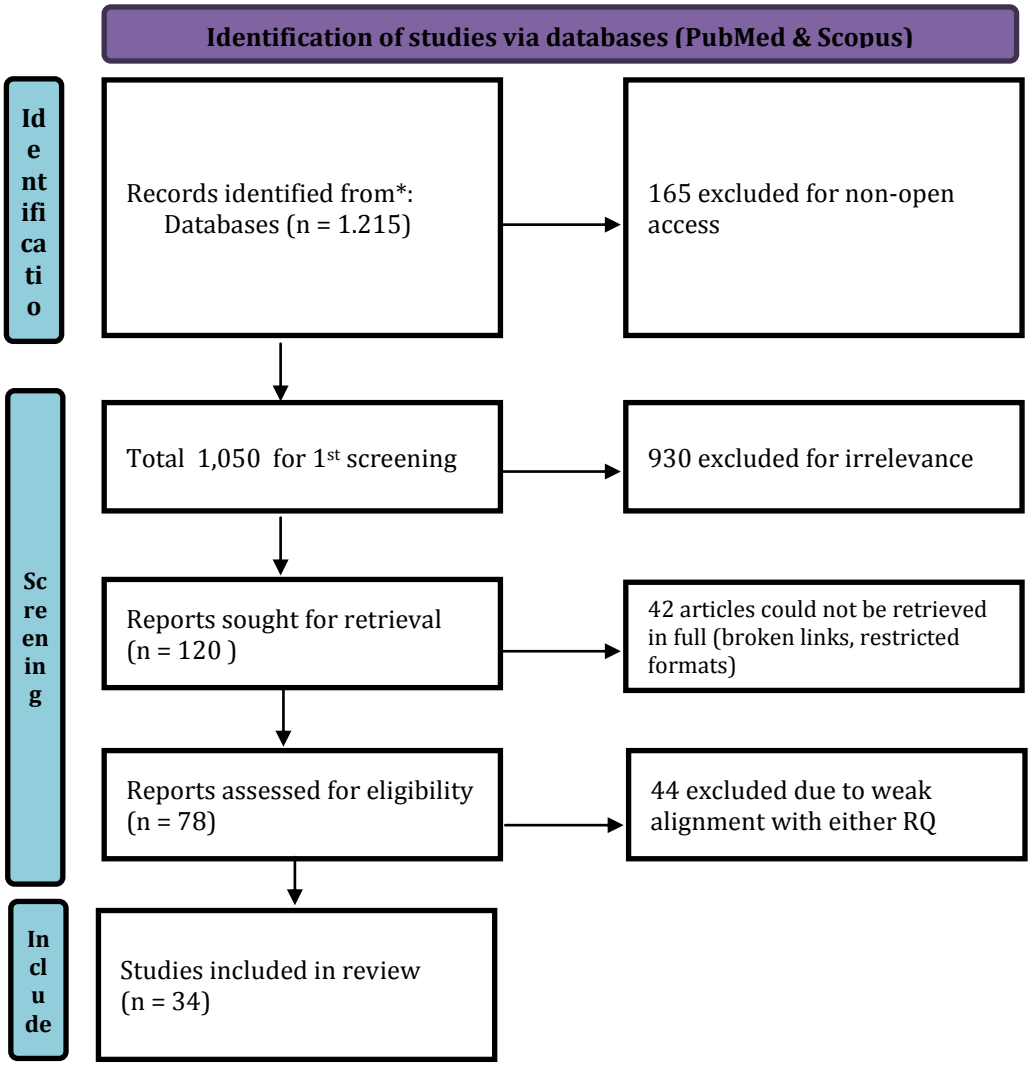

Figure 1 Prisma Screening

To minimize database bias and broaden coverage, we searched Scopus, PubMed/MEDLINE, Web of Science Core Collection, and CINAHL. The timeframe spanned January 2015 to December 2025 to capture the acceleration of midwifery safety and continuity frameworks in the Sustainable Development Goals era (2015–2030) and to reflect contemporary policy and implementation contexts. Search strategies combined controlled vocabulary and keywords related to midwifery, safety, and models or frameworks (for example, "midwif*" AND ("patient safety" OR safety) AND (model* OR framework* OR conceptual OR

theoretic*)). Limits included English, peer-reviewed, and full-text availability. Reference lists of included articles and pertinent reviews were hand-searched to identify additional studies. Records from all sources were de-duplicated prior to screening.

Eligibility required that studies present, apply, or evaluate a conceptual model or theoretical framework explicitly linked to patient safety within independent midwifery settings as defined above. Empirical and theoretical designs were eligible; editorials, commentary without a model, conference abstracts without full papers, and non-English publications were excluded. Two reviewers independently screened titles and abstracts, followed by full-text assessments using a pilot-calibrated form aligned to the inclusion criteria. Discrepancies were resolved through discussion, with a third reviewer acting as arbiter when needed. Inter-rater reliability was quantified using Cohen's kappa at both screening stages, and values are reported in the Results to document objectivity in selection.

To strengthen the validity of findings, we appraised the methodological quality of included studies by design. Empirical qualitative, quantitative, and mixed-methods studies were assessed using the appropriate Joanna Briggs Institute critical appraisal tools. Conceptual or theoretical papers were appraised with an adapted theory-evaluation rubric covering clarity of constructs, internal consistency, parsimony, applicability or utility, and empirical referents, with each dimension rated and justified. Quality assessments did not function as exclusion criteria but informed sensitivity analyses and the weighting of interpretations during synthesis.

Data extraction used a structured template capturing authorship, year, country or setting, model or framework name and type, stated purpose, application context, and core implementation components. We conducted a thematic synthesis to group models by theoretical orientation and scope and to identify cross-cutting implementation elements emphasized as prerequisites for safe adoption across diverse contexts. Although Scopus offers broad journal coverage with overlap into content indexed by PubMed, Web of Science, and publisher platforms, it is not a complete superset; therefore, parallel searches across multiple databases and subsequent de-duplication were integral to reducing selection bias.

To ensure comprehensive coverage and reduce publication bias, the review adopted a two-tiered search strategy. The primary search was conducted in peer-reviewed databases, Scopus, PubMed, CINAHL, and Web of Science, following the PRISMA framework (Page et al., 2021). This phase focused on empirical and theoretical studies published between 2015 and 2025 that explicitly addressed conceptual models or theoretical frameworks related to patient safety in independent or community-based midwifery. To complement this, a secondary search of *grey literature* was undertaken to capture influential conceptual and policy frameworks not indexed in academic databases. Grey sources were identified through targeted searches of organizational repositories such as the World Health Organization (WHO), International Confederation of Midwives (ICM), United Nations Population Fund (UNFPA), and national midwifery councils. These materials were screened using the AACODS checklist (Authority, Accuracy, Coverage, Objectivity, Date, and Significance) to ensure credibility and relevance.

Results

Conceptual Models or Frameworks Supporting Patient Safety in Independent Midwifery Practices

Understanding and improving patient safety in independent midwifery settings requires a strong conceptual foundation. Over the past decade, scholars and practitioners have proposed and applied a wide range of models and theoretical frameworks aimed at enhancing care quality, reducing harm, and supporting midwives in complex and autonomous practice environments. These models serve various functions, from guiding education and training, to shaping regulatory policies, strengthening interprofessional collaboration, and embedding culturally responsive care practices.

This section presents a synthesis of 34 conceptual models or frameworks that have been identified through a systematic literature review. Each model was assessed for its relevance to independent midwifery practice and its contribution to promoting patient safety. As shown in Table 1, the models vary in origin, scope, and application, yet they collectively offer critical insights into how midwifery care can be designed, delivered, and evaluated to ensure safe outcomes for women and newborns. Some focus on individual-level development, such as reflective learning and ethical care, while others operate at organizational or policy levels, emphasizing workforce integration, equity, and continuity of care. Together, these frameworks form a comprehensive landscape of conceptual thinking that underpins safety strategies in midwifery-led care across diverse global contexts.

Table 1 Summary of Conceptual Models or Frameworks Supporting Patient Safety in Independent Midwifery Practices

No	Author(s) & Year	Model or Framework Used	Purpose / Focus	Application in Midwifery	Notes on Relevance to Patient Safety
1	(Bass et al., 2017)	Holistic Reflection Model (HRM)	Transformative and critical reflection in learning	Used in midwifery training to develop reflective practice	Fosters emotional awareness, ethical judgment, and critical thinking for safer care
2	(Leahy-Warren et al., 2017)	Community Nursing & Midwifery Model	Lifespan-based, integrated care across settings	Guides delivery of person-centered care across lifespan by nurses and midwives	Emphasizes continuity, competency-based care, and system-level integration to support safe, appropriate care
3	(Klopper et al., 2020)	GAPFON® Model	Strengthen global nursing and midwifery leadership, practice, policy, education, and research	Applied as a global engagement tool guiding midwifery advancement and stakeholder collaboration	Promotes capacity building, evidence-based care, and global health equity via midwifery system strengthening and policy integration
4	(Cummins et al., 2018)	Conceptual Model for New Graduate Integration	Facilitate entry of new graduates into continuity of care	Supports managers and educators in recruiting, training, and mentoring new graduate midwives	Promotes professional confidence, reduces burnout, and addresses workforce gaps in continuity models
5	(Cusack et al., n.d.)	Contemporary Model of Professionalism	Define and map professionalism attributes within regulatory frameworks	Guides practice via alignment of personal, interpersonal, and regulatory expectations	Links professionalism directly to safety outcomes through codes of conduct, competency standards, and social accountability
6	(Shroff et al., 2019)	Canada–Global South partnerships	Community Health Center (CHC) Model	Address maternal mortality via social determinants and interdisciplinary care	Proposed for use in LMICs through Canada-led, long-term collaborative teams
7	(Effland et al., 2020)	United States – Midwifery education programs	Equity Agenda Guideline	Promote equity and systemic reform in midwifery education	Serves as a roadmap for transforming institutions and supporting underrepresented midwifery students
8	(Gamble et al., 2020)	Australia – Midwifery education programs	Continuity of Care Experience (CCE)	Embed continuity of care as central to professional learning	Integrated throughout curriculum, emphasizing long-term relationships

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					and woman-centered practice
9	(Norton, 2020)	UK – NHS Labour Ward	Takeover Communication Model	Strengthen clinical handover accuracy and accountability	Advocates for incoming staff to lead handover using structured mnemonic
10	(Mattison et al., 2020)	Canada – Interprofessional policy analysis	3i + E Framework	Analyze factors influencing midwifery integration in health systems	Used to examine historical, institutional, ideational, and actor-based influences on integration
11	(Feeley et al., 2020)	UK – NHS midwifery settings	Feminist Pragmatist Narrative Model	Explore how midwives support women's alternative birth choices	Applied to analyze midwives' narrative strategies across UK maternity settings
12	(Kennedy et al., 2018)	United States – Nationwide midwifery regulation	US MERA Consensus Model for Midwifery Regulation	Develop model legislation to harmonize midwifery education, regulation, and licensure	Used a Delphi process with 51 experts to produce unified principles adopted by 7 US midwifery organizations
13	(Grabowski et al., 2020)	USA – University midwifery program	LactSim OSCE with high-fidelity simulation	Evaluate self-efficacy and clinical skills in lactation through simulation and reflection	Used in curriculum for nurse-midwifery students to simulate breastfeeding scenarios
14	(Mathias et al., 2021)	Australia – Midwifery education and care	Salutogenic Midwifery Framework	Promote health creation through positive adaptation and resilience	Integrates health-promoting, strength-based strategies into midwifery education and practice
15	(Dharni et al., 2021)	UK – Community-based midwifery model (Bradford)	Midwifery-led Continuity of Carer Model (excluding birth)	Enhance care access, experience, and cultural relevance in underserved populations	Women receive antenatal and postnatal care from a named midwife or buddy in the community
16	(Gresh et al., 2022)	Malawi – Midwife and peer training	Kolb's Experiential Learning Theory	Improve fidelity and quality of Group ANC+ facilitation	Used for training midwives and peer navigators through interactive workshops simulating ANC delivery
17	(Lindgren & Erlandsson, 2022)	Sweden – National maternity system	MIDWIZE Conceptual Framework	Promote midwife-led, trust-based, evidence-driven, and collaborative care	Embedded in the Swedish maternity care system; piloted in Sub-Saharan African settings

No	Author(s) & Year	Model or Framework Used	Purpose / Focus	Application in Midwifery	Notes on Relevance to Patient Safety
18	(Simoncic et al., 2022)	Canada – Urban and immigrant maternal health	WHO-SDOH Adapted Model	Map influence of structural and intermediary social determinants on maternal outcomes	Framework applied to analyze perinatal equity for immigrant women
19	(Davey & Krisjanous, 2023)	New Zealand – Primary midwifery care	Value Co-Creation Integrated Care Model	Fuse healthcare and marketing logic to enrich integrated care experiences	Aligns Midwifery Partnership Model with Rainbow Model of Integrated Care; proposes added micro-level domains
20	(Murray-Davis et al., 2023)	Canada – Alongside Midwifery Unit (AMU) design study	Creating, Shifting, Sharing Model	Explore how spatial and philosophical design promotes midwifery-led birth environments	Developed in co-design with users and providers to guide creation of midwife-centered spaces
21	(Diaz et al., 2024)	Europe – Five-country higher education study	Capacity Building Framework (adapted from Cooke et al.)	Strengthen migration-health teaching across four levels: conceptual, policy, organizational, pedagogic	Applied to analyze capacity-building experiences in midwifery and broader health curricula
22	(Almond & Lloyd, 2024)	Australia – Nursing & Midwifery informatics	"Key" Shaped Professional Model	Define essential attributes and capabilities for digital-era healthcare careers	Guides career development, digital literacy, and adaptability in midwifery training
23	(Milton et al., 2025)	United Kingdom – NHS England case studies	Midwifery Continuity of Carer (MCoC) model	Investigate the implementation of MCoC using integrated theoretical frameworks	Used NPT and CFIR to analyze NHS-wide implementation of MCoC through reviews, interviews, and six case studies
24	(Paz et al., 2025)	Global (USA, Australia, NZ, Africa, Europe)	Multiple midwifery care theories and models	Synthesize theory-based frameworks that define midwifery identity and care processes	Provides a historical and international overview of theoretical midwifery models across practice, education, ethics, and support
25	(O'Reilly et al., 2025)	Ireland – Concept analysis in maternity care	Conceptual Model of Emotional Safety in Maternity Care	Define emotional safety from the care recipient's perspective	Identifies attributes shaping emotional security in birthing persons through thematic concept analysis
26	(Wilhelm et al., 2025)	Global – Scoping review of digital	Journey to Health (adapted UNICEF	Understand digital misinformation's	Mapped midwife and client

No	Author(s) & Year	Model or Framework Used	Purpose / Focus	Application in Midwifery	Notes on Relevance to Patient Safety
		health	model)	effects on maternal care	experiences across digital engagement, misinformation handling, and trust dynamics
27	(Salmon et al., 2017)	UK – Antenatal PFME implementation	Critical Interpretive Synthesis (CIS) for PFME implementation model	Understand factors affecting PFME education, assessment, training, and behavior change during childbearing years	Informs design of a conceptual model used to develop a midwife training package under the APPEAL program
28	(Buchanan et al., 2023)	Australia – Midwifery model of care	Woman-Centred Ethics Conceptual Model (FPAR-based)	Explore women's lived experience of ethical care and co-create a values-based model	Used Feminist Participatory Action Research (FPAR) to shape midwifery ethics model from women's perspectives
29	(Munns et al., 2016)	Australia – Remote Aboriginal communities	WA Goldfields Aboriginal Community Antenatal Program	Deliver culturally safe, accessible antenatal care in rural and remote regions	Uses community midwives in partnership with Aboriginal maternal support workers
30	(Borrelli et al., 2016)	UK – Home and hospital birth settings	Kaleidoscopic Midwife Model	Explore woman–midwife interactions that enhance labor experiences	Developed from qualitative analysis of women's perspectives on effective intrapartum care
31	(Afulani & Moyer, 2016)	Ghana / Developing countries	Disparities in Skilled Birth Attendance (DiSBA) Framework	Explain SES-based disparities in the use of skilled birth attendants (SBAs)	Analyzes how SES impacts use of SBAs via proximal determinants
32	(Newnham et al., 2016)	Australia – Hospital labor ward ethnography	Critical Analytic Model of Childbirth Practices (adapted from Baer et al., 1986)	Analyze childbirth culture through macro-to-micro social, institutional, and individual influences	Applied ethnographic analysis across four levels: macro-social, intermediate-social, micro-social, and individual
33	(Smith, 2016)	United States – Interprofessional maternity care	Midwife–Physician Interprofessional Collaboration Framework	Define and evaluate key concepts, processes, and structural elements in collaborative maternity care	Applied to diverse collaborative OB/CNM practices across U.S. settings; includes conceptual mapping of structure-process-outcome relationships
34	(Abou-Malham et al., 2015)	Lebanon – Health system and midwifery policy	Action Plan for Midwifery Role Strengthening	Address systemic barriers to effective midwifery roles through	Guided reform plan integrating Competency-Based Education (CBE), ALARM program,

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				educational and policy reform	and stakeholder collaboration
35	(Organization, 2023)	Transitioning to Midwifery Models of Care: Global Position Paper	Promote global adoption of midwife-led continuity models to strengthen maternal safety and system integration	Guides countries in embedding independent midwifery within primary healthcare systems and national maternal health strategies	Positions midwife-led continuity of care as a proven model to reduce maternal and neonatal morbidity and mortality through relational and accessible care
36	((ICM), 2021)	Essential Competencies for Midwifery Practice	Define global competency standards for safe, ethical, and autonomous midwifery practice	Used internationally as a benchmark for curriculum development, professional licensing, and regulatory alignment	Establishes measurable competencies that underpin patient safety through clinical proficiency, ethical accountability, and cultural sensitivity
37	(Organization, 2021)	Global Strategic Directions for Nursing and Midwifery 2021–2025	Provide policy and governance roadmap for strengthening leadership, workforce, and service delivery in midwifery	Applied at national level to guide workforce planning, leadership development, and service integration	Connects structural reform and leadership capacity with improved safety, equity, and quality outcomes in community midwifery practice
38	(Midwives, 2020)	National Midwifery Guidelines for Consultation and Referral (4th Ed.)	Standardize decision-making and escalation pathways across community and hospital midwifery services	Operational tool for independent and community-based midwives to manage risk and ensure timely referral	Provides structured communication and clinical governance mechanisms to prevent adverse outcomes and ensure continuity of safe care
39	((UNFPA), 2021)	State of the World's Midwifery Report	Assess global midwifery capacity, education, and policy environments influencing safety and quality of care	Used by governments and partners to design workforce investment, training programs, and policy interventions	Demonstrates that scaling midwife-led care models and strengthening education directly reduce preventable maternal and newborn deaths

Continuity of Care and Community-Based Midwifery Frameworks

Continuity of care and community-integrated midwifery models remain pivotal for enhancing patient safety, particularly among underserved populations. These frameworks are grounded in relational care, long-term trust-building, and proximity to community needs, elements that have consistently been linked to improved maternal and neonatal outcomes. For example, Leahy-Warren et al. (2017) introduced the Community Nursing and Midwifery Model, which centers on person-centered continuity through community outreach, highlighting the midwife's role in both clinical and social domains of health.

Gamble et al. (2019) emphasized the psychological and relational impact of Continuity of Care Experiences (CCE), showing that midwives who followed women through pregnancy, birth, and postpartum fostered stronger emotional safety and satisfaction. This was further operationalized in Dharni et al. (2021) and Milton et al. (2025), who examined large-scale implementation of Midwifery Continuity of Carer (MCoC) models in NHS systems. These studies not only reaffirm the clinical benefits

but also introduce theoretical frameworks, like Normalisation Process Theory and CFIR, to address real-world implementation barriers such as institutional readiness, alignment across care levels, and stakeholder coherence.

Community-focused programs play a key role in advancing equity in maternal health. Munns et al. (2016) documented the WA Goldfields Aboriginal Community Antenatal Program, which paired midwives with Aboriginal maternal health workers to deliver culturally safe and accessible care in remote regions. Similarly, Shroff et al. (2019) examined a Community Health Center-based approach that embedded midwives in primary care teams, providing wraparound services tailored to women from low-income backgrounds. To support the sustainability of such models, Mattison et al. (2020) proposed the 3i + E Framework, which integrates intentional design, infrastructure, and interprofessional collaboration with equity as a foundational element. Taken together, these studies demonstrate that continuity of care models, when integrated with community partnerships and systemic support, can transform maternal safety from a clinical outcome to a deeply relational and culturally attuned process.

Reflective and Ethical Midwifery Practice Models

Reflective and ethical midwifery frameworks serve as essential tools for guiding midwives through the complexities of moral reasoning, emotional labor, and practice rooted in the lived realities of women. These models often challenge rigid clinical structures, instead prioritizing self-awareness, situated knowledge, and ethical decision-making that centers the person giving birth. Bass et al. (2017) introduced the Holistic Reflection Model (HRM), which promotes continuous reflective cycles, emotional, cognitive, and contextual, that enable midwives to learn from experience while remaining accountable to the women they serve. The HRM supports moral clarity in ethically ambiguous situations and fosters deeper professional growth.

Feeley et al. (2020) proposed the Feminist Pragmatist Narrative Model, which goes further by embedding narrative ethics and feminist epistemologies into clinical reasoning. This model enables midwives to explore power dynamics and structural inequities through storytelling, highlighting the interplay between individual experiences and systemic forces. Likewise, Buchanan et al. (2023) used a feminist participatory action research approach to develop the Woman-Centred Ethics Conceptual Model, where ethical care is co-produced with women through values such as trust, solidarity, and relationship-based care. The model rejects universalist rule-based ethics in favor of dialogical, co-constructed approaches that align with women's diverse realities.

Newnham et al. (2016) contributed the Critical Analytic Model of Childbirth Practices, adapted from sociological theory, which situates midwifery practice within broader macro-social, institutional, and cultural forces. This model equips midwives with a framework to critically examine how dominant discourses and institutional practices shape care environments, enabling them to resist routinization and advocate for person-centered alternatives. Together, these models move beyond technical skill or standard protocol. They position ethical midwifery as an inherently reflective and context-sensitive practice, one that is shaped not only by evidence and policy but also by emotion, justice, and lived connection with women and communities.

Frameworks for Education, Professionalism, and Training

Education and training frameworks in midwifery are central to cultivating professional identity, ethical competency, and reflective practice across the learning continuum, from students to experienced practitioners. These models respond to evolving clinical demands, societal expectations, and policy shifts, anchoring competency development in evidence-based pedagogies and ethical values. Cummins et al. (2018) proposed a Conceptual Model for New Graduate Integration, which outlines phased support systems, clinical preceptorship, reflective feedback, and role clarity, that promote confidence and safety during professional transitions.

The emphasis on professionalism is articulated in Cusack et al. (2019)'s Contemporary Model of Professionalism, which defines professionalism not just as behavior, but as a multidimensional value system encompassing ethics, accountability, and advocacy. Mathias et al. (2020)'s Salutogenic Midwifery Framework extends this by focusing on well-being as a pedagogical outcome, developing midwives who can foster resilience and coherence in both clients and themselves. Similarly, Almond & Lloyd (2024) introduced the "Key" Shaped Professional Model to describe the layering of discipline-specific knowledge with broader digital, adaptive, and interdisciplinary competencies, positioning midwives as agile health professionals in complex systems.

Training innovations further shape learning environments. Grabowski et al. (2020) developed the LactSim OSCE Simulation to bridge theory-practice gaps in breastfeeding support, while Gresh et al. (2022) leveraged Kolb's Experiential Learning Theory to support immersive, learner-centered midwifery education. These hands-on models underscore the importance of emotional engagement, reflective debriefing, and real-world skill application in safe learning environments. Complementing this, Effland et

al. (2020)'s Equity Agenda Guideline promotes cultural humility and structural awareness in midwifery training, calling for a reorientation of curricula toward justice, inclusion, and historical accountability.

Finally, Diaz et al. (2024)'s Capacity Building Framework offers a macro-level perspective, describing how educational systems can scaffold culturally safe, equity-driven learning across conceptual, policy, organizational, and pedagogic levels. Collectively, these models underscore that midwifery education is not merely the transfer of knowledge, it is the ongoing formation of practitioners who are clinically competent, ethically grounded, and systemically aware.

Policy, Governance, and System-Level Reform

Global health authorities have long emphasized the system-wide transformation of midwifery governance to achieve safe, equitable, and sustainable maternity care. The *World Health Organization* (2021, 2023) and the *International Confederation of Midwives* (2021) collectively advocate for the integration of midwifery within primary health systems through standardized competencies, evidence-based regulation, and continuity of care models. Complementing these, the *United Nations Population Fund* (2021) highlights workforce capacity building and investment in midwifery education as critical levers for achieving Sustainable Development Goal 3 on maternal health. In national contexts, the *Australian College of Midwives* (2020) provides operational guidance for consultation and referral, ensuring governance consistency across diverse practice settings. Together, these global frameworks form the normative infrastructure upon which subsequent policy and implementation models are built. Kennedy et al. (2018) developed the US MERA Consensus Model to harmonize midwifery regulation, education, and credentialing across the United States. Informed by a Delphi process and endorsed by seven national organizations, the model advances parity in licensure and scope clarity, supporting midwifery integration, third-party reimbursement, and safe interprofessional collaboration.

Global policy efforts are similarly reflected in Klopper et al. (2020)'s GAPFON® Model, which provides a WHO-aligned strategic roadmap to elevate nursing and midwifery leadership at the national level. The model emphasizes policy advocacy, education standardization, and regulatory reform as core levers for maternal safety. Simoncic et al. (2022) applied a WHO-adapted social determinants framework to conceptualize systemic inequities in immigrant maternal health. This model reveals how upstream social and legal conditions, such as housing, income, and immigration policy, profoundly shape midwifery-relevant outcomes, highlighting the need for cross-sectoral solutions.

O'Reilly et al. (2025) contribute a policy-sensitive lens through their Conceptual Model of Emotional Safety, which identifies relational, perceptual, and environmental attributes essential to person-centered maternity care. This model advocates for emotional safety as a measurable policy outcome, aligning with trauma-informed and rights-based care standards. In a policy reform context, Abou-Malham et al. (2015) proposed a national Action Plan for Midwifery Role Strengthening in Lebanon, combining competency-based education, stakeholder consensus, and health system integration to elevate midwifery status and functionality.

Finally, Davey & Krisjanous (2023) expanded policy discourse through a Value Co-Creation Integrated Care Model that bridges midwifery and marketing logic. By mapping the Midwifery Partnership Model to broader integrated care frameworks, they introduce micro-level domains such as shared principles and client agency that are often absent in traditional governance models. Collectively, these frameworks emphasize that robust policy infrastructure, anchored in justice, inclusion, and collaboration, is a prerequisite for sustainable, high-quality midwifery care.

Communication, Collaboration, and Interprofessional Practice

Effective communication and interprofessional collaboration are essential for safe maternal care, particularly during transitions of care between providers. These frameworks address the relational and procedural aspects of teamwork, emphasizing clarity, trust, role understanding, and shared goals as critical to maintaining continuity and preventing safety breakdowns. Spranzi and Norton (2020) proposed the Takeover Communication Model, which outlines how professionals can ethically and practically navigate the "takeover" of care. This includes scenarios such as a midwife handing over to an obstetrician, where unclear communication can lead to conflicting care plans or loss of patient autonomy. The model highlights narrative continuity, active listening, and shared decision-making as tools to maintain patient-centeredness during these transitions.

Smith (2016) introduced the Midwife–Physician Interprofessional Collaboration Framework, developed from conceptual mapping and national survey data. This model defines the structural, procedural, and relational components necessary for successful collaboration between certified nurse-midwives and physicians. It emphasizes shared goals, mutual respect, professional autonomy, and communication protocols as foundational to effective joint practice. Importantly, the framework addresses broader system conditions such as scope alignment, policy support, and team-based culture that either facilitate or hinder collaboration. Together, these models reinforce that patient safety in

midwifery cannot be isolated from the quality of professional relationships. They underscore that care transitions, whether due to referral, escalation, or shared responsibility, must be guided by ethical communication and structural alignment to ensure consistent, respectful, and safe outcomes for women.

Spatial, Cultural, and Structural Influences on Care

Midwifery safety is shaped not only by clinical expertise but also by the environments in which care is delivered. Frameworks grounded in spatial, sociocultural, and structural analysis reveal how the physical layout of birth spaces, cultural norms, and institutional design influence both perceived and actual safety. Murray-Davis et al. (2023) proposed the Creating, Shifting, Sharing Model to guide the architectural and philosophical design of Alongside Midwifery Units (AMUs). This model emphasizes domestic aesthetics, reduced technological interference, and shared ownership of space, all of which are shown to foster autonomy, reduce stress, and support physiological birth.

Salmon et al. (2017) offered a conceptual model for implementing Pelvic Floor Muscle Exercises (PFME) in maternity care, based on critical interpretive synthesis. Their framework identifies multi-level influences, from organizational leadership to individual beliefs, that affect the translation of PFME guidance into practice. This model underscores that effective implementation requires alignment across cultural norms, professional training, and institutional support systems.

The interplay between spatial presence, emotional security, and labor dynamics is further detailed in Borrelli et al. (2016)'s Kaleidoscopic Midwife Model. Derived from women's narratives of intrapartum care, the model identifies core relational components, such as individualized presence, flexibility, and trust, that shape perceptions of safety across both home and hospital settings. It shows that even in technologically equipped environments, it is the midwife's relational orientation and responsiveness that ultimately define the experience of safe care.

Finally, Afulani & Moyer (2016) developed the DiSBA Framework to examine disparities in skilled birth attendance in low- and middle-income countries. This model maps how structural determinants, such as socioeconomic status, mediate maternal health outcomes via perceived need, access, and quality of care. It highlights how broader societal conditions shape maternal decision-making and access, making structural equity a prerequisite for safety. Together, these frameworks demonstrate that safety in midwifery is co-constructed through spatial design, cultural resonance, and institutional alignment. Creating supportive environments, both physical and systemic, is essential for promoting dignity, trust, and well-being throughout the childbearing journey.

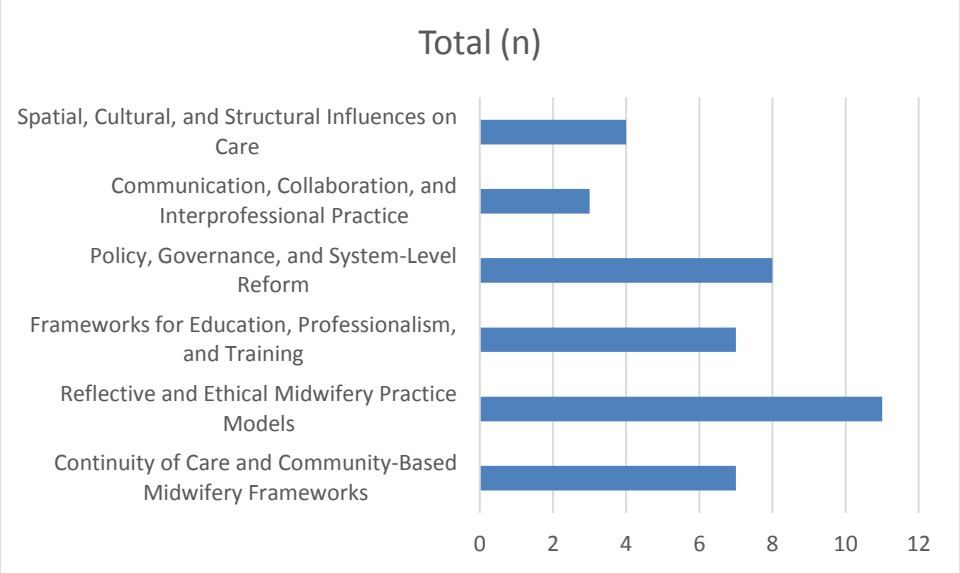

Figure 2 Conceptual Model or Frameworks

As seen in Figure 2, the thematic synthesis encompasses 39 distinct frameworks that collectively construct a comprehensive understanding of patient safety in midwifery across relational, ethical, educational, systemic, and spatial dimensions. The largest theme, Reflective and Ethical Midwifery Practice Models (11 sources), integrates empirical theories of reflection, feminist ethics, and emotional safety with global policy foundations from WHO, ICM, UNFPA, and ACM, positioning ethical reflection as the moral core of safe care. Continuity of Care and Community-Based Frameworks (7 sources) emphasize long-term trust, cultural safety, and systemic readiness for continuity, demonstrating the relational architecture of safety. Education, Professionalism, and Training (7 sources) focuses on pedagogical and competency-based models fostering resilience and reflective learning throughout the professional

continuum. Policy, Governance, and System-Level Reform (8 sources) highlights macro-level transformation through leadership, regulation, and integration of midwifery into health systems. Communication, Collaboration, and Interprofessional Practice (3 sources) identifies structured dialogue and shared decision-making as safeguards against fragmentation, while Spatial, Cultural, and Structural Influences on Care (4 sources) explore how environment, equity, and institutional design co-produce perceptions of safety. Altogether, these 39 sources present midwifery safety as a dynamic system — grounded in reflection, sustained by continuity, enabled by education, and legitimized through policy and context.

Core Components for Effective Implementation of Patient Safety Models

The identification of conceptual models and frameworks is only the first step in understanding how patient safety can be systematically enhanced within independent midwifery practices. Equally critical is the examination of the core components that enable these models to be effectively implemented in real-world settings. These components represent the operational heart of each framework, ranging from reflective practice and professional ethics to regulatory alignment, interprofessional collaboration, and culturally responsive care. A close analysis of these components reveals not only the technical aspects of model execution but also the relational, organizational, and systemic conditions that make successful adoption possible.

The following synthesis, presented in Table 2, highlights the central features embedded within 34 conceptual models reviewed from studies conducted across various global contexts. Each entry captures the key component emphasized by the framework, its practical function, and its significance in supporting safe, responsive, and sustainable midwifery care. By distilling these core elements, this review sheds light on the structural, educational, and interpersonal foundations needed to translate patient safety models from theory into practice. These insights are instrumental in guiding the adaptation, scale-up, and policy integration of midwifery-led safety strategies, especially in settings where independent or community-based care plays a central role in maternal and newborn health.

Table 2 Core Components for Effective Implementation of Patient Safety Models in Independent Midwifery

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
1	Bass et al., 2017	Holistic Reflection Model (HRM)	Multi-dimensional Reflection	Six-phase process integrating emotional, ethical, and experiential knowledge	Enhances decision-making, reduces error risk, and aligns care with patient values
2	Leahy-Warren et al., 2017	Community Nursing & Midwifery Model	Lifespan-based, integrated, competency-driven care with adjunct supports (e.g., telehealth, aides)	Aligns care across the life trajectory through seamless collaboration, provider-task fit, and extended supports tailored to community needs	Enhances safety through coordinated, skill-matched, and accessible care delivery across settings, reducing fragmentation and improving appropriateness of midwifery services
3	Klopper et al., 2020	GAPFON® Model	Leadership, Policy, Workforce, Practice, Education, Research	Six interlinked domains addressing systemic advancement of midwifery globally	Ensures strategic leadership development, education reform, workforce sustainability, and policy impact for patient safety
4	Cummins et al., 2018	Conceptual Model for New	High-level continuity, small	These interconnected	Ensures new midwives are

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
		Graduate Integration	group support, formal/informal mentoring, graduate readiness, reflective meetings, approachable leadership	components foster supportive relationships with women and peers, offer structured orientation and caseloads, build confidence, and ensure continuity in patient care and professional development	effectively supported in continuity models, enhancing safety through improved communication, reduced burnout, and strengthened clinical competence in real-world midwifery settings
5	Cusack et al., 2019	Contemporary Model of Professionalism	Inner, Outer, and Contextual Processes of Professionalism	Encompasses self-regulation, reflection, ethical behavior, advocacy, legal compliance, community service, organizational culture, and social contract principles	Provides a comprehensive view of professionalism grounded in regulatory frameworks, ensuring that nurses and midwives uphold behavior that directly impacts patient trust and safety
6	Shroff et al., 2019	Community Health Center (CHC) Model	Interdisciplinary team approach, diasporic engagement, equity framing, and long-term partnership commitments	Uses midwives, physicians, educators, traditional practitioners, and community developers in 5–10 year partnerships focused on gender justice and health equity	Empowers culturally tailored, community-led, and sustainable safety initiatives in maternal health, bridging biomedical and holistic systems in underserved regions
7	Effland et al., 2020	Equity Agenda Guideline	Multilevel systemic transformation with tools for equity planning	Involves institutional training, curriculum redesign, climate surveys, mentorship, and inclusive policy frameworks	Embeds equity at all levels of education and practice, reducing marginalization and fostering safe, culturally congruent care environments
8	Gamble et al., 2019	Continuity of Care Experience (CCE)	Curriculum Coherence & Transformative Pedagogy	Embed continuity into curriculum with emphasis on critical reflection, relational continuity, and woman-centered	Strengthens midwifery identity and prepares students for safe, emotionally attuned, and

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
				philosophy	consistent care delivery across clinical and community contexts
9	Spranzi & Norton, 2020	Takeover Communication Model	Chronologically structured, receiver-led handover with 5Ps mnemonic	Uses "Patient, Past, Present, Plan, Pending" to guide legally robust, fatigue-resistant shift handovers	Improves handover quality, reduces error-prone communication, and enhances continuity and legal clarity in care
10	Mattison et al., 2020	3i + E Framework	Policy Legacies, Institutions, Ideas, Actors, and External Factors	Explores how historical funding, policy networks, professional hierarchies, and stakeholder roles affect integration of midwifery	Clarifies systemic barriers and entry points for embedding midwives in mainstream systems, influencing safe, team-based care
11	Feeley et al., 2020	Feminist Pragmatist Narrative Model	Relationship Building, Information Sharing, Care Planning, Multidisciplinary Negotiation, Managing Clinical Uncertainty	Emphasizes trust, negotiation, collaborative care, and adaptability in uncertain conditions	Strengthens personalized care and interdisciplinary safety planning in non-standardized birth situations
12	Kennedy et al., 2018	US MERA Consensus Model	Unified Regulatory Standards	Principles include licensure, education, accountability, third-party payment, and inclusive regulatory bodies	Enhances safety and access by ensuring clarity, public trust, and state-wide midwifery integration based on international benchmarks
13	Grabowski et al., 2020	LactSim OSCE with high-fidelity simulation	Reflective Simulation with Objective Checklist	Combines guided video reflection, technical skill checklist, and role-play scenarios	Enhances learner insight into skill-performance gaps and reinforces safety in clinical lactation care
14	Mathias et al., 2020	Salutogenic Midwifery Framework	Comprehensibility, Manageability, Meaningfulness	Addresses cognitive, behavioral, and emotional/spiritual aspects of care	Fosters predictability, emotional resilience, and engaged autonomy, critical for safe, supportive midwifery experiences

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
15	Dharni et al., 2021	Midwifery-led Continuity of Carer Model (excluding birth)	Reduced caseloads, extended appointments, and flexible scheduling	Midwives manage smaller caseloads, spend more time with each woman, and offer flexible appointments	Enhances relational care, mental health support, and safety communication while reducing burnout and fragmentation
16	Gresh et al., 2022	Kolb's Experiential Learning Theory	Simulation, reflection, and active facilitation	Trainees experience, reflect, and practice the Group ANC+ model in real training scenarios	Builds confidence, enhances group facilitation skills, and supports respectful care integration into routine practice
17	Lindgren & Erlandsson, 2022	MIDWIZE Conceptual Framework	Multisectoral Collaboration, Quality Improvement, Midwife-led Care, Interdisciplinary Teamwork, Evidence-based Practice	Collaboration with policymakers, use of guidelines, relational continuity, and promotion of spontaneous birth	Ensures sustainable, rights-based, quality maternal care grounded in strong midwifery leadership and trust-based practice
18	Simoncic et al., 2022	WHO-SDOH Adapted Model	Pathways of Social Determinants	Structural (e.g., income, legal status) and intermediary (e.g., housing, stress) conditions mapped to birth outcomes	Addresses root causes of inequity, enabling policy-aligned, multi-level safety responses for marginalized populations
19	Davey & Krisjanous, 2023	Value Co-Creation Integrated Care Model	Value-in-Use Dimensions	Encompasses client agency, shared principles, equality, and relationship continuity	Adds clarity to integrated care by articulating experiential, woman-led values that underpin safe, person-centered midwifery
20	Murray-Davis et al., 2023	Creating, Shifting, Sharing Model	Creating Domestic Space; Shifting Tech; Sharing Ownership	Promotes home-like aesthetics, reduces reliance on technology, and fosters shared control of the birthing environment	Enhances trust, reduces clinical overreach, and encourages autonomy and emotional safety in birthing persons and care teams
21	Diaz et al., 2024	Capacity Building Framework	Four-Level Capacity Model	Includes conceptual evolution, policy integration, academic organization, and	Embeds intersectionality, policy alignment, and participatory training to equip

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
				inclusive pedagogy	health workers for culturally safe, migrant-inclusive maternal care
22	Almond & Lloyd, 2024	"Key" Shaped Professional Model	Core, Deep, and Broad Capabilities	Combines discipline-specific expertise with adaptive, cross-domain digital and strategic skills	Supports safe, future-ready care by fostering flexible, tech-enabled midwifery professionals equipped for a dynamic, person-centered health landscape
23	Milton et al., 2025	Midwifery Continuity of Carer (MCoC) model	Implementation Framework Integration	Combines Normalisation Process Theory (NPT) and CFIR to explore micro, meso, and macro-level processes	Enhances system-level understanding of adoption and scale-up strategies for midwifery-led continuity models
24	(Paz et al., 2025)	Multiple Midwifery Theories	Professionalism, Partnership, Cultural Respect, Decision-making, Woman-Centered Care	Theories emphasize caring models, bioethical frameworks, decision-making processes, and competencies	Ensures midwifery frameworks align with safety, relational integrity, autonomy, and holistic maternal outcomes
25	O'Reilly et al., 2025	Conceptual Model of Emotional Safety in Maternity Care	Feeling secure, feeling heard and cared for, respectful care, calm environment	Four defining attributes describe how birthing persons perceive emotional safety during care	Guides midwives in fostering relationship-based care that centers client voice, agency, and psychosocial safety, enhancing trust and reducing trauma
26	Wilhelm et al., 2025	Journey to Health (UNICEF)	Trust-building, digital literacy, misinformation management	Addresses both HCP and client challenges with digital health content and misinformation	Empowers midwives to bridge information gaps and counter misinformation, enhancing maternal safety through effective communication
27	Salmon et al., 2017	PFME Conceptual Model (CIS-based)	Organizational leadership, professional norms, inter-professional cooperation,	Synthesizes relationships across system levels and perspectives influencing PFME	Offers evidence-informed foundation for designing midwife-led

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
			individual HCP and women's attitudes	delivery and engagement	PFME programs, enabling more consistent, effective pelvic health prevention
28	Buchanan et al., 2023	Woman-Centred Ethics Conceptual Model	Woman-defined values, trust, relationships, shared knowledge, solidarity	Ethical midwifery is co-produced with women, shaped by trust and relational ethics over rules or policies	Supports culturally and contextually respectful care, empowering women while reinforcing relational safety and practitioner accountability
29	Munns et al., 2016	WA Goldfields Aboriginal Community Antenatal Program	Community Midwifery Partnership	Collaboration between midwives and Aboriginal health workers in providing local, culturally respectful care	Builds trust, improves service access and cultural alignment, ensuring safer and more responsive maternal care in underserved regions
30	Borrelli et al., 2016	Kaleidoscopic Midwife Model	Promoting Individuality; Supporting Embodied Limbo; Helping to Go with the Flow; Providing Information and Guidance; Physical Presence; Immediately Available Presence; Relationship-Mediated Being; Knowledgeable Doing	Personalized care, emotional support during uncertainty, adaptability, active communication, consistent presence, emotional continuity, and expert action	Builds trust, fosters emotional and psychological resilience, encourages informed decision-making, enhances competence perception, and supports continuous and respectful care across birth settings
31	Afulani & Moyer, 2016	DiSBA Framework	Proximal Determinants	Perceived need, perceived access, and perceived quality mediate SES impacts	Focus on modifiable perceptions that influence maternal health behavior and reduce disparities in skilled birth attendance
32	Newnham et al., 2016	Critical Analytic Model of Childbirth Practices	Four-tiered system analysis: Macro-social, Intermediate-social, Micro-social, Individual	Framework connects political economy, institutional practices, midwifery technologies, and women's embodied	Enables critical reflection and linkage of power structures and cultural norms to midwifery care and patient

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
				experience	experiences, enhancing context-aware safety strategies
33	Smith, 2016	Midwife–Physician Interprofessional Collaboration Framework	Shared goals, mutual respect, communication, autonomy, accountability, context awareness	Framework integrates relational, procedural, and contextual dimensions of collaboration	Supports evidence-based interprofessional practice to improve maternal outcomes, increase access, reduce fragmentation, and support safe, team-based midwifery care
34	Abou-Malham et al., 2015	Action Plan for Midwifery Role Strengthening	System Integration and Educational Reform	Combines sociocultural, educational, and institutional change strategies to empower midwifery	Realigns curricula and policy to enable competent, recognized midwives to lead safer maternal and newborn care in national systems
35	(Organization, 2023)	Transitioning to Midwifery Models of Care: Global Position Paper	System Integration and Continuity of Care	Promotes midwife-led continuity as a global standard for reducing maternal and neonatal harm through integrated primary care systems	Provides a policy roadmap for embedding independent midwifery into national health systems, ensuring equity, continuity, and safety in community settings
36	((ICM), 2021)	Essential Competencies for Midwifery Practice	Competency-Based Regulation and Education	Defines professional competencies across domains of clinical skill, ethical conduct, and cultural safety	Establishes a global foundation for safe, autonomous midwifery practice by aligning education, regulation, and professional accountability
37	(Organization, 2021)	Global Strategic Directions for Nursing and Midwifery 2021–2025	Leadership and Workforce Strengthening	Outlines four policy pillars—education, jobs, leadership, and service delivery—for improving global maternal health	Strengthens system-level conditions that enable safe, independent midwifery through leadership development and

No	Author(s) & Year	Model or Framework	Core Component	Description	Why Critical for Implementation
					equitable workforce planning
38	(Midwives, 2020)	National Midwifery Guidelines for Consultation and Referral (4th Ed.)	Structured Consultation and Escalation Pathways	Provides evidence-based criteria for referral, collaboration, and risk management in community and home birth contexts	Ensures early detection of complications and standardized communication across care levels, reducing preventable adverse outcomes
39	((UNFPA), 2021)	State of the World's Midwifery Report	Capacity Building and Policy Advocacy	Synthesizes global midwifery data and recommends policy reforms for workforce, education, and service integration	Demonstrates that scaling midwife-led models through system investment directly improves safety and reduces maternal and newborn mortality

Reflective Practice, Ethics, and Professionalism

Core components related to reflective capacity, ethical reasoning, and professionalism serve as foundational pillars for implementing patient safety in independent midwifery. These elements shift safety from a purely procedural concern to a dynamic, relational, and values-driven practice that centers the experiences and moral realities of birthing individuals. Global frameworks position reflective practice, ethical reasoning, and professionalism as the cornerstones of safe and autonomous midwifery. The *World Health Organization* (2021, 2023), *International Confederation of Midwives* (2021), and *United Nations Population Fund* (2021) collectively emphasize that these competencies are not only technical expectations but moral imperatives underpinning quality care. The *Australian College of Midwives* (2020) similarly codifies reflection, accountability, and professional integrity within its national guidelines for consultation and referral, embedding ethical reasoning and self-awareness into everyday decision-making. Together, these global frameworks establish the normative foundation upon which empirical models of reflective and ethical midwifery practice are built.

Bass et al. (2017) introduced the Holistic Reflection Model (HRM), which supports emotional, cognitive, and contextual reflection to help midwives make sense of complex or ethically charged clinical events. This reflective process enhances safety by fostering self-awareness, emotional regulation, and morally grounded decision-making. Cusack et al. (2019) mapped the "Processes of Professionalism," defining professionalism not as a static trait but as a developmental process involving accountability, advocacy, and relational ethics. These competencies are essential for navigating the moral ambiguity and interpersonal demands inherent in midwifery practice.

Ethical care, co-produced with women, is central to Buchanan et al. (2023)'s Woman-Centred Ethics Conceptual Model. It reframes ethical safety as a shared responsibility built on values such as solidarity, trust, and relationship-based care, elements that cannot be standardized but must be dialogically shaped. Similarly, Feeley et al. (2020)'s Feminist Pragmatist Narrative Model equips midwives to navigate clinical uncertainty by embracing narrative ethics. It encourages moral reasoning through storytelling, positioning each woman's account as a critical source of knowledge.

O'Reilly et al. (2025) advanced the notion of emotional safety as a core component of patient-centered care. Their conceptual model identifies perceptual and relational attributes, such as feeling secure, respected, and heard, that define emotional safety from the birthing person's perspective. These components act as critical enablers of safety, especially in emotionally intense care environments.

Taken together, these models show that safety in independent midwifery is not merely a matter of clinical checklists or risk reduction. It is deeply intertwined with how midwives reflect, relate, and ethically engage with those they serve. When reflective practice, ethical grounding, and professionalism

are deliberately fostered, midwifery care becomes not only safer, but more humane, equitable, and empowering.

Continuity of Care, Relational Trust, and Person-Centered Models

Continuity of care and relational trust are among the most consistently cited components for ensuring safety in independent midwifery. These frameworks emphasize emotional security, mutual understanding, and long-term relationships, creating care environments where women feel known, respected, and supported throughout the childbearing continuum.

Leahy-Warren et al. (2017) introduced a lifespan-based care model that extends midwifery support beyond pregnancy to encompass the broader health trajectories of women and families. By embedding care in the social fabric of communities, this model promotes continuity not just in service provision, but in life-course wellbeing. Gamble et al. (2019) operationalized relational continuity through their Curriculum Embedded Continuity of Care Experience (CCE), where midwifery students follow women across antenatal, intrapartum, and postpartum stages. This not only deepens student learning but reinforces safety through emotional rapport and consistency in care.

Dharni et al. (2021) advanced these principles in practice through reduced caseloads and flexible scheduling, concrete measures that make time and space for relationship-building. Their findings underscore that trust, empathy, and personal connection are not abstract ideals, but structurally contingent outcomes. Similarly, Milton et al. (2025) used implementation science frameworks (NPT and CFIR) to examine how Midwifery Continuity of Carer (MCoC) can be embedded at the system level. Their model highlights the importance of readiness, coherence, and stakeholder alignment in ensuring that relational care models are not only designed, but sustained.

Borrelli et al. (2016) contributed the Kaleidoscopic Midwife Model, where "relational presence" emerges as a key safety mechanism. Components such as physical availability, emotional attunement, and individualized support are shown to reduce fear, enhance confidence, and foster physiological labor. Davey & Krisjanous (2023) extended these insights through a Value Co-Creation Model, linking the midwifery partnership to integrated care logic. Their framework frames safety as co-produced through shared principles, agency, and continuity, highlighting the mutual and negotiated nature of care.

Together, these components show that safety is not merely the absence of harm but the presence of trust, connection, and continuity. By structurally embedding relational care into midwifery models, systems can foster safer, more person-centered maternal health experiences.

Systemic Reform, Regulation, and Leadership Models

Core components in this category focus on embedding midwifery within robust national and global health systems through governance, institutional reform, and leadership development. These frameworks move beyond clinical settings to address the policy, regulatory, and infrastructural conditions necessary for safe, autonomous midwifery practice.

Klopper et al. (2020) proposed the GAPFON Global Domains framework, which identifies leadership, education, practice, regulation, and workforce as interdependent levers for advancing nursing and midwifery globally. This model emphasizes strategic leadership and advocacy to secure midwifery's place in high-level health planning and maternal safety reform. In the U.S. context, Kennedy et al. (2018) developed the MERA Consensus Model to align state licensure, education standards, and practice autonomy. By unifying regulatory frameworks, the model facilitates midwife mobility, enhances patient trust, and reduces fragmentation in care delivery.

System reform also includes policy adaptation in response to context-specific barriers. Abou-Malham et al. (2015) proposed a national action plan in Lebanon to strengthen the midwifery role through education reform and competency-based training. Their work illustrates how aligning curricula, service delivery, and regulation is critical for elevating midwifery's status and ensuring implementation of safe maternal care practices.

Institutional and network-level analyses further reveal how system actors shape midwifery integration. Mattison et al. (2020) used actor-based analysis to explore power relations across academic, policy, and service sectors, showing how institutional champions and aligned governance structures are essential for midwifery systemization. Diaz et al. (2024) expanded this through a Four-Level Capacity Building Framework that includes conceptual, pedagogical, organizational, and policy domains, each offering specific entry points for reform.

Simoncic et al. (2022) added a public health perspective with their adaptation of the WHO's Social Determinants of Health model, mapping how legal status, economic security, and housing affect maternal outcomes for immigrant populations. Their approach calls for structural responses beyond clinical interventions. Finally, Almond & Lloyd (2024) introduced a model for future-ready midwifery roles that incorporates digital and interdisciplinary capacities, positioning midwives as system navigators in increasingly complex care environments.

Together, these components underscore that sustainable safety in midwifery is inseparable from system alignment. Leadership, regulation, and institutional design are not peripheral supports but central mechanisms for embedding safe, respected, and well-integrated midwifery care.

Education, Training, and Simulation-Based Capacity Building

Education and training models are critical enablers of patient safety, equipping midwives with the reflective, technical, and relational skills necessary for high-quality, autonomous practice. This theme includes pedagogical frameworks that center equity, cultural alignment, and embodied learning, moving beyond rote instruction toward transformative professional development.

Grabowski et al. (2020) developed a reflective lactation simulation (LactSim OSCE), integrating emotional realism and practical breastfeeding scenarios into midwifery training. The model fosters skill acquisition alongside empathy and adaptability, illustrating how simulation-based education can close the gap between theory and practice. Gresh et al. (2022) used Kolb's Learning Cycle to design midwifery training that is iterative and learner-centered. Through concrete experience, reflective observation, abstract conceptualization, and active experimentation, midwives are better able to integrate complex competencies into real-world care.

Equity and social justice are also key dimensions of safety-focused education. Effland et al. (2020) proposed a framework for equity-oriented reforms in midwifery education, emphasizing cultural humility, historical awareness, and critical self-reflection. Their work calls for deep curricular shifts that prepare midwives to navigate systemic injustice and provide culturally safe care. Similarly, Mathias et al. (2020)'s Salutogenic Pedagogy centers well-being, not just for clients, but for midwives themselves. By nurturing resilience, coherence, and emotional self-awareness in learners, this model strengthens the long-term sustainability of safe care.

Salmon et al. (2017) addressed pelvic floor muscle exercise (PFME) implementation using a multilevel engagement model. They mapped individual, organizational, and policy factors affecting the success of clinical training, showing that safety-promoting education must be context-responsive and supported across system levels. Munns et al. (2016) added a culturally grounded perspective with their Aboriginal maternal health worker program, pairing community midwives with local partners to co-deliver antenatal education in rural Australia. This model ensures not only technical competence but also cultural congruence, improving access, trust, and maternal outcomes. Taken together, these models highlight that midwifery training is most effective when it is reflective, experiential, and socially attuned. Simulation, critical pedagogy, and contextual adaptation serve as essential tools for embedding safety at the heart of professional formation.

Communication, Collaboration, and Interprofessional Practice

Communication and interprofessional collaboration are recurring implementation enablers in patient safety models for independent midwifery. These frameworks emphasize shared values, structured communication tools, and relational alignment across professional boundaries, factors that reduce fragmentation and promote continuity during critical transitions of care.

Spranzi & Norton (2020) introduced the Takeover Communication Model, organized around the 5Ps mnemonic: purpose, people, process, patient, and plan. Designed to support safe handovers and professional transitions (such as from midwife to obstetrician), the model fosters clarity and ethical continuity. It ensures that information exchange is both procedurally sound and relationally respectful, an essential safeguard against miscommunication and loss of autonomy in high-stakes care episodes.

Smith (2016) developed a Midwife–Physician Interprofessional Collaboration Framework through conceptual mapping and national surveys. The model identifies shared goals, mutual respect, communication protocols, and professional autonomy as core relational structures that facilitate safe, team-based care. It underscores that interprofessional success is contingent not just on formal agreements, but on cultural readiness and aligned institutional expectations.

In the context of culturally diverse populations, Shroff et al. (2019) documented the functioning of interdisciplinary diasporic teams in community health centers. Their findings revealed that collaboration between midwives, nurses, social workers, and interpreters created more holistic, coordinated care. Shared language access tools and cross-disciplinary meetings were critical in overcoming barriers related to trust, immigration status, and stigma, especially among marginalized groups. Together, these components show that communication and collaboration are not auxiliary features, but core safety mechanisms in midwifery. Structured interaction tools, shared professional values, and interdisciplinary trust serve to integrate fragmented systems and ensure respectful, person-centered care across the continuum.

Spatial Design, Trust-Building, and Woman–Midwife Agency

Safety in midwifery is shaped not only by technical skill but also by the environment of care, the trust cultivated within relationships, and the shared agency between women and providers. Frameworks

in this theme emphasize that psychological safety, spatial autonomy, and cultural coherence are foundational to effective care, especially for women navigating marginalized or unfamiliar health systems.

Murray-Davis et al. (2023) developed the Creating, Shifting, Sharing model to guide the architectural and philosophical design of Alongside Midwifery Units (AMUs). Their framework highlights domestic aesthetics, minimal medicalization, and shared ownership of space as mechanisms that foster emotional regulation, reduce anxiety, and support physiological birth. The model illustrates how physical space can empower birthing persons and reinforce midwifery values of calm, presence, and respect.

In digital spaces, Wilhelm et al. (2025) addressed the rising role of misinformation in shaping maternal safety perceptions. Their Journey to Health model maps how women encounter, interpret, and respond to online health content, particularly in low-trust systems. The framework positions midwives as crucial intermediaries, facilitating trust, correcting misinformation, and guiding women through emotionally charged digital environments. In this way, digital trust-building becomes an extension of spatial and relational care.

Afulani & Moyer (2016) contributed the Disparities in Skilled Birth Attendance (DiSBA) Framework, which conceptualizes how socioeconomic status shapes perceived need, access, and quality of maternity care. These proximal determinants are shown to mediate a woman's engagement with skilled birth services, underscoring that safety is not universally experienced, but filtered through structural inequities and perceived dignity. The model reinforces the need for culturally tailored, socially aware care that respects women's self-defined risks and realities.

Newnham et al. (2016) provided a Critical Analytic Model of Childbirth Practices that examines how power operates across macro-social, institutional, and interpersonal levels. By mapping how policies, routines, and discourses shape the birthing experience, the model empowers midwives to reflect on their role within systems of control and co-create agency with women at the point of care. Collectively, these frameworks show that spatial design, narrative trust, and co-produced decision-making are not peripheral elements of safety, they are its core architecture. Empowering environments, whether physical or relational, allow women and midwives to negotiate care from a place of mutual respect, dignity, and shared control.

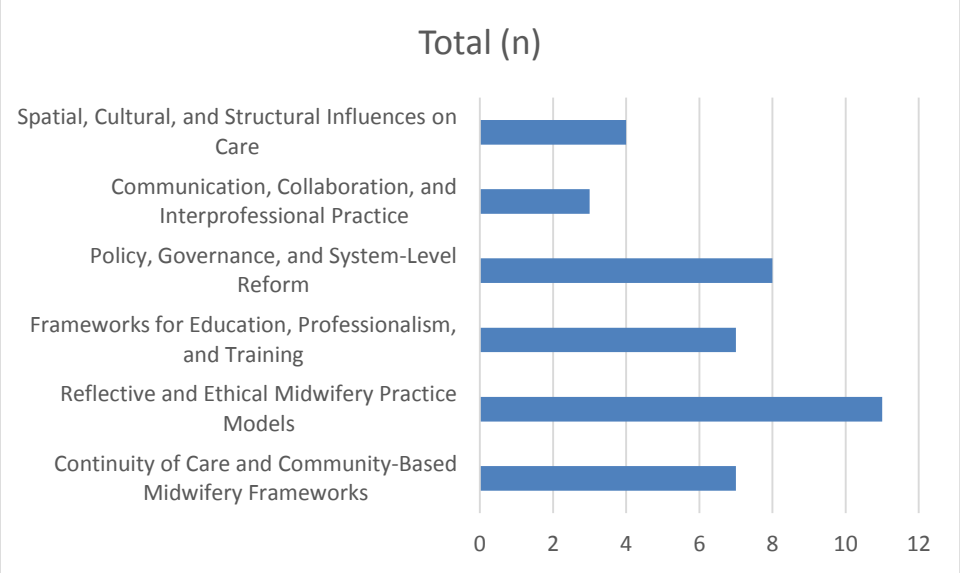

Figure 3 Core Components for Effective Implementation of Patient Safety Models

The thematic synthesis comprises 39 sources, encompassing 34 empirical studies and 5 grey literature documents that collectively map the conceptual and operational foundations of patient safety in independent midwifery. The themes most represented are *Reflective Practice, Ethics, and Professionalism* (11 sources), which integrates both empirical models—such as the Holistic Reflection Model (Bass et al., 2017) and the Woman-Centred Ethics Conceptual Model (Buchanan et al., 2023)—and global frameworks from WHO, ICM, UNFPA, and ACM. *Systemic Reform, Regulation, and Leadership Models* follow with 8 sources, highlighting governance and policy integration, including the GAPFON® Model and the MIDWIZE Framework. *Education, Training, and Simulation-Based Capacity Building* includes 7 pedagogical models focusing on reflective and equity-oriented learning, while *Continuity of Care, Relational Trust, and Person-Centered Models* (6 sources) emphasize relational safety and community engagement. The themes *Spatial Design, Trust-Building, and Woman–Midwife Agency* (4 sources) and *Communication, Collaboration, and Interprofessional Practice* (3 sources) address environmental, relational, and interdisciplinary dimensions

of safety. Together, these themes illustrate a multidimensional synthesis where clinical, ethical, educational, systemic, and spatial elements converge to define comprehensive midwifery safety frameworks.

Discussion

The synthesis of 39 studies shows that occupational health and safety (OHS) promotion in educational and vocational kitchen laboratories works best when educational, behavioral, technological, environmental, and policy elements are integrated into a single strategy. Structured training programs such as the WHO's 5 Keys to Safer Food (Razeghi et al., 2018; Asmahan et al., 2021) and multimedia campaigns like Fight BAC! videos (Barrett et al., 2020) consistently improved procedural knowledge and awareness. However, these gains in knowledge often failed to translate into sustained behavioral change without additional reinforcement. Cognitive–behavioral frameworks such as the Trans-Theoretical Model (Ebadi Vanestanagh et al., 2019) and Social Cognitive Theory (Olfert et al., 2019) demonstrated greater long-term behavioral adoption, underscoring the mediating role of self-efficacy and readiness for change.

Technology-enhanced approaches, including AR-LabOr (Nadeem et al., 2020) and gamified learning platforms (Koch et al., 2022; Steele et al., 2025), emerged as highly engaging for younger learners. These tools offer immersive, interactive experiences that go beyond passive information transfer, improving retention and practical skill application. Yet, their effectiveness is constrained by disparities in infrastructure, internet access, and digital literacy across different regions. This highlights the need to adapt technological interventions to resource availability while retaining their interactive and learner-centered qualities.

Environmental and ergonomic interventions, such as workstation redesign (Park et al., 2021) and the provision of personal protective equipment (Wassif et al., 2024), directly address structural risk factors in kitchen laboratories. While these measures reduce the likelihood of physical injury, they are often underutilized when not paired with behavioral engagement strategies. Studies show that combining these structural safeguards with active learning, peer mentoring, and regular feedback sessions increases compliance and risk awareness. Therefore, physical safety improvements should be implemented alongside educational and social reinforcement to maximize their impact.

Persistent barriers identified across studies include low perceived risk, entrenched misconceptions, policy fragmentation, and socio-cultural norms that downplay safety concerns. Where interventions successfully overcame these barriers, they often involved stakeholder participation, culturally adapted delivery, and communication through multiple channels (Evans & Redmond, 2021; Teixeira et al., 2024). Institutional support, such as administrative commitment and structured peer mentoring, further reinforced positive safety behaviors. Conversely, lack of alignment between policy and practice often undermined otherwise well-designed programs. This suggests that OHS promotion requires simultaneous action at the individual, institutional, and policy levels.

In the Indonesian vocational kitchen context, the main gap lies in the absence of low-cost, scalable, and culturally relevant interventions. Evidence from other contexts suggests that combining video-based microlearning with routine safety talks and peer supervision can effectively embed safety practices into daily operations. Such a triadic model aligns with local resource constraints while addressing both cognitive and social dimensions of learning. By merging technical instruction with culturally grounded engagement, this approach has the potential to foster a sustainable safety culture. Ultimately, ensuring OHS in educational kitchens is not only a technical challenge but also a socio-cultural and institutional one that demands context-sensitive solutions.

A comparative reading of the 39 sources shows three intervention streams with different strengths and use conditions. Educational and reflective models like HRM, Kolb-based training, LactSim, salutogenic pedagogy, and professionalism frameworks consistently improve process and experience outcomes when they specify dose, supervision, and debrief. Technological and communication approaches such as structured handover models and digital trust guidance strengthen safety at referral and escalation boundaries where timing and information quality matter most. Environmental and system models including Creating–Shifting–Sharing, MIDWIZE, GAPFON, MERA, WHO, ICM, UNFPA, and ACM referral guidelines define the structural conditions that make continuity and appropriate intervention feasible. The most reliable gains appear when continuity models sit at the core and are supported by standardized handover inside a clearly governed system.

Several studies report implementation fidelity and process adherence rather than clinical rate changes, which aligns with the conceptual focus of the corpus. Continuity models that specify smaller caseloads and named-midwife pathways describe higher completion of scheduled contacts and more timely escalation at predefined triggers. Simulation-based training documents pre and post improvements on objective checklists and self-efficacy for targeted skills such as breastfeeding support. Structured handover models report increased completeness of critical information elements during transitions of

care. Environmental redesign studies note improved perceptions of calm, mobility, and shared control that are linked in this literature to appropriate intervention use.

For Indonesia, the translation of these findings is shaped by resource variability, training quality, and prevailing norms around safety and autonomy. Many rural and peri-urban areas face transport delays and uneven availability of emergency services, which makes referral timing a central design constraint. Training pathways do not always include community continuity placements or structured simulation with mentored debrief, which limits skill transfer to independent settings. Cultural expectations can prioritize productivity and deference to authority over proactive risk communication, which dampens adherence to protocols. These conditions favor phased pilots that begin where referral corridors and mentoring capacity are most ready.

Policy implications point to four practical moves that align with the reviewed frameworks. First, regulatory alignment can map national rules to MERA and ICM elements so scope, licensure portability, and third-party payment support midwife-led continuity teams. Second, a national consultation and referral standard adapted from ACM can define local risk tiers, maximum transit times, ambulance triggers, and a simple handover mnemonic for all transfers. Third, curriculum integration can hard-wire ICM competencies, simulation cycles with reflective debrief, and community continuity placements into vocational and professional programs. Fourth, service design can apply AMU principles to PMB and birth centers by ensuring space for mobility, privacy, family presence, and visible escalation stations that cue consistent safety behaviors.

A synthesized model can guide implementation across settings by clarifying how components interlock. At the center sits continuity of carer with named midwives, caseload norms, and explicit escalation triggers. The inner layer combines reflective and ethical practice with education elements such as OSCEs, simulation, and professionalism development. The middle layer standardizes interfaces through structured handover and midwife–physician collaboration and supports information quality in digital contexts. The outer layer addresses environment and system through spatial standards, referral governance, scope and financing rules, and workforce investment, while urban–rural and resource lenses adjust assumptions about time to facility and staffing.

Conclussion

For the first research question, the frameworks identified in this review can be grouped into six main thematic clusters, each representing a distinct approach to achieving patient safety in independent midwifery. The most empirically supported frameworks are those emphasizing continuity of care and community-based practice, such as the MCoC and CCE models, which have been repeatedly validated through implementation studies in various health systems. Reflective and ethical midwifery frameworks like the Holistic Reflection Model and the Woman-Centred Ethics Model are grounded in qualitative evidence, offering rich theoretical insights but limited large-scale validation. Education, professionalism, and training models, including simulation-based and equity-oriented frameworks, demonstrate strong evidence in improving competence and reflective learning. In contrast, policy, governance, and system-level frameworks such as GAPFON, MERA, and WHO Strategic Directions are primarily prescriptive and policy-driven, with their effectiveness dependent on context-specific adaptation. Models focused on communication, interprofessional collaboration, and spatial or cultural design remain largely exploratory, highlighting their theoretical promise rather than consistent empirical demonstration.

For the second research question, six core categories of implementation enablers emerge from the synthesis. Reflective practice, ethics, and professionalism form the ethical and cognitive foundation of safe care, supported by evidence of improved moral reasoning and communication. Continuity of care and person-centered approaches are the most evidence-backed enablers, ensuring relational trust and emotional security through named midwives and consistent follow-up. Systemic reform and leadership provide the necessary macro-level scaffolding by aligning policy, regulation, and financing with frontline safety practices. Education, training, and simulation-based capacity building sustain skill transfer and readiness, especially in decentralized or resource-limited settings. Communication and interprofessional collaboration remain crucial during handover and escalation, where errors most often occur, while spatial design and woman–midwife agency emphasize the enabling role of environment and autonomy. Collectively, these six enablers form an integrated framework that links personal competence, professional collaboration, and institutional governance into a single safety continuum.

The practical implications of this synthesis point to several actionable strategies. Integrating reflective practice into midwifery curricula can enhance ethical sensitivity and decision-making skills among students and practitioners. Embedding continuity of care pathways into national regulations can institutionalize relational safety and accountability, especially within independent and community-based settings. Policy frameworks should align regulatory standards, accreditation, and financial mechanisms to support independent midwives as key providers within primary care systems. Furthermore, adopting

standardized handover tools and simulation-based training can strengthen communication and risk management during clinical transitions. Environmental and cultural adaptations of birth spaces can also reinforce women's autonomy and psychological security, both essential dimensions of safety.

Despite its methodological rigor, this review has certain limitations that must be acknowledged. The inclusion of conceptual and grey literature expands theoretical diversity but may also introduce bias due to uneven empirical validation. Most of the reviewed models originate from high-income countries, which limits direct generalization to lower-resource contexts such as Indonesia. Additionally, the heterogeneity of study designs and outcome measures restricts the possibility of quantitative synthesis or meta-analysis. Future research should focus on empirical testing of theoretical models in diverse contexts and developing shared indicators for evaluating safety outcomes. A simplified visual summary, such as a table or diagram linking the six thematic clusters to the six implementation enablers, may aid policymakers and educators in translating these insights into practical frameworks for strengthening patient safety in independent midwifery practice.

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