Assessing the Quality of Obstetric Care During Labor: A Literature Review of Tools in Low- and Middle-Income Countries

VERSHA KUMARI

Master of Public Health and Health Equity
KIT (Royal Tropical Institute)
Vrije Universiteit Amsterdam (VU)

ASSESSING THE QUALITY OF OBSTETRIC CARE DURING LABOR: A LITERATURE REVIEW OF TOOLS IN LOW- AND MIDDLE-INCOME COUNTRIES

A thesis submitted in partial fulfilment of the requirement for the degree of Master of Science

in Public Health and Health Equity by **Versha Kumari**

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Abstract

Despite significant gains in facility-based births and skilled birth attendance in low- and middle-income countries (LMICs), maternal mortality remains unacceptably high, with the majority of deaths occurring during labor and the immediate postpartum period. Quality gaps, both in clinical processes and women's experiences of care persist as major contributors. This thesis presents a structured literature review of tools designed to assess the quality of obstetric care during labor in LMICs, using an adapted WHO Quality of Care framework for labor and childbirth.

Five tools were analyzed: the WHO Safe Childbirth Checklist (SCC), WHO Labour Care Guide (LCG), Person-Centered Maternity Care (PCMC) scale, Every Mother Every Newborn (EMEN) tool, and the Quality of Process Indicators for Intrapartum and Immediate Postpartum Care (QoPIIPC) index. Each was evaluated for alignment with WHO standards and appraised for feasibility, adaptability, and acceptability, drawing on empirical implementation evidence.

Findings revealed that SCC, EMEN, and QoPIIPC excelled in measuring clinical quality, whereas PCMC uniquely captured women's perspectives on dignity, communication, and autonomy. The LCG attempted to bridge clinical and experiential domains, with promising results in improving decision-making and reducing unnecessary interventions, though sustained use depended on training and supportive supervision. Across tools, alignment with WHO standards was stronger for clinical than experiential care, with emotional support, continuous companionship, and shared decision-making often neglected in practice.

No single tool provided a comprehensive assessment of both clinical and experiential quality. Integration of clinical process measures with respectful, person-centered care indicators supported by context-specific adaptation, provider engagement, and community involvement is essential for advancing maternal health outcomes. Policymakers and implementers in LMICs should prioritize development and institutionalization of holistic, feasible tools that can drive continuous quality improvement during labor.

Keywords: Quality of Care, Labor Care, Obstetric Care, Quality Assessment Tools, LMICs

Word Count: 11,243

Contents

List of Tables

Abbreviations

ANC: Antenatal care

ANC1+: Antenatal care consultations

EMEN: Every Mother Every Newborn

EmONC: Emergency Obstetric and Newborn Care

GDP: Gross domestic product

IHI: Institute for Healthcare Improvement

LCG: Labour Care Guide

LMICs: Low- and middle-income countries

mPROM: Maternal Patient-Reported Outcome Measures

PCC: Population-Concept-Context

PCMC: Person-Centered Maternity Care

PDSA: Plan–Do–Study–Act

PNC: Postnatal care

QoPIIPC: Quality of Process Indicators for Intrapartum and Immediate Postpartum Care

SARA: Service Availability and Readiness Assessment

SBA: Skilled birth attendants

SCC: Safe Childbirth Checklist

SPA: Service Provision Assessment

TFR: Total fertility rate

UNFPA: United Nations Population Fund

VU: Vrije Universiteit

WHO: World Health Organization

Key Terms

Intrapartum period: The time from the onset of true labor until the birth of the infant and expulsion of the placenta(1).

Labour Labor is a series of continuous, progressive contractions of the uterus that help the cervix dilate (open) and efface (thin). This allows the fetus to move through the birth canal(2).

Skilled Birth Attendant: A skilled birth attendant is an accredited health professional - such as a midwife, doctor or nurse - who has been educated and trained to proficiency in the skills needed to manage normal (i.e. uncomplicated) pregnancies, childbirth and the immediate postnatal period, and in the identification, management and referral of women and neonates for complications(3)

Feasibility: Feasibility examines the degree to which an intervention may be implemented when resources, time, commitment or some combination of these are limited(4).

Adaptability: It examines to what degree does an existing idea, programme, process, or measure function when adapted for a new form or with another population(5).

Acceptability: It explores to what degree is a new programme idea, programme, process or measure evaluated as appropriate, fulfilling, or appealing to programme deliverers and also to programme recipients(4)(5)

Acknowledgements

Introduction

My name is Versha Kumari, a medical doctor from Sindh, Pakistan. I have worked as a General Practitioner in rural areas, where I saw first-hand the challenges women face during childbirth. Maternal mortality in these areas is alarmingly high. While the lack of basic infrastructure, essential medicines, and supplies has long been a barrier, even recent improvements supported by funding have not translated into consistent quality of care. Overburdened staff, limited training, and weak systems continue to compromise safe and respectful maternity services.

One case I will never forget involved a young woman in obstructed labor. Instead of receiving comfort or reassurance, she was shouted at and roughly handled by exhausted staff. There were no immediate life-saving interventions available, and she was referred late, with devastating consequences. Witnessing such treatment made it clear to me that quality of care is not only about clinical interventions but also about how women are treated. Respect, dignity, and effective communication are essential for safe childbirth, yet often ignored in practice.

This thesis is driven by the belief that improving the quality of care during labor is critical to reducing maternal mortality in low-resource settings. It reviews existing tools for assessing the quality of obstetric care in low- and middle-income countries, examining their strengths, limitations, and applicability to contexts like rural Pakistan. The aim is to identify practical approaches for measuring and improving care so that every woman can experience safe, respectful, and evidence-based support during childbirth.

CHAPTER 1: BACKGROUND, PROBLEM STATEMENT AND OBJECTIVES

1.1 Background

1.1.1 Geographical, Demographic, and Political Context

Low- and middle-income nations (LMICs) encircle a vast majority of areas across various continents. World Bank categorization of LMICs for the 2024-2025 fiscal year involves approximately 135 nations in low-income, lower-middle-income, and upper-middle-income categories(6).LMICs are distributed globally, predominantly across Sub Saharan Africa, South Asia, Southeast Asia, Latin America, and parts of the Middle East and North Africa and host over 75% of the global population, representing diverse demographic profiles shaped by high fertility, youthful structures, and persistent urban–rural disparity (7)(8). As of 2023, the total fertility rate (TFR) in LMICs stood at around 2.6 births per woman in lower-middle-income countries and about 4.16 in low-income countries, especially in regions such as Sub Saharan Africa, where fertility rates vary between 4 and more than 6 births per woman(9). About 30-40% of LMICs are conflict- or fragile-states, particularly in sub-Saharan Africa and countries such as Yemen, where instability interrupts human resources and healthcare. LMICs bear a disproportionate proportion of the world's maternal mortality burden.(10).

1.1.2 Socioeconomic Context

Socio-economic standing in LMICs is characterized by entrenched poverty and inequality, with mean GDP per capita standing at $5,975 in 2024(11). An estimated 700 million people live in abject poverty as of 2024, two-thirds of them being in Sub-Saharan Africa. Poverty reduction has been on standstill since the pandemic, while inequality has been on the high side, particularly in countries that are fragile and conflict-affected.(12). At the intersection of poverty and rurality, women face greater childbirth risks due to financial barriers and underfunded maternal health systems in many LMICs(13)(14).

1.1.3 Overview of Health Systems in LMICs

Most low- and middle-income country health systems are unorganized, with government-run hospitals that do not have resources and health workers and private providers operating independently without coordination or shared quality standards.

This generates service gaps and inequitable variations in access to care.(15). The WHO proposes at least 2.3 skilled health professionals (doctors, nurses, and midwives) for every 1,000 individuals in order to have sufficient access to vital healthcare facilities.(16)

Most countries, especially those with few resources and in rural settings, are considerably below this benchmark, some of them even having one health worker per 1,000 (16)(17). Primary level health units, which are usually the first contact, particularly for pregnant women, often do not have basic resources and functional referral networks to higher facilities, while secondary and tertiary centers in cities endure overburden from poor referral systems(15)(18).

Health financing within these facilities continues to rely predominantly on out-of-pocket payments often over 40% of household health spending pushing numerous households into catastrophic expenditure and limiting timely access to maternal services(19). In addition, low quality of maternal care fueled by poor inputs, limited clinical capacity, and poor referral

systems subverts service use and accounts for the majority of preventable maternal and neonatal mortality within LMICs (20).

1.1.4 Maternal Health Context in LMICs

Maternal health encompasses the well-being of women throughout pregnancy, labor and delivery, and the postpartum period.(21). Maternal healthcare services play a crucial role in ensuring the health and well-being of both mother and child(22). These services include consultations of pregnant women with trained health professionals during pregnancy, the presence of skilled birth attendants at the time of childbirth, childbirth in health facilities (institutional delivery), and postnatal care offered shortly after giving birth(22). In most LMICs, maternal health service access has significantly improved For example: In low- and middle-income countries (LMICs), the coverage of at least one antenatal care (ANC) visit increased from approximately 73% in 2000 to 89% by 2022,(23).and the percentage of births attended by skilled personnel has risen dramatically to 80%(24). Nonetheless, there is growing recognition that high coverage rates alone may not be adequate to reduce mortality. Although reaching a large number of health facility visits is a positive achievement, it does not necessarily lead to improved outcomes and can be misleading if it does not reflect whether care is delivered in line with established standards and clinical guidelines(25). Therefore, enhancing the quality of care and addressing the preventable causes of maternal and newborn deaths has become a critical priority(26). The World Health Organization (WHO) aims to ensure that "every pregnant woman and newborn receives quality care throughout pregnancy, childbirth, and the postnatal period"(27). Improving the quality of carei.e:antenatal, childbirth, and postnatal care even without increasing service coverage can lead to a significant reduction in maternal and newborn deaths(28).

Suboptimal compliance with evidence-based intrapartum care, poor monitoring, and delayed complication management are major contributors(29). Disrespectful and abusive treatment during childbirth, seen by as many as 40% of women, also undermines trust and discourages facility delivery(30). These persistent quality gaps highlight the immediate need for tools to measure and improve the real content and experience of quality of maternal care during labor in LMICs.

1.2 Problem Statement:

While improvements have been made worldwide in the increase in coverage of maternal health services especially facility-based births and skilled birth attendance, now over 80–90% in most LMICs, maternal mortality is still alarmingly high(24) (25). In 2023, around 260,000 women died from preventable pregnancy and childbirth complications one every two minutes. Over 90% occurred in low- and lower-middle-income countries, with sub-Saharan Africa and South Asia alone accounting for 87%(31). The leading proximate causes of maternal death across LMICs are post partum haemorrhage, hypertensive disorders and sepsis all of which are largely preventable with timely, high quality intrapartum care by skilled health professionals(31).

There is a strong evidence demonstrating that the highest rate of maternal death has happened in the period around childbirth and immediate postpartum period(32). Improvement in quality of care throughout the intrapartum period can have a huge impact on maternal and newborn survival and well-being (28). Improvement in quality of intrapartum care can be made with proper access to skilled birth attendants with evidence-based practices and respectful care, supportive facility environment, proper use of effective clinical and non-clinical best practices, improvement in healthcare infrastructure, and ensuring healthcare providers have optimal skills, knowledge, and positive attitude(33). However, while global efforts have increased SBA coverage in many low- and middle-income countries, this does not guarantee high-quality care.(354Multiple

studies have shown that high SBA coverage does not always translate into improved outcomes, as care may still be neglectful, unskilled, or disrespectful.. (34)(35). Service provision assessment (SPA) and service availability and readiness assessment (SARA) dataset repeatedly demonstrate that a majority of the facilities do not have the personnel, equipment and protocol needed for Emergency Obstetric and Newborn Care(EmONC)(36). Despite policy focus on institutional birth in Bangladesh, A 2025 national facility survey in depicts the gap; just 11 of 135 subdistrict hospital 8.1%, offered all EmONC indicators, and overall readiness only increased by 0.02 points from 2014 to 2017(0.67 to 0.69) despite policy focus on institutional birth(37). At the global level, United Nations Population Fund (UNFPA) reported that by the end of 2024, only 19 LMICs had established routine annual monitoring of EmONC service availability and performance(38). This limited uptake reflects a broader accountability gap in tracking whether essential childbirth services are available, functioning, and equitably distributed. With the ongoing mortality burden, inequities and documented readiness gaps, LMIC decision-makers are under pressure to get beyond crude coverage indicators to strong measures of quality of care. Several global health tools exist to assess the quality of intrapartum care such as the WHO Safe Childbirth Checklist(SCC)(39), WHO Labor Care Guide(LCG)(40),patient-reported, experience-based scales like Person-Centered Maternity Care(PCMC)(41) and Every Mother Every Newborn Tool (EMEN)(42) and the Quality of Process Indicators for Intrapartum and Immediate Postpartum Care (QoPIIPC) (43) However, no single official guidance outlines which tool is most appropriate for specific contexts or how to integrate and compare data across different instruments. This fragmentation poses challenges for standardized national monitoring of quality of care.

Given these limitations, there is an apparent need for a review of available tools measuring intrapartum quality care. In LMICs, where health systems have diverse capacities and resource levels, there is a critical need for strong and validated tools to measure the quality of clinical processes as well as women's experience of care accurately. Health systems are unable to identify gaps in care, track progress, and hold people accountable for maternal health programs in the absence of these tools. This thesis addresses this gaps through a literature review of tools measuring intrapartum care quality in LMICs. . It evaluates their alignment with WHO standards and examines their scope, structure, feasibility, and contextual adaptability. In doing so, it aims to generate evidence to inform researchers, policymakers, and implementers working to improve maternal and newborn outcomes during the most critical period of childbirth.

1.3 Objective

1.3.1 General Objective

To conduct a review of existing tools to assess and understand the quality of care during labor (obstetric care) in low- and middle-income countries. The review will explore available tools, methods, their strengths, limitations, and applicability to low-resource settings, providing a comprehensive foundation for future research and policymaking.

1.3.2 Specific objectives:

1. To identify and evaluate existing tools for quality of obstetric care in LMICs, against the WHO's eight standards for quality maternal and newborn care.
2. Appraise each tool for feasibility, adaptability and applicability using empirical implementation
3. To provide recommendations for improving or adapting these tools to promote better quality of care during labor in LMICs.

CHAPTER 2: RESEARCH METHODOLOGY

2.1. Conceptual/Analytical Framework:

The study followed WHO standards for quality care for maternal and newborn. Additional to the conceptual framework, the study use Plan-Do-Study-Act theory to measure and improve obstetric care during labor

2.1.1. WHO Standards for maternal and newborn care:

This review adopts the 2016 WHO standards for improving obstetric /labor quality of care in health facilities as the analytical framework .The standards expands the classic Donabedian structure-process-outcome model into eight functional domains. Standards 1&2 (adequate physical resources and qualified motivated human resources) is the S component; Evidence-based practices ,information systems, referral communication, respect & dignity, and emotional support under Standards 3-8 make up the P component; maternal and newborn health indicators monitored by WHO making up the O-component.(45)(46) These eight standards of quality care is further divided into 31 statements(46). Since this study only focuses on Labor care, all the statements are not applicable. After careful consideration, the 24 statements of the eight standards are taken as the conceptual framework of this study. Table is in Annex 1. To further understand each tool the study will explore three more dimension: acceptability, adaptability and feasibility. Some of the literature has shown these three component is useful to evaluate / to assess the effectiveness of the tools (47)(48)(49)(50)

2.1.2. Integration of the Plan–Do–Study–Act (PDSA) Theory

One of the most commonly applied frameworks for organizing these kinds of efforts is the Plan–Do–Study–Act (PDSA) cycle, which enables repeated testing and learning in order to sharpen health interventions. Originally developed by Shewhart (1939) and subsequently applied to more general purposes of quality improvement by Deming (1986). In medicine, the Institute for Healthcare Improvement (IHI) has made the PDSA model mainstream as an integral component of its collaborative strategy for enhancing care processes and systems (44). Within maternal and newborn health, the PDSA cycle is especially applicable since numerous quality tools are designed not only to assess performance, but also to guide improvement. As highlighted in WHO's vision for quality of care, tools for the assessment of quality should be able to enhance accountability and immediate feedback that can influence improved outcomes for women and newborns(27). Therefore, this review includes tools that aim to both assess and support the improvement of obstetric care during labor in LMIC settings.

2.2 Methods and tools

2.2.1 Type of study and search strategy:

The study followed literature review as research method. The search for literature for this review was guided by the Population–Concept–Context (PCC) framework, which is suitable for focused literature reviews on health systems, implementation science, and tool assessment. The population of focus was women undergoing obstetric or intrapartum care, the concept was on tools to assess and improve quality, and the context was limited to low- and middle-income countries (LMICs).A focused database search was performed via PubMed using the following keywords:

Table 1: Search Strategy

PCC Element	Search Terms / Keywords
Population (AND)	"healthcare providers" OR "women" OR "maternity patients" OR "health facilities"
Concept (AND)	"quality assessment tool" OR "quality measurement" OR "evaluation tool" OR "audit tool" OR "checklist"
Context	"labor care" OR "labour care" OR "intrapartum care" OR "obstetric care" AND "low- and middle-income countries" OR LMIC OR "developing countries" AND

Filters were also used to limit the results to those articles with available full-text or abstracts and relevant article types such as: Books and Documents, Historical Articles, Introductory Journal Articles, Meta-Analyses, Observational Studies, Pragmatic Clinical Trials, Randomized Controlled Trials, Scientific Integrity Reviews, Scoping Reviews, Systematic Reviews, and Technical Reports. 185 articles resulted from this search. Following the removal of duplicates and screening of titles and abstracts against predefined inclusion criteria, eight articles were found to be directly related to the aims of the study. As a supplement to this, a snowballing technique was used in reading the reference lists of included studies, which yielded further relevant literature not found in the initial search. Aside from peer-reviewed articles, grey literature was also examined to provide complete coverage of tool documentation and contextual evidence. This includes technical guides, implementation toolkits, and guidebooks for every one of the chosen tools. These were accessed by means of targeted searches on institutional sites like the World Health Organization (WHO), UNICEF, the VU Amsterdam institutional repository, and Google, and employed to augment the mapping of tool content to the WHO Quality of Care standards. More research has been conducted to find individual tool on Google scholar, Scopus, VU website and Google browser.

2.3. Inclusion and Exclusion Criteria

The study considered the publication if they were published as peer-reviewed studies or accessible as relevant grey literature, for example, technical guides and implementation guides from known organizations like WHO and UNICEF. Included studies were those that particularly discussed the tools or instruments utilized to measure the quality of obstetric care during labor, focusing on either the delivery of care or women's experience of care. The research needed to be in low- and middle-income nations, and explore instruments like the Person-Centered Maternity Care (PCMC) scale, WHO Safe Childbirth Checklist (SCC), WHO Labour Care Guide (LCG), Every Mother Every Newborn (EMEN) standards, or the Quality of Process Indicators for Intrapartum and Immediate Postpartum Care (QoPIIPC). To ensure relevancy in the modern era, only publications between 2015 to 2025 were reviewed. In addition, only publications in the English language were used.

2.4 Data Extraction and Analysis

After reviewing the primary literature, the study found nine tool manuals seemed relevant to measure quality of obstetric care in LMICs. But after closer examination, five tools were chosen for a complete analysis: Person-Centered Maternity Care (PCMC) scale, WHO Safe Childbirth Checklist (SCC), WHO Labour Care Guide (LCG), Every Mother Every Newborn (EMEN) tool, and Quality of Process Indicators for Intrapartum and Immediate Postpartum Care (QoPIIPC). These instruments were chosen due to their specific attention to labor care, evidence of implementation in LMIC settings, and applicability to provision and experience of care.

2.5 Ethical Considerations

No primary data collection was conducted. All sources were open access, and ethical clearance was not necessary. The review adheres to institutional integrity guidelines and good citation procedures.

2.6 Methodological Limitations

The review was confined to English-language literature and peer-reviewed sources. This review is confined to published and accessible/open access literature, which might not reflect all the relevant tools or implementation experiences in LMIC.

CHAPTER 3: RESULTS

This chapter presents the key findings from the literature review undertaken to explore existing tools and approaches for assessing the quality of obstetric care during labor in low- and middle-income countries (LMICs). Drawing on evidence from peer-reviewed literature and primary studies, the review identified a range of tools currently in use, along with their core features, domains of care, and contextual relevance to low-resource settings. The results are thematically organized to highlight distinct categories of tools, including clinical checklists, experience-of-care surveys, observation-based tools and further aligned with adopted WHO statements. This analysis offers critical insight into how quality of care during labor is currently evaluated and provides a basis for identifying measurement gaps and guiding future improvements in maternal health assessment practices.

3.1. Overview of Tools

3.1.1. WHO Safe Childbirth Checklist (SCC) Tool
The WHO 2015 Safe Childbirth Checklist is a 29-item list designed tool that assists birth attendants in ensuring quality care practices are adhered during labor, delivery, and immediate postpartum care to ensure the safety and health of the mother and baby (39)see table. It has a simple,easy-to-use format structured in four key pause points: on admission, prior to pushing or cesarean, immediately after birth and prior to discharge(39). Each pause point includes specific key practices to avoid maternal and neonatal death.(39) Since the focus of this thesis is only during the labor period. So only two and a half pause point will be considered. See the annex(). The pause points are further mapped with WHO quality statements..

3.1.2. WHO Labour Care Guide (LCG)

The WHO Labour Care Guide (LCG), launched in 2020, is a clinical decision-support tool developed to improve safety and quality of intrapartum care through real-time monitoring, early detection of complications, and minimizing unnecessary interventions (40). It replaces the classical partograph by providing a structured, evidence-based, and woman-centered process that focuses on respectful care, individualized monitoring, and shared decision-making(51).

The LCG has seven sections: admission information, supportive treatment, maternal and fetal evaluation, progress of labour, medications and interventions, shared decision-making, and outcomes. It fosters the incorporation of respectful maternity care by encouraging active participation of the woman and her support person in important decisions. The tool is designed to be used by skilled birth attendants in low- and middle-income countries (LMICs), to enable holistic care provision with a focus on quality improvement(40).

3.1.3. PCMC tool:
Person-Centered Maternity Care (PCMC) is a fundamental component of a woman's overall care experience during childbirth(1). "PCMC refers to maternity care that is respectful of and responsive to individual women and their families' preferences, needs, values" (41)(52).Inadequate maternity care or birth experience i.e:abuse and disrespect often discourages women from seeking facility-based maternal services and delivering in health institutions, which can directly or indirectly lead to negative pregnancy outcomes(52). The Person-Centered Maternity Care (PCMC) tool was designed in 2017 to measure the quality of women's experiences during facility-based birth, especially among low- and middle-income countries. This 30-item measure encompasses critical elements of person-centered care and is divided into three overall domains: dignified and respectful care, communication and

autonomy, and supportive care. Its development involved a systematic process including literature review, expert consultations, and cognitive interviews with postpartum women to ensure cultural relevance. Administered through structured interviews shortly after delivery, the PCMC tool records women's self-reported experiences, focusing on respectful treatment, effective communication, and emotional and practical support during labor and delivery.(41) First piloted in Kenya, the PCMC tool was subsequently tested and validated in Kenya and India, demonstrating its ability to produce consistent results across different settings. This emphasizes the tool's cross-cultural applicability and its consistency in measuring women's experiences of maternity care across diverse low-resource settings(41)(53).

3.1.4. Every Mother Every Newborn (EMEN) Tool

The EMEN tool, created by UNICEF in partnership with WHO and UNFPA, is an in-depth facility-level quality assessment and improvement tool aimed at assessing maternal and newborn care around childbirth. It has six framework modules: (1) infrastructure and readiness of the facility, (2) capacity for management, (3) staff training and competence, (4) clinical observation, (5) review of medical records, and (6) client exit interviews.

The modules are based on the WHO/UNICEF/UNFPA eight quality-of-care standards for maternal and newborn health and are intended to assess both the provision and experience of care (42)(54). A quantitative mapping study validated that the EMEN tool measures 100% of input, 94% of process, and 97% of outcome indicators from these standards, rendering it one of the most inclusive tools available for measuring quality of care in LMICs (55).

3.1.5: The Quality of the Process of Intrapartum and Immediate Postpartum Care (QoPIIPC) index

The Quality of the Process of Intrapartum and Immediate Postpartum Care (QoPIIPC) index, developed by Tripathi is a standardized observational tool designed to assess the quality of routine labor and delivery care in health facilities, particularly in Sub-Saharan Africa. The tool comprises essential clinical actions covering five key dimensions: technical care, infection prevention, interpersonal care, clinical monitoring, and avoidance of harmful or non-indicated practices(43). It emphasizes what providers actually do during labor and immediate postpartum, rather than proxy measures like resource availability or health outcomes. The QoPIIPC index was derived from data gathered during large-scale national health facility assessments and was validated for both content and reliability. Designed for low-resource settings, the tool is practical for routine monitoring and supports data-driven quality improvement in maternal and newborn health(43). The short index was also developed focuses solely on delivery, dropping pre- and post-delivery components. It covers about three domains (rather than 4–5) and removes many commonly performed items, making it a briefer, more usable option when full-episode observation isn't possible(57)

Table 2: Mapping of five tools under standards of care and quality statement according to tools manuals

This section provides a comprehensive overview of five distinct maternity quality of care assessment tools evaluated in this study. Subsequently, the study conducted a mapping to align these tools with the World Health Organization (WHO) standards, based on information derived directly from their original manuals or official websites, with their relevance summarized in Table 4.1. Focusing on 24 indicators categorized under 8 standards within the study's framework, the findings indicate that the SCC (Safe Childbirth Checklist) Tool aligns fully with 10 indicators, partially adheres to 4, and does not follow 10; the PCMC (Person-Centered Maternity Care) Tool fully adheres to 8 indicators, partially to 1, and does not follow 15; the LCG (Local Clinical Guidelines) Tool fully follows 13 indicators, partially follows 4,

and does not adhere to 7; the QoPIIPC (Quality of Perinatal Care for Intrapartum and Postpartum) Tool demonstrates stronger adherence, fully following 10 indicators, partially adhering to 7, and not following 7; and finally, the EMEN (Essential Maternal and Newborn Care) Tool exhibits the highest level of alignment, fully following 20 indicators, partially adhering to 1, and not following only 3. This detailed mapping of the tools against the WHO standards is critical, as it will facilitate a deeper understanding in subsequent findings, highlighting the discrepancies and alignments between the intended support provided by these tools (as described in their official documentation) and their practical implementation or assessment as presented in existing literature.

Table 2: Mapping of five tools under standards of care and quality statement according to tools manuals

Standard 1: Every woman and newborn receives routine, evidence-based care and management of complications during labour, childbirth and the early postnatal period, according to WHO guidelines.						
Quality statements		**SCC**	**PCMC**	**LCG**	**QoPIIPC**	**EMEN**
1.1a	Women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care.	✓	**X**	✓	✓	✓
1.2	Women with pre-eclampsia or eclampsia promptly receive appropriate interventions, according to WHO guidelines	✓	**X**	△	**X**	✓
1.4	Women with delay in labour or whose labour is obstructed receive appropriate interventions, according to WHO guidelines.	✓	**X**	△	✓	✓
1.5	Women in preterm labour receive appropriate interventions according to WHO guidelines.	**X**	**X**	**X**	**X**	✓
1.7a	Women with or at risk for infection during labour, childbirth or the early postnatal period promptly receive appropriate interventions, according to WHO guidelines.	✓	**X**	✓	✓	✓
1.9	No woman is subjected to unnecessary or harmful practices during labour, childbirth and the early postnatal period.	△	✓	✓	✓	✓
Standard 2: The health information system enables use of data to ensure early, appropriate action to improve the care of every woman.						
Quality statements		**SCC**	**PCMC**	**LCG**	**QoPIIPC**	**EMEN**
2.1	Every woman has a complete, accurate, standardized medical record during	△	**X**	✓	△	✓

		SCC	PCMC	LCG	QoPIIPC	EMEN
	labour, childbirth and the early postnatal period					
2.2	Every health facility has a mechanism for data collection, analysis and feedback as part of its activities for monitoring and improving performance around the time of childbirth.	X	X	✓	△	△

Standard 3: Every woman and newborn with condition(s) that cannot be dealt with effectively with the available resources is appropriately referred.

Quality statements		SCC	PCMC	LCG	QoPIIPC	EMEN
3.1	Every woman is appropriately assessed on admission, during labour and in the early postnatal period to determine whether referral is required, and the decision to refer is made without delay	✓	X	X	△	✓
3.2	For every woman who requires referral, the referral follows a pre-established plan that can be implemented without delay at any time.	✓	X	X	△	✓
3.3	For every woman referred within or between health facilities, there is appropriate information exchange and feedback to relevant health care staff.	✓	X	X	△	X

Standard 4: Communication with women and their families is effective and responds to their needs and preferences.

Quality statements		SCC	PCMC	LCG	QoPIIPC	EMEN
4.1	All women and their families receive information about the care and have effective interactions with staff.	X	✓	✓	△	✓
4.2	All women and their families experience coordinated care, with clear, accurate information exchange between relevant health and social care professionals.	X	✓	✓	X	✓

Standard 5: Women receive care with respect and preservation of their dignity

Quality statements		SCC	PCMC	LCG	QoPIIPC	EMEN
5.1	All women have privacy around the time of labour and childbirth, and their confidentiality is respected	X	✓	△	X	✓
5.2	No woman is subjected to mistreatment, such as physical, sexual or verbal abuse, discrimination,	X	✓	△	△	✓

		SCC	PCMC	LCG	QoPIIPC	EMEN
	neglect, detainment, extortion or denial of services.					
5.3	All women have informed choices in the services they receive, and the reasons for interventions or outcomes are clearly explained.	X	✓	✓	X	✓

Standard 6: Every woman and her family are provided with emotional support that is sensitive to their needs and strengthens the woman's capability.

Quality statements		SCC	PCMC	LCG	QoPIIPC	EMEN
6.1	Every woman is offered the option to experience labour and childbirth with the companion of her choice.	✓	✓	✓	X	X
6.2	Every woman receives support to strengthen her capability during childbirth.	✓	✓	✓	X	X

Standard 7: For every woman, competent, motivated staff are consistently available to provide routine care and manage complications.

Quality statements		SCC	PCMC	LCG	QoPIIPC	EMEN
7.1	Every woman has access at all times to at least one skilled birth attendant and support staff for routine care and management of complications.	△	X	✓	✓	✓
7.2	The skilled birth attendants and support staff have appropriate competence and skills mix to meet the requirements of labour, childbirth and the early postnatal period.	X	X	✓	✓	✓
7.3	Every health facility has managerial and clinical leadership that is collectively responsible for developing and implementing appropriate policies and fosters an environment that supports facility staff in continuous quality improvement.	X	X	X	✓	✓

Standard 8: The health facility has an appropriate physical environment, with adequate water, sanitation and energy supplies, medicines, supplies and equipment for routine maternal and newborn care and management of complications.

Quality statements		SCC	PCMC	LCG	QoPIIPC	EMEN
8.1	Water, energy, sanitation, hand hygiene and waste disposal facilities are functional, reliable, safe and sufficient to meet the needs of staff, women and their families.	△	X	X	✓	✓

8.2	Areas for labour, childbirth and postnatal care are designed, organized and maintained so that every woman and newborn can be cared for according to their needs in private, to facilitate the continuity of care.	X	△	X	✓	✓
8.3	An adequate stock of medicines, supplies and equipment is available for routine care and management of complications.	✓	X	✓	✓	✓

Legend:
✓ = Fully meets the WHO standards based on original manual
△ = Partially meets the WHO standards based on original manual
X = Does not meet the WHO standards based on original manual

3.2 Evaluation of Tools

This section evaluate all the tools in on the basis of WHO quality standards and additional three categories: Feasibility, Adaptability and Accessibility.

3.2.1. WHO Safe Childbirth Checklist (SCC) Tool

3.2.1.1 Alignment with WHO Standards

This review identified that the WHO Safe Childbirth Checklist (SCC) has been used in diverse settings in low- and middle-income countries (LMICs) and achieved significant improvements in maternal and newborn care quality[57][58][59][60][61][62]. For example, a study conducted in Cameroon showed that utilization of the checklist was followed by significant decrease in severe pre-eclampsia and eclampsia cases, indicating its capability to address life-threatening obstetric complications. This study aligns with the WHO standard 1.2 [57]. Similarly, a large cluster-randomized trial in India found that the coaching based SCC program improved adherence to key birth practices considerably from 41.7% at baseline to 72.8% after two months post-intervention. This study aligns with all the essential practices that align with WHO standards[58]. Similarly, a study conducted in Bangladesh also found that the modified version of SCC has resulted in significant improvement in adherence to core clinical practices from an average of 11 to 19 out of 27 items on the checklist per birth, almost 70% improvement. Improvements were seen in maternal counseling on admission and discharge, obstetric complications, administration of uterotonics(oxytocin) postdelivery and timely referral if required. This study aligns with WHO standards i.e:1.1a,1.2,1.3,3.2,8.3.[59]. However, the study also revealed gaps to a certain extent, especially in consistent use of the partograph and the management of danger signs and infection monitoring. Further, this study aligns with WHO standards i.e:1.4,1.7a[59].Another study on implementation of the SCC in Kenya and Uganda observed ranging between 39% and over 70% completion rates of the checklist across various labor and delivery essential practices. This study observed that the checklist strengthened adherence to important clinical practices such as administration of oxytocin in a timely manner to avoid postpartum hemorrhage, obstetric complications and infection prevention measures. This study aligns with WHO standards i.e:1.1a,1.2,1.3,3.2,8.3. 1.2,1.4,1.7a [60].

In Ethiopia, the SCC was introduced over a one year period, leading to enhanced compliance with critical birth practices, including higher use of oxytocin, improved maternal vital sign monitoring, and enhanced hand hygiene practices. This study is aligning with WHO standards 1.1a&8.1[61].However, the study noted less improvement in fetal heart rate monitoring and timely referrals, .It also brought attention to challenges associated with inadequate availability

of fetal monitoring equipment, stockouts of medications, and poorly developed referral systems and infection control protocols. This further aligns with WHO standards i.e:1.7a,8.3(61).Lastly, a pre- and post-intervention study in Rwanda demonstrated that the introduction of the SCC improved adherence to essential birth practices from 46% to 56%. Among the 29 recommended practices, eleven improved significantly like hand hygiene, timely oxytocin administration, documentation of women's health status, and counseling on danger signs and general care information. This study aligns with WHO standards i.e:1.1a,8.2,8.3(62). Despite these improvements, certain practices remained neglected, mostly due to shortages of staff. The study highlighted that supportive leadership, regular training, frequent feedback, and the involvement of hospital management were essential to incorporating the checklist as part of standard facility-based care (62)

3.2.1.2: Feasibility

The WHO Safe Childbirth Checklist (SCC) was found to be feasible in a variety of LMIC settings particularly where facilities offered adequate training, leadership endorsement, and follow-up supervision(57)(58)(60)(63)(64). In India, for instance, SCC was rolled out in 60 public health facilities utilizing infrastructure and staff available, with extra coaching facilitating consistent use(58). In Cameroon, a hospital had an adoption rate of 93.9% within six months of checklist introduction(57). Similar experiences were reported in Kenya, Uganda, Ethiopia and Rwanda.The tool was relatively simple to integrate into clinical workflows due to its checklist format and alignment with routine documentation. However, challenges frequently cited across studies included staff shortages, time constraints, high patient volumes, and limited supervisory support(60)(61)(62).

In Côte d'Ivoire and Burkina Faso, for instance, the SCC's use dropped off in emergency situations or when provider workloads were excessive. These limitations highlight the need for consistent leadership involvement and recurrent training to support tool use over time.(64)

3.2.1.3. Adaptability

The SCC showed strong adaptability across various implementation settings(57)(58)(60)(63)(64). Studies consistently reported that the tool was adapted to fit particular health system requirements, such as translation to local languages, adaptation for digital use, and incorporation in patient records.(63). In Rwanda and Ethiopia, the instrument was customised to reflect national care guidelines(61)(62), whereas in Uganda and Kenya, it was incorporated into labor documents.(60) Many Providers indicated changing the checklist format or order to better suit their workflow.(60) However, some studies found resistance among staff who were not familiar with quality improvement activities or digital health technologies, which created impediments to complete adaptation.(64). Nevertheless, in most settings, adaptation was not just possible but improved the acceptability and use of the checklist, especially when frontline workers contributed to customization decisions.(64).

3.2.1.4. Acceptability

The SCC was overall well accepted by frontline health workers, especially in settings where its benefits were well-explained and coaching were provided(57)(58)(60)(63)(64). In the BetterBirth trial, 93.9% of providers indicated that they used the checklist during the six-month intervention, reflecting high initial acceptability.(57). The providers appreciated the comprehensive yet concise nature of the checklist and valued its potential for enhancing maternal outcomes.(57).

In multiple studies, including Bangladesh, Kenya, Uganda and Ethiopia providers highlighted the value of the checklist in prompting them to recall important practices especially in high-pressure or emergency.(59)(60)(61). However, after coaching support was withdrawn, the rates

of utilization declined, pointing to underlying issues with long-term behavioral integration.. Some staff also percieved the checklist as redundant or time-consuming, particularly when there were pre-existing forms requiring similar information entry(59)(60)(61).

3.2.2 WHO Labour Care Guide (LCG)

3.2.2.1 Alignment with WHO Standards

Several studies assessed the implemetation of the LCG in various LMIC contexts. A cohort study in rural Uganda showed that the LCG was more effective than the standard partograph in identifying prolonged and obstructed labour, with more cases of early caesarean section (12.8% vs. 8.2%), oxytocin augmentation (85% vs. 60%), and referrals for complications (90%).this aligns with WHO standardsi.e:1.1a,1.4,3.1. (65). Completion rates of monitoring charts were also significant with the LCG, affirming its usability and effectiveness. While no marked differences in maternal complications were noted between the two groups.(65). Similarly, A stepped-wedge cluster-randomized trial conducted in four public hospitals in India reported a moderate reduction in cesarean section rates from 45.2% to 39.7% and a 18% reduction in the use of labor augmentation, indicating that the LCG can decrease unnecessary interventions without adverse effects. This aligns with the WHO Standards such as 1.1a 1.4 ,3.1(66). In a multi-center trial in 15 health centers in Quetta, Pakistan, the LCG was implemented by midwives, resulting significant declines in prolonged labor from (12.5% to 3.7%), postpartum hemorrhage from (23.6% to 10.2%), maternal mortality from (2.8% to 0%), and stillbirths from (1.4% to 0%.). This aligns with WHO standardsi.e:.1.1a,1.4,3.1 (67). Similarly, a randomized controlled trial performed at a tertiary center in India reported decrease in caesarean section rates from 14.3% to 4%, and decreased duration of active labour with no significant maternal or neonatal adverse outcomes. This aligns with the WHO Standards: 1.1a,1.4.(68). Conversely, an observational study in India found no significant disparity between LCG and a modified partograph for cesarian rate or detection of prolonged labour(69). The LCG group experienced higher rates of postpartum hemorrhage with no definitive benefit over the modified partograph for maternal and neonatal outcomes.(69). The research concluded that the updated partograph is still a cost-effective tool in low-resource contexts, especially when modified to include the key components of the LCG.This study aligns with the WHO Quality Standards: 1.4. (69).

The mixed method study in Uganda highlights several broader contributions of the WHO Labour Care Guide (LCG) . By using a participatory co-design approach, the customization process fostered ownership amongusers and ensured alignment with local health system needs. These refinements enhanced clinical documentation practices, improved integration with existing workflows, and supported Uganda's maternal health priorities. Importantly, the tool reinforced principles of respectful maternity care through structured prompts for communication and decision-making. This following study is aligning with 2.1,5.3,7.2,(49) . Another mixed method multicountry study involved a total of 1,226 low-risk pregnant women in 12 hospitals in six countries. Of these, 91.6% delivered by spontaneous vaginal delivery, 1.3% had instrumental vaginal delivery, and 7.1% received caesarean sections. The stillbirth rate observed was 1.63 per 1,000 births, with two intrapartum stillbirths(70). The research included 136 health care providers and emphasized the LCG's contribution to enhancing organized documentation, facilitating critical thinking, and reinforcing systematic clinical observation. Health workers also mentioned better communication with women during childbirth care but needed some preliminary training. This study aligns with WHO standards.e:1.1,2.1, 5.3(70).

3.2.2.2 Feasibility

The WHO Labour Care Guide (LCG) showed mixed levels of feasibility between studies based on availability of staff, training, and resources within the facility. In Uganda, the adapted LCG was described by healthcare professionals as easy and fast to use, taking less than two minutes per labor evaluation. It took little additional training because it utilized traditional indices to which they were accustomed, rendering it practical for incorporation into standard use, particularly in facilities with midwife leadership. Implementation was high, though. (49)

In the multicountry implementation study that involved 12 hospitals in Argentina, India, Kenya, Malawi, Nigeria, and Tanzania, 136 health care workers used the LCG in real-world settings. Although the guide was widely found to be useable and applicable, time limitations and heavy patient loads hindered its consistent use. Ongoing mentorship and supervisory guidance were described as being crucial to support sustained use. A few users in under-resourced facilities reported that staff shortages prevented real-time completion(70)

3.2.2.3. Adaptability

The LCG was shown to be highly adaptable across different contexts and facility levels. In Uganda, the tool was iteratively modified in response to healthcare worker feedback. Contextual changes included the addition of socio-demographic data fields aligned with national health programs, reordering of observation components for better usability, adjusting medication dosage sections (e.g., oxytocin), modifying the fetal heart rate lower limit to guide safer referrals, and adding sections for clinical note(49).

In the multicountry assessment, all six countries' providers suggested equivalent context-specific modifications. These consisted of language translation, merging with current hospital registries, and low-level structural reformatting to improve organizational policy alignment and provider workflow compatibility. Notably, the LCG survived minimally with only moderate changes, demonstrating its in-built resilience (70).

3.2.2.4. Acceptability

Acceptability i.e., the extent to which healthcare professionals find a tool appropriate, useful, and compatible with their clinical workflows—was commonly reported for the LCG in both multicountry and country-specific studies. In Uganda, health workers told of the adapted LCG as easy, complete, and quicker to use than the conventional partograph. They used it less to over-document and more in accordance with their day-to-day monitoring requirements. It was suggested for use on a wider scale by clinicians (49).

In the multicountry assessment, the majority of the 136 involved health providers rated the LCG as logical and simpler to use compared to earlier monitoring tools. It was commended for bolstering woman-centered care and the clarity of clinical decision-making. The System Usability Scale (SUS) rating was 67.5%, denoting moderate usability. The majority of users indicated a desire to keep using the tool beyond the study period, further indicating its overall acceptability and perceived utility in daily work (70).

3.2.3. PCMC tool

3.2.3.1 Alignment with WHO Standards

A cross-sectional study in three public health facilities in Enugu State, Nigeria, measured women's experiences of person-centred maternity care with a validated 22-item PCMC scale (71). The research revealed glaring gaps in respectful and dignified care, such as accounts of verbal abuse, absence of privacy while undergoing examination, and poor communication from healthcare providers. Most women were not explained to or requested permission prior to procedures and were not included in decision-making.(71) Emotional support was lacking.

Moreover, staffing deficiencies, overcrowding, and poor infrastructure were frequently mentioned obstacles to the quality of care. this research conforms to adopted who standards i.e:4.1,4.2,5.1,5.2,5.3.(71) Likewise A cross-sectional survey among women in Embakasi, a periurban settlement in Nairobi, Kenya, used the 30-item PCMC scale to evaluate women's experiences of person-centred maternity care. Although 84% of the women said they were treated with respect most or all the time, 10% had experienced verbal abuse and 5% experienced physical abuse. Significant gaps occurred in communication and autonomy, with 74% of respondents reporting that providers did not introduce themselves and 22% failing to be addressed by name. Additionally, i.e4.1,4.2,5.1,5.2,5.3,(72). In a tertiary care hospital in Colombo, Sri Lanka, PCMC scores were low in 400 postpartum women, especially in communication and autonomy. Although approximately two-thirds indicated respectful care, almost all found the staff to be unfriendly, and one in six were physically mistreated. Verbal abuse was indicated by almost one-third, and more than half reported their questions were not answered. Skin-to-skin contact and birth companions were uncommon. This study is consistent with adopted Who standards i.e:4.1,4.2,5.2,5.3(73). The research in Uttar Pradesh, India, assessed a quality improvement intervention with a 23-item PCMC scale among postpartum women receiving care in public health facilities. Outcomes showed substantial improvements in overall PCMC scores after the intervention, particularly in dignity and respect, communication and autonomy, and supportive care. Women self-reported greater respectful treatment, improved communication from providers, and greater participation in decisions during birth. however provider workload was high and consultation time was short continued to pose challenges, preventing holistic implementation of person-centered care reported. (74). the research conforms with implemented who standards i.e 4,5.The research in South Wollo Zone public hospitals of Northeastern Ethiopia evaluated person-centered maternity care (PCMC) with a mixed-method among postpartum women. In general, the PCMC scores demonstrated moderate quality of care with significant gaps in communication, respect, and supportive care. Quantitative findings showed that most women had poor involvement in decision-making and low emotional support during the childbirth. Qualitative interviews demonstrated some episodes of verbal abuse, poor privacy, and inadequate explanation of medical procedures, which harmed the childbirth experience of women. Yet, there were positive experiences reported by some women with empathetic and culturally competent providers. This research is consistent with who standards 4,5&6(75). The research conducted a survey on 377 postnatal women in public hospitals of Rawalpindi and Islamabad. Supportive care had the lowest sub-domain scores. Approximately 36% were physically abused and 22% verbally abused. The majority of women (88%) indicated providers didn't introduce themselves, 30% lacked consent prior to procedures, and merely 47% received clear explanations of medications consistently. Approximately 14% were never permitted to ask any question(76). The study is consistent with adopted who standards i.e:4&5.

Person-Centered Maternity Care (PCMC) scale was initially translated into Khmer and validated subsequently among 300 postpartum women in three governmental health facilities in Cambodia. Following psychometric testing, 23 items were kept, The average overall PCMC score was 54.1 out of 92. Supportive Care rated lowest, with most women saying that providers failed to introduce themselves, include them in decision-making, or provide adequate emotional support during labor. This study aligns with 4,5&6(77).

3.2.3.2. Feasibility
The PCMC instrument was feasible to administer in diverse LMIC settings. It was implemented with minimal logistical difficulties among postpartum women attending public health facilities in Nigeria, Ethiopia, Pakistan, Sri Lanka, and Cambodia(71)(73)(74)(75)(76)(77). In Cambodia, the instrument was pretested and subsequently used on 300 women from three

government hospitals. Studies did not record any serious issues arising from staff training, data collection, or facility-level impediments. The PCMC tool was pretested with 300 postpartum women prior to pretesting with 3o women in three government health facilities in Cambodia, which reflected completion of data collection with the tool in a clinical setting.(77).

3.2.3.3. Adaptability

The initial 30-item PCMC tool underwent exploratory factor analysis, and this provided a contextually adapted 22-item version. This adaptation maintained the original domains of dignity and respect, communication and autonomy, and supportive care, in the Nigerian context.(71). Researchers administered the generic 30 item PCMC scale, intended to elicit women's perceptions of dignity, communication, autonomy, and supportive care, in the Embakasi peri-urban setting without deleting items, indicating original tool contextual adaptability across facility settings(72).

PCMC scale was modified by eliminating 4 items from the 27-item original version to suit the local context and applicability better. The modified 23-item scale had excellent psychometric properties (validity and reliability) in the Uttar Pradesh context(7) The study modified established PCMC instruments to the local Ethiopian situation, making them culturally suitable and appropriate for measuring quality of maternity care in public hospitals.(75).

The original 30-item scale was adapted to a 23-item Khmer version using cognitive interviews, expert opinions, and factor analysis. Those items that were culturally inappropriate or not well understood were eliminated(77)

3.2.3.4 Acceptability

PCMC tool was found to have excellent acceptability in all study settings. In India, good response and completeness rates were realized during a quality improvement intervention, indicating that women felt at ease reporting their experiences when using the tool (74). Structured interviews were implemented without dropout in Nigeria and Pakistan, and respondents volunteered willingness to respond and report on sensitive questions regarding mistreatment, emotional support, and consent (71,76). In Kenya, although implemented across facility types (public, private, faith-based), the original 30-item scale was adopted without change and response rates were comparable across groups (72).

In Ethiopia, qualitative interviews also corroborated that women appreciated being able to recount their maternity care experiences and enjoyed the respectful tone of the interview process (75).

3.2.4. Every Mother Every Newborn (EMEN) Tool

3.2.4.1 Alignment with WHO Standards

Several studies conducted in Bangladesh, Ghana, Tanzania, and Namibia have applied the EMEN tool for baseline assessment and quality monitoring of maternal and newborn care services.(78)(79)(80)(81)(82). A cross-sectional study in Bangladesh found serious gaps in both service delivery and structural readiness. Only 40% of facilities had dedicated maternity wards, partograph use was non-existent, and essential drug shortages were common. Human resource shortages were pronounced, with approximately 67% of medical officer and 50% of nurse positions vacant. . Furthermore, only 45% of providers were trained in managing newborn complications. Despite 97% of women reporting satisfaction, only 46% expressed willingness to return, highlighting hidden dissatisfaction linked to disrespectful care or poor quality. This study aligns with my adopted standards i.e:1.1a,1.4,4.1,5.2,5.3,6.1(78). In a multicountry baseline assessment across 15 districts in Bangladesh, Ghana, and Tanzania, used the EMEN tool to assess facility readiness. Results showed that many facilities lacked

essential systems for comprehensive quality care,infrastructure gaps, lack of enforcement of respectful care policies, and provider training deficits—especially around interpersonal communication and emotional support . This study aligns with my adopted standards i.e:1.1a,4.1,5.2,5.3,6.1(79) A follow-up quasi-experimental study in the same settings evaluated the institutionalisation of EMEN-QI standards over an 18-month period and found a notable increase in institutional readiness scores from 61% to 80%. Additionally, the study reported a 25% and 85% reduction in neonatal case fatality in Bangladesh and Tanzania respectively, and a 43% decline in institutional maternal mortality in Ghana (80) A baseline study across 43 public facilities in Bangladesh, Ghana, and Tanzania found major gaps in respectful maternity care. Many facilities lacked basic infrastructure, and respectful care policies were poorly enforced. Training on respectful care was limited, especially in Bangladesh and Tanzania. Emotional support and privacy during childbirth were often absent, and some women were denied care for inability to pay informal charges. Despite high reported satisfaction (88–97%), up to 57% of women in Bangladesh said they would not return, revealing hidden dissatisfaction with the quality of care. This study aligns with WHO standards i.e:5.2,5.3,6.1.(81)

Another baseline assessment conducted in northeast Namibia using the EMEN tool revealed strong infrastructural readiness, with over 80% of essential equipment, drugs, and sanitation resources in place to support basic childbirth care. Vital signs and basic maternal monitoring were strong (98%), Significant experience-of-care gaps were identified, only 41% of women received adequate information during labor, and no facility allowed a birth companion, with just 35% offering choice in companion presence. . This study aligns with my adopted standards i.e: 1.1a, 4.1, 5.3, 6.1.(82)

3.2.4.2 Feasibility

The EMEN tool was highly feasible in varied LMIC settings. Research in Bangladesh, Ghana, Tanzania, and Namibia confirmed that the six modules could be incorporated into regular facility assessments and quality monitoring activities(79)(80)(81)(82). In the institutionalization study, EMEN standards were integrated completely into health systems within 18 months with measurable effects, demonstrating that with adequate training, supervision, and information systems, EMEN can be scaled up successfully (80). Feasibility was affected by staff time, supervision, and facility leadership support(80). In Namibia, for example, time constraints and workload were barriers to complete tool implementation (82).

3.2.4.3 Adaptability:
The EMEN tool has been successfully implemented in diverse contexts(79,81). In Bangladesh, modules were translated and contextualized for local workflows . In Ghana and Tanzania, facility staff adapted some training materials and exit interview formats to literacy levels and cultural norms (79)(81). The tool also proved to be adaptable for varying levels of care from district hospitals to primary health centers(79)(81). Its modular design enables implementers to pick applicable sections based on their priorities (54).

3.2.4.4 Acceptability
The EMEN tool was generally well-accepted by health workers and managers in the studies reviewed. Providers appreciated the structure and comprehensiveness of the tool, especially its focus on both clinical and interpersonal care(78),(80),(82). However, some providers noted that using multiple modules was time-consuming, especially in facilities with staff shortages(3)(5)(7). Despite this, the perceived benefits of using EMEN in improving service quality outweighed its logistical challenges in most settings (80)(82).

3.2.5. The Quality of the Process of Intrapartum and Immediate Postpartum Care (QoPIIPC) index (QoPIIPC) Index:

3.2.5.1 Alignment with WHO Standards

When implemented in health facilities in Kenya, Madagascar, and Tanzania, the study revealed that overall quality of labor and delivery care was generally low, as most of the key routine care practices were often missed or poorly performed . Facilities with more competent staff, enough supplies, and higher readiness to deliver care had higher quality scores. This study is aligning with WHO standards i.e:17&8 (43) The Short Index (QoPIIPC) exhibited excellent validity and reliability in assessing intrapartum and immediate postpartum care quality in low-resource environments. Applying data from national facility surveys conducted in Kenya, Namibia, and Tanzania, the index captured 20 core clinical actions that well reflected major areas of care quality such as provision of clinical care, interpersonal care, and timeliness. The index was capable of differentiating between facilities delivering better versus worse quality care, demonstrating good discriminatory ability. The research also determined that the short index was highly correlated with full set of indicators and confirming its usefulness as a practical and feasible tool for routine quality assessment. These results indicate that the QoPIIPC index can be used as an effective tool to track and enhance maternal and newborn care quality in limited-resource health facilities(57) A research assessing more than 1,100 births in Kenya and Malawi employed national facility survey observational data to evaluate competent and respectful care. Less than two-thirds of key actions were taken, reflecting critical quality gaps in intrapartum care (83). Respectful care corresponding to the interpersonal component of the QoPIIPC framework differed widely by facility type, staffing capacity, and time of delivery. Disrespectful or inattentive care was more prevalent in public hospitals and over- or under-staffed facilities, especially during the night shift. This study is in line with who standard 4&5. (83).

3.2.5.2. Feasibility

The QoPIIPC index was practically applied to large-scale national health facility surveys across four Sub-Saharan African countries. In Kenya, Madagascar, Tanzania, and Malawi, the instrument was used through direct clinical observation of over 1,100 labor and delivery cases. Observers were trained on a structured checklist, and studies had high inter-rater agreement and effective data collection even in resource-limited busy facilities. The short index maintained robust psychometric performance and lower burden of observation, rendering it suitable for routine monitoring.(43)(57) .

3.2.5.3. Adaptability

The tool was created to be flexible for use across various facility types and settings in low- and middle-income countries. Although built and tested on Kenyan, Madagascan, and Tanzanian data, it was easily used in Malawi without significant adaptation. The highly structured 20 clinical actions make it easy to tailor without sacrifice of reliability, and its modular nature facilitates partial integration into existing quality improvement and monitoring infrastructures.(43)(57).

3.1.2.4. Acceptability

Although acceptability measures were not consistently formally assessed, research indicated that providers typically accommodated the presence of trained observers and followed observation procedures.

For the national surveys, observations were made unobtrusively, and there were no refusals or dropouts due to provider unease with the tool. Observers were instructed to minimize disturbance to usual care. Facilities included in SPA assessments appreciated the value of the

quality monitoring process, which facilitated easy implementation in different countries. The tool's simplicity and clinical applicability helped towards easy acceptance by data collectors and facility personnel alike.(43)(57).

Table 3: Comparative Analysis of Obstetric Quality Assessment Tools

Tool	Aligned WHO Quality Standards	Feasibility	Adaptability	Acceptability
EMEN	1.1, 1.4, 4.1, 5.2, 5.3, 6.1, 9.1,	High: Implemented in multiple LMICs, embedded in routine monitoring with trained assessors and supportive supervision.	High: Modular design; translated and contextualized for each setting; flexible for district or primary levels.	High: Appreciated by providers and managers; improved respectful care practices reported across settings.
SCC	1.1a, 1.2, 1.3,1.4,1.7a,3.1,3.2, 7.2,8.1, 8.3	High: Easily integrated into clinical workflows with coaching; challenges include staff shortages and high workload.	High: Adapted to national protocols and digital formats; modified for various clinical and infrastructural needs.	Moderate–High: Initial high uptake, especially with coaching; declined after coaching support was withdrawn.
LCG	1.1a, 1.4, 2.1, 5.3, 7.2,	Moderate–High: Quick and simple to use, but requires supportive training and adequate staffing.	High: Iteratively modified based on provider feedback and local policy; well-integrated into workflows.	High: Health workers found it logical and aligned with routine use; System Usability Scale rated moderately high.
PCMC	1.1a, 4.1,4.2,5.1, 5.2, 5.3	High: Easily administered via interviews; no major logistical or technical constraints reported.	High: Validated in diverse cultural contexts (India, Kenya, Cambodia); linguistically and contextually flexible.	High: Women expressed comfort in reporting care experiences; strong cooperation across study sites.
QoPIIPC	1.1a, 3.1, 4.1, 5.2, 6.1, 10.1	High: Deployed through national surveys with structured observations;	Moderate: Used in SSA countries without major modification; modular design	Moderate–High: Observers tolerated by providers; low resistance;

		short version improves efficiency.	supports partial integration.	recognized for simplicity and relevance.

CHAPTER 4: DISCUSSION

This thesis reviewed five widely used tools for assessing the quality of obstetric care during labor in low- and middle-income countries (LMICs), the Safe Childbirth Checklist (SCC), Person-Centered Maternity Care scale (PCMC), Labour Care Guide (LCG), Every Mother Every Newborn tool (EMEN), and the Quality of Process of Intrapartum and Immediate Postpartum Care index (QoPIIPC). Using the adapted WHO Quality of Care framework for labor, it examined how these tools align with global standards and how they perform in practice, drawing on evidence from multiple LMIC settings. Each tool brought distinct strengths but also clear limitations, and none provided a complete solution for capturing both the clinical and experiential aspects of care in resource-limited environments.

The Labour Care Guide (LCG) emerged as a particularly notable instrument because it attempted to integrate both technical and respectful care in a single tool. Unlike older approaches such as the partograph, it included prompts for communication and shared decision-making alongside clinical guidance for evidence-based labor management. Evidence from Uganda, India, and Pakistan suggested that it improved labor monitoring and reduced unnecessary interventions, with providers finding it helpful for making timely decisions. However, its consistent use depended heavily on training, staff support, and supervision. In overstretched facilities, where workloads were high and resources limited, uptake was inconsistent. The LCG's attempt to bridge the gap between clinical accuracy and respectful care is promising, but sustained integration into routine practice remains a challenge.

Other tools offered important but narrower contributions. The SCC and EMEN showed strong alignment with WHO standards on clinical practices such as timely administration of uterotonics, infection prevention, and newborn care. Their use in India, Bangladesh, and Ethiopia was linked with better adherence to protocols, yet they largely overlooked interpersonal communication, emotional support, and women's autonomy. In effect, they could demonstrate improvements in measurable clinical indicators while leaving significant gaps in how women actually experienced their care. The PCMC scale provided the opposite emphasis, placing women's experiences of dignity, respect, communication, and decision-making at the center. Studies in Nigeria, Ethiopia, Cambodia, and Pakistan revealed widespread shortcomings, with many women reporting neglect, non-consented procedures, and verbal mistreatment. In contrast, higher scores in Kenya, Ghana, and India were linked to provider training, community engagement, and supportive supervision. These patterns show that respectful care depends not only on individual provider attitudes but also on the broader health system environment and prevailing social norms. The PCMC's inclusion in this review underscored that women's perspectives are not a secondary consideration but a fundamental part of defining quality.

The QoPIIPC index like SCC and EMEN is primarily designed to measure whether competent, timely, and essential clinical actions are carried out during labor and the immediate postpartum period. The main focus to add QoPIIPC in this study is that it is developed for LMIC contexts, unlike other tools that are global, and validated using direct observation, it captures vital

elements of safe childbirth such as monitoring, use of the partograph, readiness for neonatal resuscitation, and infection prevention. Its objective approach and shortened "delivery-only" version increase practicality in busy settings. However, while strong on clinical process measurement, it does not systematically capture communication, emotional support, or informed choice, and its ease of use, adaptability, and acceptability in routine quality monitoring remain less explored.

Mapping these tools against the adapted WHO Quality Standards revealed that, on paper like their checklist guide or tool manual, many aligned well with essential clinical and experiential(care, dignity and respect)domains(see the table). SCC, LCG, and EMEN fully covered several standards related to timely assessments, complication management, and infection prevention, while PCMC addressed those on dignity, communication, and informed choice. Yet, reviewed studies consistently showed a gap between what was included in the manuals and what was implemented in practice. This was most evident in experience-of-care domains such as emotional support, continuous companionship, and coordinated communication. For example, PCMC explicitly includes emotional support, but studies reported it was rarely provided. EMEN assessments found birth companionship largely absent, and even SCC and LCG sometimes showed limited attention to supportive care despite including prompts. In QoPIIPC applications, respectful care varied widely between facilities and was often poorest in busy public hospitals. These differences likely result from staff shortages, heavy workloads, limited training, and weak enforcement of respectful care policies. The evidence suggests that alignment with global standards at the design stage does not guarantee delivery in practice especially for non-clinical aspects of care unless systemic barriers are addressed.

Simpler tools like SCC and PCMC tended to be more feasible for adoption in resource-limited settings, with integration into national guidelines supported by coaching, leadership engagement, and supervision. More complex tools such as EMEN and QoPIIPC, while offering comprehensive coverage, often struggled due to their time demands, staffing requirements, and infrastructure needs. The LCG offered a balanced approach structured enough to guide clinical decision-making without placing excessive burden on staff, yet still reliant on strong mentorship and supportive facility leadership for consistent use.Tools were easiest to adapt when the healthcare workers who would use them were actively involved in adjusting them to fit the local context, and they were most accepted when these workers felt the tools made their jobs easier instead of harder.

A key challenge is the fragmented nature of these tools. Those that worked well at clinical measurement often overlook respectful and participatory care, while those focused on women's experiences may not capture the technical aspects of care in detail. In practice, LMIC health systems may need to use multiple tools to obtain a full picture of quality, increasing workload, training requirements, and the risk of inconsistent data. Integration either by merging existing tools or developing new tools that combine clinical and experiential measures would allow both types of care to be assessed together. Regional patterns further showed that the context in which tools are implemented matters greatly. SCC scaled effectively even in low-capacity environments when combined with coaching and supportive leadership. EMEN and QoPIIPC

struggled in settings with staffing shortages, limited training, and weak systems for using data. Respectful care, technical quality, and facility preparedness were often interconnected: poor PCMC scores were typically linked with weak accountability and minimal community engagement, while better outcomes occurred where tools were implemented alongside strong supervision and enabling work environments.

One consistent gap across all tools was the lack of systematic attention community engagement, and even WHO quality of standards didn't prioritized it(46). These elements are essential for building trust and encouraging future use of services. Evidence from South Asia shows that when communities are engaged in shared decision-making and co-design of services, maternal health outcomes improve, barriers to care are reduced, and services align more closely with local needs(84). Global reviews confirm that such engagement should be embedded into routine practice rather than treated as a one-off activity. None of the reviewed tools capture or operationalize this dimension, representing a clear area for future development(85)

This review has several notable strengths that enhance its relevance and contribution to the field of maternal and newborn health. First, its focus on the intrapartum (labor) phase allowed for in-depth and targeted analysis of tools specific to this critical window of care, enabling comprehensive insights into labor-specific quality assessment, an area often underrepresented in broader maternal health reviews. The use of a modified WHO Quality of Care framework tailored for labor was another major strength. It provided a systematic and structured approach to evaluating the tools across eight key domains, offering a clear lens through which gaps and overlaps in clinical and experiential coverage could be identified. The review also drew upon diverse studies from multiple LMICs across South Asia, East Africa, and West Africa, which enabled comparative insights not only into tool content but also into real-world implementation challenges, health system responsiveness, and contextual feasibility. Importantly, this review moved beyond clinical indicators to also assess how tools captured the experience of care such as dignity, respect, communication, and autonomy, thereby embracing a more holistic perspective of what constitutes quality labor care. Another strength was the focus on the practical dimensions of tool use: feasibility, adaptability, and applicability were all examined using empirical implementation data, making the findings more actionable for policymakers and program implementers. Finally, the review identified main gap of the tools like lack of community engagement and that shape the success or failure of quality care of health systems.

While this review provides valuable insights, several limitations must be acknowledged. First, its scope was restricted to the intrapartum (labor) phase of care. While this focus allowed for in-depth analysis, it excluded tools related to antenatal, postnatal, or neonatal care, which limits the generalizability of findings across the broader maternal and newborn health continuum.

Second, the number of tools included in the review was limited to five widely recognized instruments. Although this was necessary to maintain analytical depth and comparability, it may have excluded country-specific that could offer innovative or context-relevant approaches. Further challenges involved mapping tool indicators to the adapted WHO Quality of Care framework. In several cases, indicators were broad or overlapping, requiring interpretive judgment. Although efforts were made to apply a consistent logic, the process inevitably involved some subjectivity.

Moreover, bias remains a concern, while some tools such as PCMC incorporate experience-of-care elements, this review did not include direct perspectives from service users or healthcare providers on the usability, burden, or acceptability of these tools. Such insights are essential for designing quality assessments that are both effective and responsive to the needs of those

who use and deliver care. Lastly Although the tools in this review were mapped against adapted WHO quality standards, it is important to acknowledge that LMICs are not a homogeneous group. Each country has its own unique cultural, social, and health system context, which may affect how relevant or effective a given tool is in practice. This variation limits the generalizability of findings across all LMIC settings

CHAPTER 5: CONCLUSION AND RECOMMENDATIONS

5.1. Conclusion

This thesis investigated how available tools measure the quality of obstetric labor care in low- and middle-income countries (LMICs) with regard to both clinical and experiential dimensions of care. Through an applied version of the WHO QoC framework applied to the labor phase, five important tools were systematically reviewed: the SCC, LCG, the PCMC scale, the EMEN tool, and the QoPIIPC index.

The research discovered that although every tool offers useful information about elements of obstetric care quality, none of them is complete in isolation. Tools like SCC and EMEN were closely aligned with evidence-based clinical practices and enabled standardization of core care processes. These tools tended to neglect the woman's care experience, such as communication, emotional support, dignity, and autonomy. In contrast, tools like PCMC and QoPIIPC gave strong attention to interpersonal and provider behaviors, yet they fell short in comprehensively covering clinical indicators.

One of the key conclusions is that maternal health quality assessments remain fragmented tools either prioritize clinical performance or the experience of care, but rarely both. This division limits the ability of health systems to evaluate and improve care in a holistic way. In addition, the applicability of these tools in actual contexts was extremely diverse. While tools such as SCC and PCMC were less complex and could be more seamlessly incorporated into day-to-day facility operations, more robust tools such as EMEN and QoPIIPC necessitated digital infrastructure, support staff capacity, and constant supervision. These demands for resources are major impediments to adoption and sustainability within LMICs.

A further key finding is that few of the tools do not have mechanisms for community involvement or patient feedback beyond the facility level. Although the PCMC tool provides voice to women's experiences during care, it does not reflect community-level factors or wider accountability mechanisms. The absence of community involvement into quality improvement and assessment activities diminishes prospects for transparency, trust, and collective ownership of care improvement.

The thesis also identified an underutilization of tools such as QoPIIPC, even though they are applicable to LMIC contexts. Validated tools that target low-resource settings are poorly represented in literature and policy. This questions the processes of tool selection, scaling, and support. Often, tools are introduced through donor-driven initiatives or pilot projects, but they fail to take root within national systems due to limited alignment with local realities and a lack of long-term integration strategies.

In conclusion, improving the quality of intrapartum care requires moving beyond technical compliance to a more comprehensive and human-centered understanding of care. There is a critical need for toold that can measure both the clinical effectiveness and women's lived experience, yet are feasible to use in low-resource environments. Respectful maternity care should not be regarded as secondary, but integral to what constitutes quality. Nations striving for improved maternal outcomes need to put emphasis on the formulation, adaptation, and institutionalization of instruments that capture this balance. Unless this change occurs, health systems will continue to count what is easy to measure but ignore what matters most to women and their families

5.2. Recommendations

This review emphasizes the importance of quality measurement tools in maternal health that are not just technically sound, but also contextually relevant, people-focused, and sustainable. To progress toward more integrated measurement, such tools need to be created that blend clinical process metrics like the ones in the Every Mother Every Newborn (EMEN) tool with experience-of-care measures like the ones in the Person-Centered Maternity Care (PCMC) scale. With integration, it would be possible to better grasp quality throughout labor, both what happens and how it happens. Secondly, tools need to be feasible to implement, particularly in low-resource environments. They need to be in simplified formats, have a modular construction, and co-developed with frontline health workers to enhance relevance and usability. Engagement of communities needs to be institutionalized within quality measurement frameworks with mechanisms like community engagement or participatory feedback systems. It has been proven that effective community engagement enhances accountability and service utilization, but it is absent in existing tools. Health Ministries and implementing partners should create settings in which data are regularly reviewed, debated, and used to drive local decision-making. Lastly, sustainability needs to be designed from the very beginning. Resources such as EMEN and the QoPIIPC index have tended to be launched as components of short-term, donor-funded initiatives, with little integration over the long term. Policymakers and donors ought to collaborate to synchronize these tools with national plans, support institutional ownership, and budget for continuous training, supervision, and monitoring. If these investments are not made, even good tool design will fail to bring the desired impact on care quality.

References

1. Term: intrapartum [Internet]. MCHP Concept Dictionary and Glossary for Population-Based Research | Max Rady College of Medicine | University of Manitoba. Available from: http://mchp-appserv.cpe.umanitoba.ca/viewDefinition.php?definitionID=104463

2. Wellness and prevention [Internet]. Johns Hopkins Medicine. Available from: https://www.hopkinsmedicine.org/health/wellness-and-prevention

3. Births attended by skilled health personnel [Internet]. Available from: https://www.who.int/data/nutrition/nlis/info/births-attended-by-skilled-health-personnel

4. Proctor E, Silmere H, Raghavan R, Hovmand P, Aarons G, Bunger A, et al. Outcomes for Implementation research: conceptual distinctions, measurement challenges, and research agenda. Administration and Policy in Mental Health and Mental Health Services Research [Internet]. 2010 Oct 18;38(2):65–76. Available from: https://doi.org/10.1007/s10488-010-0319-7

5. Bowen DJ, Kreuter M, Spring B, Cofta-Woerpel L, Linnan L, Weiner D, et al. How we design feasibility studies. American Journal of Preventive Medicine [Internet]. 2009 Apr 11;36(5):452–7. Available from: https://doi.org/10.1016/j.amepre.2009.02.002

6. Metreau E, Young KE, Eapen SG. World Bank country classifications by income level for 2024-2025 [Internet]. World Bank Blogs. 2024. Available from: https://blogs.worldbank.org/en/opendata/world-bank-country-classifications-by-income-level-for-2024-2025

7. World Bank. Overview [Internet]. Available from: https://www.worldbank.org/en/country/mic/overview

8. World Bank income groups [Internet]. Our World in Data. 2025. Available from: https://ourworldindata.org/grapher/world-bank-income-groups

9. Fertility rate, total (births per woman) [Internet]. World Bank Group. [cited 2025 Jul 6]. Available from: https://data.worldbank.org/indicator/SP.DYN.TFRT.IN

10. Fragile States Index 2025 [Internet]. World Population Review. Available from: https://worldpopulationreview.com/country-rankings/fragile-states-index

11. Low & middle income [Internet]. World Bank Group. Available from: https://data.worldbank.org/country/low-and-middle-income

12. Poverty, Prosperity, and Planet Report 2024: Pathways Out of the Polycrisis [Internet]. World Bank. Available from: https://www.worldbank.org/en/publication/poverty-prosperity-and-planet

13. Sarikhani Y, Najibi SM, Razavi Z. Key barriers to the provision and utilization of maternal health services in low-and lower-middle-income countries; a scoping review. BMC Women S Health [Internet]. 2024 Jun 5;24(1). Available from: https://doi.org/10.1186/s12905-024-03177-x

14. Majebi NL, Adelodun MO, Anyanwu EC. Maternal Mortality and Healthcare Disparities: Addressing Systemic inequities in Underserved communities. International Journal of Engineering Inventions [Internet]. 2024 Sep;375–385:375–85. Available from: https://chwcentral.org/wp-content/uploads/Maternal-Mortality-and-Healthcare-Disparities-Addressing-Systemic-Inequities-in-Underserved-Communities.pdf

15. Siqueira M, Coube M, Millett C, Rocha R, Hone T. The impacts of health systems financing fragmentation in low- and middle-income countries: a systematic review

protocol. Systematic Reviews [Internet]. 2021 Jun 2;10(1). Available from: https://doi.org/10.1186/s13643-021-01714-5

16. World Health Organization. Global Strategy on Human Resources for Health: Workforce 2030 [Internet]. 2016. Available from: https://iris.who.int/bitstream/handle/10665/250368/9789241511131-eng.pdf?sequence=1

17. Ahmat A, Okoroafor SC, Kazanga I, Asamani JA, Millogo JJS, Illou MMA, et al. The health workforce status in the WHO African Region: findings of a cross-sectional study. BMJ Global Health [Internet]. 2022 May 1;7(Suppl 1):e008317. Available from: https://gh.bmj.com/content/7/Suppl_1/e008317

18. Hanson K, Brikci N, Erlangga D, Alebachew A, De Allegri M, Balabanova D, et al. The Lancet Global Health Commission on financing primary health care: putting people at the centre. The Lancet Global Health [Internet]. 2022 Apr 4;10(5):e715–72. Available from: https://doi.org/10.1016/s2214-109x(22)00005-5

19. OECD. Financing transition in the health sector - What can Development Assistance Committee members do? OECD Development Policy Papers [Internet]. 2020 Mar; Available from: https://www.oecd.org/content/dam/oecd/en/publications/reports/2021/03/financing-transition-in-the-health-sector_836a5139/0d16fad8-en.pdf

20. Mwaniki MK. Quality in provision of maternity services: the missing link in health-care investments in LMICs? The Lancet Global Health [Internet]. 2016 Sep 24;4(11):e769–70. Available from: https://doi.org/10.1016/s2214-109x(16)30239-x

21. World Health Organization: WHO. Maternal health [Internet]. 2019. Available from: https://www.who.int/health-topics/maternal-health#tab=tab_1

22. Baten A, Biswas RK, Kendal E, Bhowmik J. Utilization of maternal healthcare services in low- and middle-income countries: a systematic review and meta-analysis. Systematic Reviews [Internet]. 2025 Apr 16;14(1). Available from: https://doi.org/10.1186/s13643-025-02832-0

23. UNICEF. Antenatal Care. https://data.unicef.org/topic/maternal-health/antenatal-care/. 2024 Nov.

24. Rahman MdM, Taniguchi H, Nsashiyi RS, Islam R, Mahmud SR, Rahman S, et al. Trend and projection of skilled birth attendants and institutional delivery coverage for adolescents in 54 low- and middle-income countries, 2000–2030. BMC Medicine [Internet]. 2022 Feb 4;20(1). Available from: https://doi.org/10.1186/s12916-022-02255-x

25. Kassie AM, Eakin E, Endalamaw A, Zewdie A, Wolka E, Assefa Y. Effective coverage of maternal and neonatal healthcare services in low-and middle-income countries: a scoping review. BMC Health Services Research [Internet]. 2024 Dec 18;24(1). Available from: https://doi.org/10.1186/s12913-024-12085-7

26. Bhutta ZA, Cabral S, Chan C, Keenan WJ. Reducing maternal, newborn, and infant mortality globally: An integrated action agenda. International Journal of Gynecology & Obstetrics [Internet]. 2012 Aug 9;119(S1). Available from: https://doi.org/10.1016/j.ijgo.2012.04.001

27. Tunçalp Ö., Were W, MacLennan C, Oladapo O, Gülmezoglu A, Bahl R, et al. Quality of care for pregnant women and newborns—the WHO vision. BJOG an International Journal of Obstetrics & Gynaecology [Internet]. 2015 May 1;122(8):1045–9. Available from: https://doi.org/10.1111/1471-0528.13451

28. Chou VB, Walker N, Kanyangarara M. Estimating the global impact of poor quality of care on maternal and neonatal outcomes in 81 low- and middle-income

countries: A modeling study. PLoS Medicine [Internet]. 2019 Dec 18;16(12):e1002990. Available from: https://doi.org/10.1371/journal.pmed.1002990

29. Iyengar K, Gupta M, Pal S, Kaur K, Singla N, Verma M, et al. Baseline Assessment of Evidence-Based Intrapartum care practices in medical schools in 3 states in India: A Mixed-Methods Study. Global Health Science and Practice [Internet]. 2022 Apr 28;10(2):e2100590. Available from: https://doi.org/10.9745/ghsp-d-21-00590

30. Bohren MA, Vogel JP, Hunter EC, Lutsiv O, Makh SK, Souza JP, et al. The Mistreatment of Women during Childbirth in Health Facilities Globally: A Mixed-Methods Systematic Review. PLoS Medicine [Internet]. 2015 Jun 30;12(6):e1001847. Available from: https://doi.org/10.1371/journal.pmed.1001847

31. World Health Organization: WHO. Maternal mortality [Internet]. 2025. Available from: https://www.who.int/news-room/fact-sheets/detail/maternal-mortality

32. Ahmed I, Ali SM, Amenga-Etego S, Ariff S, Bahl R, Baqui AH, et al. Population-based rates, timing, and causes of maternal deaths, stillbirths, and neonatal deaths in south Asia and sub-Saharan Africa: a multi-country prospective cohort study. The Lancet Global Health [Internet]. 2018 Oct 22;6(12):e1297–308. Available from: https://doi.org/10.1016/s2214-109x(18)30385-1

33. Austin A, Langer A, Salam RA, Lassi ZS, Das JK, Bhutta ZA. Approaches to improve the quality of maternal and newborn health care: an overview of the evidence. Reproductive Health [Internet]. 2014 Sep 1;11(S2). Available from: https://doi.org/10.1186/1742-4755-11-s2-s1

34. Radovich E, Benova L, Penn-Kekana L, Wong K, Campbell OMR. 'Who assisted with the delivery of (NAME)?' Issues in estimating skilled birth attendant coverage through population-based surveys and implications for improving global tracking. BMJ Global Health [Internet]. 2019 Apr 1;4(2):e001367. Available from: https://doi.org/10.1136/bmjgh-2018-001367

35. Kruk ME, Gage AD, Arsenault C, Jordan K, Leslie HH, Roder-DeWan S, et al. High-quality health systems in the Sustainable Development Goals era: time for a revolution. The Lancet Global Health [Internet]. 2018 Sep 5;6(11):e1196–252. Available from: https://doi.org/10.1016/s2214-109x(18)30386-3

36. Sheffel A, Karp C, Creanga AA. Use of Service Provision Assessments and Service Availability and Readiness Assessments for monitoring quality of maternal and newborn health services in low-income and middle-income countries. BMJ Global Health [Internet]. 2018 Nov 1;3(6):e001011. Available from: https://doi.org/10.1136/bmjgh-2018-001011

37. Keya-Korotki K, Natafgi N, Macauda M, Hamid SA, Khan MM. Association between 'Emergency obstetric & newborn care readiness' and delivery service utilization in Bangladesh: Evidence from national health facility assessment surveys. PLoS ONE [Internet]. 2025 May 27;20(5):e0297734. Available from: https://doi.org/10.1371/journal.pone.0297734

38. UNFPA Maternal and Newborn Health Fund Annual Impact Report 2024 [Internet]. UNFPA Maternal and Newborn Health Fund Annual Impact Report. 2025 Jul. Available from: https://www.unfpa.org/sites/default/files/pub-pdf/MNH%20Fund%20Annual%20Report%202024.pdf[1]

---

[1]

39. World Health Organization. WHO Safe Childbirth Checklist Implementation Guide [Internet]. WHO Safe Childbirth Checklist Implementation Guide. 2015. Available from: https://iris.who.int/bitstream/handle/10665/199177/9789241549455_eng.pdf?sequence=1

40. Maternal Health (MAH). WHO labour care guide: user's manual [Internet]. 2021. Available from: https://www.who.int/publications/i/item/9789240017566

41. Afulani PA, Diamond-Smith N, Golub G, Sudhinaraset M. Development of a tool to measure person-centered maternity care in developing settings: validation in a rural and urban Kenyan population. Reproductive Health [Internet]. 2017 Sep 22;14(1). Available from: https://doi.org/10.1186/s12978-017-0381-7

42. Ashton J, Gohar F, Kim Dickson, Nabila Zaka, Sufang Guo, Janet Kayita, et al. EMEN Quality Improvement Guide for health Facility staff [Internet]. Available from: https://www.healthynewbornnetwork.org/hnn-content/uploads/EMEN-QI-GUIDE-.pdf

43. Tripathi V, Stanton C, Strobino D, Bartlett L. Development and validation of an index to measure the quality of Facility-Based labor and delivery care processes in Sub-Saharan Africa. PLoS ONE [Internet]. 2015 Jun 24;10(6):e0129491. Available from: https://doi.org/10.1371/journal.pone.012949

44. The Improvement Guide: A Practical approach to Enhancing Organizational performance [Internet]. Institute for Healthcare Improvement. Available from: https://www.ihi.org/library/publications/improvement-guide-practical-approach-enhancing-organizational-performance

45. Donabedian A. The quality of care. JAMA [Internet]. 1988 Sep 23;260(12):1743. Available from: https://doi.org/10.1001/jama.1988.03410120089033

46. Access to Medicines and Health Products (MHP), World Health Organisation. Standards for improving quality of maternal and newborn care in health facilities [Internet]. 2016. Available from: https://www.who.int/publications/i/item/9789241511216

47. Stirman SW, Miller CJ, Toder K, Calloway A. Development of a framework and coding system for modifications and adaptations of evidence-based interventions. Implementation Science [Internet]. 2013 Jun 10;8(1). Available from: https://doi.org/10.1186/1748-5908-8-65

48. Kourouma KR, Yaméogo WME, Doukouré D, Yacé MLA, Kamelan AT, Coulibaly-Koné SA, et al. Feasibility study on the adoption of the WHO safe childbirth checklist by front-line healthcare providers and managers in Burkina Faso and Côte d'Ivoire. Pilot and Feasibility Studies [Internet]. 2020 Oct 6;6(1). Available from: https://doi.org/10.1186/s40814-020-00691-1

49. Mugyenyi GR, Byamugisha JK, Tumuhimbise W, Atukunda EC, Fajardo YT. Customization and acceptability of the WHO labor care guide to improve labor monitoring among health workers in Uganda. An iterative development, mixed method study. PLOS Global Public Health [Internet]. 2024 May 13;4(5):e0002780. Available from: https://doi.org/10.1371/journal.pgph.0002780

50. Afulani PA, Phillips B, Aborigo RA, Moyer CA. Person-centred maternity care in low-income and middle-income countries: analysis of data from Kenya, Ghana, and India. The Lancet Global Health [Internet]. 2018 Dec 13;7(1):e96–109. Available from: https://doi.org/10.1016/s2214-109x(18)30403-0

51. Hofmeyr G, Bernitz S, Bonet M, Bucagu M, Dao B, Downe S, et al. WHO next-generation partograph: revolutionary steps towards individualised labour care.

BJOG an International Journal of Obstetrics & Gynaecology [Internet]. 2021 Mar 9;128(10):1658–62. Available from: https://doi.org/10.1111/1471-0528.16694

52. Mira-Catalá P, Hernández-Aguado I, Chilet-Rosell E. Respectful maternity care interventions to address women mistreatment in childbirth: What has been done? BMC Pregnancy and Childbirth [Internet]. 2024 Apr 26;24(1). Available from: https://doi.org/10.1186/s12884-024-06524-w

53. Afulani PA, Diamond-Smith N, Phillips B, Singhal S, Sudhinaraset M. Validation of the person-centered maternity care scale in India. Reproductive Health [Internet]. 2018 Aug 29;15(1). Available from: https://doi.org/10.1186/s12978-018-0591-7

54. Siseho GM, Mathole T, Jackson D. Monitoring healthcare improvement for mothers and newborns: A quantitative review of WHO/UNICEF/UNFPA standards using Every Mother Every Newborn assessment tools. Frontiers in Pediatrics [Internet]. 2022 Sep 12;10. Available from: https://pmc.ncbi.nlm.nih.gov/articles/PMC9510702/

55. Billah SM, Chowdhury MAK, Khan ANS, Karim F, Hassan A, Zaka N, et al. Quality of care during childbirth at public health facilities in Bangladesh: a cross-sectional study using WHO/UNICEF 'Every Mother Every Newborn (EMEN)' standards. BMJ Open Quality [Internet]. 2019 Aug 1;8(3):e000596. Available from: https://bmjopenquality.bmj.com/content/8/3/e000596

56. Tripathi V, Stanton C, Strobino D, Bartlett L. Measuring the quality of maternal and care processes at the time of delivery in sub-Saharan Africa: development and validation of a short index. BMC Pregnancy and Childbirth [Internet]. 2019 Apr 16;19(1). Available from: https://doi.org/10.1186/s12884-019-2281-z

57. Dohbit JS, Woks NIE, Koudjine CH, Tafen W, Foumane P, Bella AL, et al. The increasing use of the WHO Safe Childbirth Checklist: lessons learned at the Yaoundé Gynaeco-Obstetric and Paediatric Hospital, Cameroon. BMC Pregnancy and Childbirth [Internet]. 2021 Jul 8;21(1). Available from: https://doi.org/10.1186/s12884-021-03966-

58. Semrau KEA, Hirschhorn LR, Delaney MM, Singh VP, Saurastri R, Sharma N, et al. Outcomes of a Coaching-Based WHO Safe Childbirth Checklist Program in India. New England Journal of Medicine [Internet]. 2017 Dec 13;377(24):2313–24. Available from: https://doi.org/10.1056/nejmoa1701075

59. Nababan HY, Islam R, Mostari S, Tariqujjaman M, Sarker M, Islam MT, et al. Improving quality of care for maternal and newborn health: a pre-post evaluation of the Safe Childbirth Checklist at a hospital in Bangladesh. BMC Pregnancy and Childbirth [Internet]. 2017 Dec 1;17(1). Available from: https://doi.org/10.1186/s12884-017-1588-x

60. Achola KA, Kajjo D, Santos N, Butrick E, Otare C, Mubiri P, et al. Implementing the WHO Safe Childbirth Checklist modified for preterm birth: lessons learned and experiences from Kenya and Uganda. BMC Health Services Research [Internet]. 2022 Mar 3;22(1). Available from: https://doi.org/10.1186/s12913-022-07650-x

61. Abawollo HS, Tsegaye ZT, Desta BF, Mamo TT, Mamo HG, Mehari ZT, et al. Implementing a modified World Health Organization safe childbirth checklist in health centers of Ethiopia: a pre and post intervention study. BMC Pregnancy and Childbirth [Internet]. 2021 Jan 22;21(1). Available from: https://doi.org/10.1186/s12884-021-03565-3

62. Tuyishime E, Park PH, Rouleau D, Livingston P, Banguti PR, Wong R. Implementing the World Health Organization safe childbirth checklist in a district

Hospital in Rwanda: a pre- and post-intervention study. Maternal Health Neonatology and Perinatology [Internet]. 2018 Feb 8;4(1). Available from: https://pubmed.ncbi.nlm.nih.gov/29632699

63. Molina RL, Benski AC, Bobanski L, Tuller DE, Semrau KEA. Adaptation and implementation of the WHO Safe Childbirth Checklist around the world. Implementation Science Communications [Internet]. 2021 Jul 8;2(1). Available from: https://doi.org/10.1186/s43058-021-00176-z

64. Kourouma KR, Yaméogo WME, Doukouré D, Yacé MLA, Kamelan AT, Coulibaly-Koné SA, et al. Feasibility study on the adoption of the WHO safe childbirth checklist by front-line healthcare providers and managers in Burkina Faso and Côte d'Ivoire. Pilot and Feasibility Studies [Internet]. 2020 Oct 6;6(1). Available from: https://doi.org/10.1186/s40814-020-00691-1

65. Godfrey MR, Wilson T, Esther AC, Leevan T, Joseph N, Musa K, et al. Effectiveness of the modified WHO labour care guide to detect prolonged and obstructed labour among women admitted at publicly funded facilities in rural Mbarara district, Southwestern Uganda: an ambispective cohort study. medRxiv (Cold Spring Harbor Laboratory) [Internet]. 2024 Sep 5; Available from: https://doi.org/10.1101/2024.09.04.24313073

66. Vogel JP, Pujar Y, Vernekar SS, Armari E, Pingray V, Althabe F, et al. Effects of the WHO Labour Care Guide on cesarean section in India: a pragmatic, stepped-wedge, cluster-randomized pilot trial. Nature Medicine [Internet]. 2024 Jan 30;30(2):463–9. Available from: https://doi.org/10.1038/s41591-023-02751-4

67. View of Effects of World Health Organization Labour Care Guide Utilization for Safe Motherhood during Intrapartum Period through Midwives [Internet]. Available from: https://www.jneonatalsurg.com/index.php/jns/article/view/6308/5366

68. Pandey D, Bharti R, Dabral A, Khanam Z. Impact of WHO Labor Care Guide on reducing cesarean sections at a tertiary center: an open-label randomized controlled trial. AJOG Global Reports [Internet]. 2022 Jul 20;2(3):100075. Available from: https://doi.org/10.1016/j.xagr.2022.10007

69. N S, M SJL. A study on implementation of WHO labour care guide in low-risk pregnant women and its impact on maternal and perinatal outcome. International Journal of Reproduction Contraception Obstetrics and Gynecology [Internet]. 2022 Dec 28;12(1):226. Available from: https://doi.org/10.18203/2320-1770.ijrcog20223498

70. Vogel JP, Comrie-Thomson L, Pingray V, Gadama L, Galadanci H, Goudar S, et al. Usability, acceptability, and feasibility of the World Health Organization Labour Care Guide: A mixed-methods, multicountry evaluation. Birth [Internet]. 2020 Nov 22;48(1):66–75. Available from: https://doi.org/10.1111/birt.12511

71. Ogbuabor DC, Nwankwor C. Perception of Person-Centred Maternity Care and its associated factors among Post-Partum women: evidence from a Cross-Sectional study in Enugu State, Nigeria. International Journal of Public Health [Internet]. 2021 Jun 17;66. Available from: https://doi.org/10.3389/ijph.2021.612894

72. Oluoch-Aridi J, Afulani P, Makanga C, Guzman D, Miller-Graff L. Examining person-centered maternity care in a peri-urban setting in Embakasi, Nairobi, Kenya. PLoS ONE [Internet]. 2021 Oct 11;16(10):e0257542. Available from: https://doi.org/10.1371/journal.pone.0257542

73. Rishard M, Fahmy FF, Senanayake H, Ranaweera AKP, Armocida B, Mariani I, et al. Correlation among experience of person-centered maternity care, provision of care and women's satisfaction: Cross sectional study in Colombo, Sri Lanka.

PLoS ONE [Internet]. 2021 Apr 8;16(4):e0249265. Available from: https://doi.org/10.1371/journal.pone.0249265

74. Montagu D, Giessler K, Nakphong MK, Roy KP, Sahu AB, Sharma K, et al. Results of a person-centered maternal health quality improvement intervention in Uttar Pradesh, India. PLoS ONE [Internet]. 2020 Dec 11;15(12):e0242909. Available from: https://doi.org/10.1371/journal.pone.0242909

75. Dagnaw FT, Kehali KY, Agago TA, Hailemeskel HS. Person-centered maternity care among mothers who gave birth in South Wollo zone public hospitals, northeastern Ethiopia: a mixed-method study. Health Services Insights [Internet]. 2022 Jan 1;15. Available from: https://doi.org/10.1177/11786329221127946

76. Hameed S, Mureed S, Chaudhri R, Khan SA, Khan MS. Postnatal women's perception on person-centered maternity care in twin cities of Rawalpindi and Islamabad: a descriptive study. BMC Pregnancy and Childbirth [Internet]. 2023 Jan 21;23(1). Available from: https://doi.org/10.1186/s12884-023-05362-6

77. Naito YT, Fukuzawa R, Ganchimeg T, Afulani PA, Aiga H, Kim R, et al. Validation of the person-centered maternity care scale at governmental health facilities in Cambodia. PLoS ONE [Internet]. 2023 Jul 6;18(7):e0288051. Available from: https://doi.org/10.1371/journal.pone.0288051

78. Billah SM, Chowdhury MAK, Khan ANS, Karim F, Hassan A, Zaka N, et al. Quality of care during childbirth at public health facilities in Bangladesh: a cross-sectional study using WHO/UNICEF 'Every Mother Every Newborn (EMEN)' standards. BMJ Open Quality [Internet]. 2019 Aug 1;8(3):e000596. Available from: https://bmjopenquality.bmj.com/content/8/3/e000596

79. Manu A, Arifeen S, Williams J, Mwasanya E, Zaka N, Plowman BA, et al. Assessment of facility readiness for implementing the WHO/UNICEF standards for improving quality of maternal and newborn care in health facilities – experiences from UNICEF's implementation in three countries of South Asia and sub-Saharan Africa. BMC Health Services Research [Internet]. 2018 Jul 9;18(1). Available from: https://doi.org/10.1186/s12913-018-3334-0

80. Manu A, Billah SM, Williams J, Kilima S, Yeji F, Matin Z, et al. Institutionalising maternal and newborn quality-of-care standards in Bangladesh, Ghana and Tanzania: a quasi-experimental study. BMJ Global Health [Internet]. 2022 Sep 1;7(9):e009471. Available from: https://gh.bmj.com/content/7/9/e009471

81. Manu A, Zaka N, Bianchessi C, Maswanya E, Williams J, Arifeen SE. Respectful maternity care delivered within health facilities in Bangladesh, Ghana and Tanzania: a cross-sectional assessment preceding a quality improvement intervention. BMJ Open [Internet]. 2021 Jan 1;11(1):e039616. Available from: https://bmjopen.bmj.com/content/11/1/e039616

82. Siseho GM, Mathole T, Jackson D. Baseline assessment of the WHO/UNICEF/UNFPA maternal and newborn quality-of-care standards around childbirth: Results from an intermediate hospital, northeast Namibia. Frontiers in Pediatrics [Internet]. 2023 Jan 9;10. Available from: https://doi.org/10.3389/fped.2022.972815

83. Arsenault C, English M, Gathara D, Malata A, Mandala W, Kruk ME. Variation in competent and respectful delivery care in Kenya and Malawi: a retrospective analysis of national facility surveys. Tropical Medicine & International Health [Internet]. 2019 Dec 12;25(4):442–53. Available from: https://doi.org/10.1111/tmi.13361

84. Sharma BB, Jones L, Loxton DJ, Booth D, Smith R. Systematic review of community participation interventions to improve maternal health outcomes in

rural South Asia. BMC Pregnancy and Childbirth [Internet]. 2018 Aug 10;18(1). Available from: https://doi.org/10.1186/s12884-018-1964-1

85. Mthembu Z, Mogaka JJO, Chimbari MJ. Community engagement processes in low- and middle-income countries health research settings: a systematic review of the literature. BMC Health Services Research [Internet]. 2023 May 8;23(1). Available from: https://doi.org/10.1186/s12913-023-09466-9

Annex I – Adapted Standards of Care and Quality Statements for the Study

Standard 1: Every woman and newborn receives routine, evidence-based care and management of complications during labour, childbirth and the early postnatal period, according to WHO guidelines.	
Quality statements	
1.1a	Women are assessed routinely on admission and during labour and childbirth and are given timely, appropriate care.
1.2	Women with pre-eclampsia or eclampsia promptly receive appropriate interventions, according to WHO guidelines.
1.4	Women with delay in labour or whose labour is obstructed receive appropriate interventions, according to WHO guidelines.
1.5	Women in preterm labour receive appropriate interventions , according to WHO guidelines.
1.7a	Women with or at risk for infection during labour, childbirth or the early postnatal period promptly receive appropriate interventions, according to WHO guidelines.
1.9	No woman or newborn is subjected to unnecessary or harmful practices during labour, childbirth and the early postnatal period.
Standard 2: The health information system enables use of data to ensure early, appropriate action to improve the care of every woman and newborn.	
Quality statements	
2.1	Every woman has a complete, accurate, standardized medical record during labour, childbirth
2.2	Every health facility has a mechanism for data collection, analysis and feedback as part of its activities for monitoring and improving performance around the time of childbirth.

Standard 3: Every woman and newborn with condition(s) that cannot be dealt with effectively with the available resources is appropriately referred.	
Quality statements	
3.1	Every woman is appropriately assessed on admission, during labour and in the early postnatal period to determine whether referral is required, and the decision to refer is made without delay.
3.2	For every woman who requires referral, the referral follows a pre-established plan that can be implemented without delay at any time.
3.3	For every woman referred within or between health facilities, there is appropriate information exchange and feedback to relevant health care staff.

Standard 4: Communication with women and their families is effective and responds to their needs and preferences.	
Quality statements	
4.1	All women and their families receive information about the care and have effective interactions with staff.
4.2	All women and their families experience coordinated care, with clear, accurate information exchange between relevant health and social care professionals.

Standard 5: Women and newborns receive care with respect and preservation of their dignity.	
Quality statements	
5.1	All women have privacy around the time of labour and childbirth, and their confidentiality is respected
5.2	No woman is subjected to mistreatment, such as physical, sexual or verbal abuse, discrimination, neglect, detainment, extortion or denial of services.
5.3	All women have informed choices in the services they receive, and the reasons for interventions or outcomes are clearly explained.

Standard 6: Every woman and her family are provided with emotional support that is sensitive to their needs and strengthens the woman's capability.	
Quality statements	
6.1	Every woman is offered the option to experience labour and childbirth with the companion of her choice.
6.2	Every woman receives support to strengthens her capability during childbirth.
Standard 7: For every woman and newborn, competent, motivated staff are consistently available to provide routine care and manage complications.	
Quality statements	
7.1	Every woman has access at all times to at least one skilled birth attendant and support staff for routine care and management of complications.
7.2	The skilled birth attendants and support staff have appropriate competence and skills mix to meet the requirements of labour, childbirth and the early postnatal period.
7.3	Every health facility has managerial and clinical leadership that is collectively responsible for developing and implementing appropriate policies and fosters an environment that supports facility staff in continuous quality improvement.
Standard 8: The health facility has an appropriate physical environment, with adequate water, sanitation and energy supplies, medicines, supplies and equipment for routine maternal and newborn care and management of complications.	
Quality statements	
8.1	Water, energy, sanitation, hand hygiene and waste disposal facilities are functional, reliable, safe and sufficient to meet the needs of staff, women and their families.
8.2	Areas for labour, childbirth and postnatal care are designed, organized and maintained so that every woman and newborn can be cared for according to their needs in private, to facilitate the continuity of care.
8.3	An adequate stock of medicines, supplies and equipment is available for routine care and management of complications.

Annex II - Declaration for Use of Generative AI (GenAI)

Please complete and submit this form as an annex on the last page of your assignment file; and not as a separate document.

Check the box that applies to your completion of this assignment:

☐ I confirm that **<u>I have not used</u>** any generative AI tools to complete this assignment.

☒ I confirm that **<u>I have used</u>** generative AI tool(s) in accordance with the *"**Guidelines for the use of Generative AI for KIT Institute Master's and Short course participants".*** Below, I have listed the GenAI tools used and for what specific purpose:

Generative AI tool used	Purpose of use
Grammarly	For Grammar check
ChatGPT	For brain storming