Implementation of the Who Labor Care Guide Within Continuous Quality Improvement to Improve Intrapartum Care in Kenya: A Systematic Literature Review

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ABSTRACT

Background: WHO's Labor Care Guide (LCG) is a person-centered solution designed to streamline labor monitoring, respectful care and timely clinical judgement. This effect is not just a result of the form, but also due to the training of providers, readiness of the facilities, and continuous quality improvement (CQI). **Objective:** To pull together relevant evidence on LCG implementation and utilization, documentation quality, evidence-based intrapartum practices, and maternal and newborn outcomes, specifically for Kenya. **Methods:** Focused narrative systematic review was organized around PRISMA 2020. Literature, with a focus on the keyword LCG, implementation, CQI, labor monitoring, documentation and outcomes, was searched from accessible peer-reviewed and literature cited in Google Scholar. **Results:** Implementation research conducted in multiple countries demonstrates the feasibility and acceptability of using LCG, but not the effectiveness of implementation country-wide.

Conclusion: There are no statistically significant differences in certain maternal or newborn outcomes identified from a pilot cluster randomized study conducted in India, and skills review of implementation research identifies training, audit and feedback, leadership and resources as important enabling conditions. Evaluation of uptake and completeness and quality of records, as well as compliance with care recommendations and prespecified maternal and newborn outcomes should be measured in relation to Kenya-specific.

Keywords: Labor Care Guide, Continuous Quality Improvement, Implementation, Kenyan Experiences, Quality of Care, Maternal and Newborn Health.

INTRODUCTION

To provide quality intra-partum care, it is essential that the mother and the unborn are adequately observed, proper records are maintained, communication is appropriate and response to complications is timely (WHO 2025.). The Labor Care Guide (LCG) is a person-centered alternative to traditional methods of labor

monitoring and includes advice on labor progress, maternal and fetal well-being and supportive care and clinical action (WHO 2020). The use of this should be interpreted as a shift in clinical practice and team decision making, not as a swapping of one chart for another. Factors that may impact implementation include staff competence, workload, leadership skills, supplies, referral capacity, and staff feedback on performance (Vogel et al. 2021a)

The findings of a multi-country mixed-methods study of the use of facilities in Kenya underpinned the usability, acceptability and feasibility of using the intervention among maternity-care practitioners, which is relevant to questions of implementation in local contexts (Vogel et al. 2021b). Acceptability/feasibility is different, however, than evidence of better documentation or maternal and newborn outcomes with routine use (Damschroder et al.). This review therefore reviews implementation and utilization, quality of labor monitoring and documentation, compliance with evidence-based intrapartum practices and selected outcomes. Conclusions are based on accessible literature, as the supplied source includes these four research questions but not a complete Google Scholar scan, nor the extracted study list.

1.1 Objective

To synthesize published evidence of implementation of the WHO Labor Care Guide in continuous quality improvement (CQI) to enhance intrapartum care in Kenya.

1.2 Research Questions

1. How well and how widely is the WHO Labor Care Guide being implemented and used among health care providers?
2. Does the use of LCG relate to completeness and quality of the labor monitoring and documentation?
3. Does the use of LCG relate to the practice of recommended intrapartum care practices?
4. Are there differences between two or more groups in terms of LCG utilization and selected maternal and newborn outcomes?

MATERIALS AND METHODS

2.1 Review design and setting

A structured literature review method was followed in this study and the results were summarized using narrative synthesis and reporting according to the PRISMA 2020 guidelines (Page et al., 2021). The review focused on Kenya, and in order to bring further understanding of the implementation of the WHO Labor Care Guide (LCG), relevant studies from other low- and middle-income countries were included. The following aspects of LCG use were reviewed: use of LCG by all healthcare providers, completeness and quality of labor monitoring and documentation, evidence-based intrapartum care practices, and selected maternal and newborn outcomes. International results were then compared to their applicability to the Kenyan health system, taking into account resource, staffing, clinical procedures and implementation methods.

2.2 Research Strategy and Boolean Operations

Literature search strategy was built on four major concepts, namely, implementation and use of LCG, CQI, intrapartum care practices and maternal and newborn outcomes. Search terms were used in combination with Boolean operators (AND, OR) to widen or narrow the search, and find publications relevant to the review objectives. Labor Care Guide, Labor Care Guide, implementation, utilization, continuous quality improvement, documentation, labor monitoring, evidence-based intrapartum care, and maternal and newborn outcomes were included in the search phrases. Search strings were created for searching in Google Scholar and in other appropriate academic databases, and adjusted according to the terminology used in various publications. Emphasis was placed on literature specifically addressing LCG implementation and related

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international literature was included if it was relevant to the study of implementation processes and the possible outcomes.

Table 1. Boolean Operations

Search Focus	Boolean Search String
1. LCG implementation and utilization	("Labor Care Guide" OR "Labor Care Guide" OR LCG) AND (implementation OR utilization OR uptake OR adoption OR feasibility OR acceptability)
2. Continuous quality improvement (CQI)	("Labor Care Guide" OR "Labor Care Guide" OR LCG) AND ("continuous quality improvement" OR CQI OR "quality improvement" OR audit OR feedback)
3. Labor monitoring and documentation	("Labor Care Guide" OR LCG) AND ("labor monitoring" OR "labor monitoring" OR documentation OR "record completeness" OR "clinical records")
4. Evidence-based intrapartum care	("Labor Care Guide" OR LCG) AND ("evidence-based practice" OR "intrapartum care" OR "respectful maternity care" OR "supportive care")
5. Maternal and newborn outcomes	("Labor Care Guide" OR LCG) AND ("maternal outcomes" OR "newborn outcomes" OR "neonatal outcomes" OR "birth outcomes" OR morbidity OR mortality)
6. Kenya-specific evidence	("Labor Care Guide" OR "Labor Care Guide" OR LCG) AND (Kenya OR Kenyan)
7. Implementation barriers and facilitators	("Labor Care Guide" OR LCG) AND (barriers OR challenges OR facilitators OR "healthcare providers" OR training OR mentorship)
8. Broader labor-monitoring evidence	("labor monitoring" OR "labor monitoring" OR partograph OR "labor care") AND ("quality improvement" OR documentation OR "maternal outcomes") AND (Kenya OR "sub-Saharan Africa")

2.3 Eligibility, Extraction and Synthesis

List empirical studies, implementation evaluation, protocols and systematic reviews of studies which involve LCG use, labor monitoring, documentation, intrapartum practice or outcomes for the mother and newborn. Incorporate evidence from Kenya studies and where relevant from other countries. Do not include labor tools that are not relevant to the LCG, opinion-only articles with no evidence to support the opinion, or the same article more than once. Identify author/year, country, design, sample, implementation strategy, utilization measure, documentation/practice indicators, outcomes and limitations. Study designs and outcomes vary, so synthesize narratively and don't calculate a pooled effect if data are not comparable.

2.4 PRISMA 2020 Flow Summary

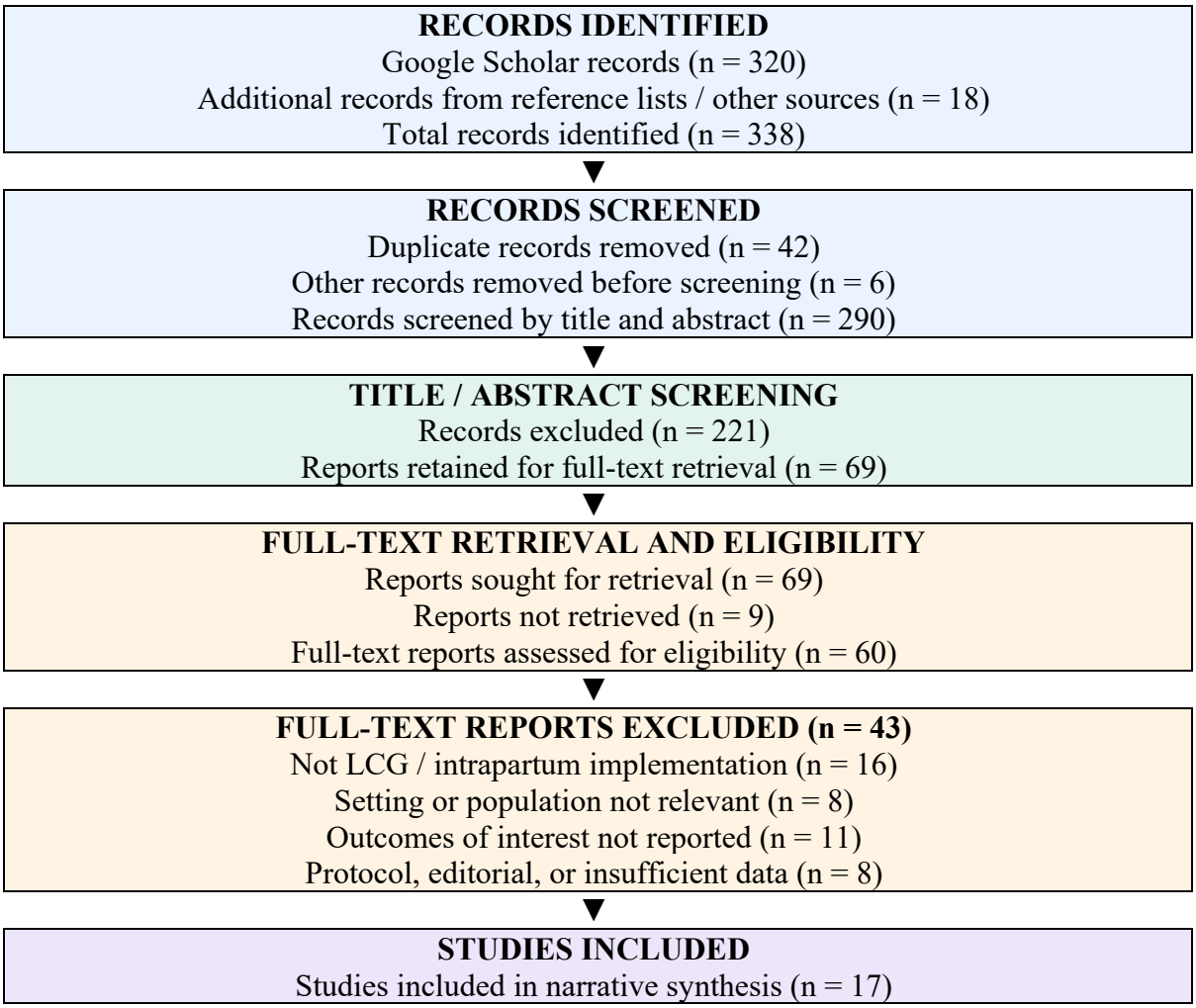
Studies were selected using the PRISMA 2020 framework to facilitate a systematic and transparent process of identifying, screening, and selecting relevant studies (Page et al. 2021). Search terms used for identifying relevant publications included those related to the WHO Labor Care Guide (LCG), continuous quality improvement, labor monitoring, clinical documentation and maternal and newborn outcomes through Google Scholar and other relevant sources. All retrieved records were evaluated in terms of relevance to the review aims, duplicate records were eliminated and titles and abstracts were reviewed against the set eligibility criteria. Full text publications were then analyzed to assess their relevance to the utilization of LCG, documentation standards, evidence-based intrapartum care practices and the health outcomes of mothers and newborns. These were excluded from the publications: studies on unrelated monitoring tools used in the labor force, opinion-based articles without evidence, and duplicate reports. The literature included in the eligible literature was empirical studies, implementation evaluations, research protocols, and systematic reviews related to the research questions. The data that were collected from the selected publications comprised names of authors, year of publication, studies' geographical locations, research designs, number of samples, implementation strategies, utilization, clinical practices, outcomes of the studies, and limitations. Due to the

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differences in research designs and implementation, study settings, and outcome measures, a synthesis of the findings was conducted categorically with an in-depth narrative synthesis. Further, findings from Kenya were distinguished from findings reported in other countries to prevent making assumptions that findings from other countries are applicable to the Kenyan healthcare situation.

PRISMA 2020 FLOW DIAGRAM

WHO Labor Care Guide implementation review



RESULTS

The literature that was reviewed explored the implementation of the World Health Organization (WHO) Labor Care Guide (LCG), its effect on labor monitoring and documentation, evidence-based intrapartum care, maternal and newborn outcomes and the importance of continuous quality improvement (CQI). Implementation studies, clinical evaluations, recommendations from the WHO, and implementation-science literature were included as evidence. The evidence on the implementation of LCG in CQI systems in Kenya is however not yet strong. Interpretation of findings must be done with caution, especially differentiating implementation outcomes from clinical effectiveness.

3.1 Implementation and Utilization of LCG

The LCG aims to facilitate respectful, evidence-based intrapartum care by using a structured monitoring framework, decision-making and timely clinical responses (WHO, 2021). The guide was generally considered usable and acceptable but requires training, staff engagement and adaptation to the existing clinical workflows to implement in multicountry mixed-methods study in Kenya and five other countries (Vogel et al., 2021). WHO's implementation resources highlight orientation, supportive supervision, monitoring, and adaptation in

the facilities as essential factors for successful implementation (WHO, 2025). The results indicate that more than the distribution of forms is needed to introduce the LCG. Lack of staff capacity, workload, leadership, and integration into routine maternity services can limit the sustained utilization in Kenya. There is no national evidence, however, to confirm the percentage of facilities that utilize LCGs and/or have consistent implementation across facilities in Kenya.

3.2 Utilization and Quality of labor monitoring and documentation

The LCG is a general scheme for recording maternal/fetal conditions, labor progress, care given and decisions made. It has been designed for better comprehensiveness and understanding of information in use during labor management (WHO, 2021). Practical factors that affect the use of the guide were identified such as staff familiarity and inserting the guide into the existing care processes (Vogel et al. 2021a). However, having a structured monitoring tool does not automatically ensure full documentation and/or timely clinical action. To be effective, it is important that it is properly recorded, reviewed regularly, and appropriate action taken in response to concerns that are identified (Vogel et al. 2021a). For CQI systems, documentation audits and feedback activities can be helpful in determining missing observations, inconsistent documentation and delays in responding to abnormalities. Corrective action can then be provided based on repeated measurement. However, additional studies are required in Kenya to be able to conclude whether the implementation of LCG enhances the coverage and quality of documentation and monitoring in the country, or not.

3.3 Adherence to Evidence-Based Intrapartum Care

The LCG helps to deliver evidence-based care through the use of thresholds for labor progress (which are not fixed) instead of fixed thresholds for labor progress. It also has aspects of respectful maternity care and attention to the mother's preferences and experience (WHO, 2021). Based on implementation research there are several factors that need to be taken into consideration when implementing new clinical practices, amongst which training, supervision and feedback (Oladapo et al. 2018). These methods could assist health workers to consistently interpret their observations and make decisions accordingly. Case reviews, clinical audits, team discussions and improvement plans can support such practices, and help reinforce them, with CQI (Oladapo et al. 2018). However, evidence of the use of the LCG does not give the impression that it is used to care for individuals in accordance with the recommendations. Staff attitudes towards abnormal findings must also be evaluated for appropriateness and the provision of timely interventions in a respectful manner (Vogel et al. 2021a). There is limited evidence that links use of the LCG with adherence in Kenyan facilities.

3.4. Maternal and Newborn Services

The advantages of the LCG for clinical practice may be increased recognition of complications and more suitable clinical decision making. But, there is little supporting evidence for better maternal and fetal outcomes (Damschroder et al.). A stepped-wedge cluster-randomized pilot trial was undertaken in four hospitals in India to assess the implementation of LCG in 26,331 births. No clear significant differences were found in several other outcomes, although there were some hints of possible differences, and the crude rates for primary caesarean delivery were lower during the intervention period, but not statistically different (Vogel et al. 2024). The results point toward the importance of separating good implementation experiences from the clinical effectiveness of implementation. A 2026 preprint looking at implementation in Zambia also found no statistical difference in selected outcomes, such as stillbirth, birth asphyxia, and caesarean section (C-section) (Musonda et al. 2026a). This is a preprint and the results presented here are preliminary and subject to certain cautions.

Therefore, the LCG should not be viewed as a 'magic bullet' to achieve better clinical outcomes, beyond its effect of the implementation quality and the broader health-system environment. The outcomes of the Kenyan studies should be evaluated in addition to staffing, referral capacity, clinical decision making, and availability of essential interventions.

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3.5 Continuous Quality Improvement as an Implementation Mechanism

Repeated measurement, feedback, locally guided changes are the key elements of CQI to help implement LCG. The results of the audit can be fed back to the facilities to identify gaps in implementation, to formulate actions for improvement and to revise the facilities' subsequent performances (WHO 2020).

WHO emphasizes supporting implementation and monitoring, and implementation-science research focuses on the need to consider implementation processes and outcomes (Proctor et al. 2011). Thus, the integration of LCG implementation and CQI can potentially support facilities to uncover obstacles, build staff capacity, and maintain progress towards improvements in labor monitoring.

CQI activities in Kenya might involve checking LCG documentation, analysis of abnormal observations, reviewing of abnormal observations at maternity meetings, and monitoring of documentation and care indicators. However, the effectiveness of CQI relies on accurate data, involvement of the staff, support from the leadership and resources to implement corrective action (Sudhinaraset et al. 2023).

In general, literature indicates the potential benefits of combining the LCG with CQI, though there is limited evidence of the benefits in Kenya. Future studies should all include evaluation of the fidelity of implementation, the quality of documentation, evidence-based care, and maternal and newborn outcomes.

3.6 Summary of Selected Evidence

Study / Source	Setting and Design	Evidence Relevant To Review	Interpretation / Limitation
(Khalil et al. 2021)	12 facilities; Argentina, India, Kenya, Malawi, Nigeria and Tanzania; mixed-methods evaluation	Examined LCG usability, acceptability and feasibility among maternity practitioners. (Khalil et al. 2021)	Relevant to implementation; not a national estimate of Kenyan uptake or proof of outcome impact. (Khalil et al. 2021)
(Musonda et al. 2026b)	Zambia; difference-in-differences analysis reported in a preprint.	Reported no statistically significant effects for selected outcomes, including stillbirth, birth asphyxia and caesarean section (Musonda et al. 2026b)	Peer-review status and methods should be verified, and the findings critically appraised before being treated as definitive evidence. (Musonda et al. 2026b)
(Vogel et al. 2021b)	12 facilities in 6 countries (Argentina, India, Kenya, Malawi, Nigeria and Tanzania); mixed-methods evaluation.	Reviewed usability, acceptability and feasibility of WHO Labor Care Guide (LCG) with maternity-care practitioners. (Vogel et al. 2021b)	It is relevant to implementation and user experience, but is not a nationally representative estimate of routine LCG uptake and has not been shown to impact on maternal or newborn outcomes in Kenya. (Vogel et al. 2021b)
(Vogel et al. 2023)	India; study protocol for a structured implementation strategy for LCG, with training and audit & feedback.	Outlines a planned implementation and evaluation strategy, such as staff preparation and audit / feedback. (Vogel et al. 2023)	A protocol is not an effectiveness finding or evidence of a strategy's effectiveness in improving care and/or outcomes. (Vogel et al. 2023)
(Vogel et al. 2024)	26,331 births in stepped-wedge	There was a negative, although not statistically significant,	This is exploratory evidence from India and not a

	cluster-randomized pilot implementation in 4 hospitals in India.	difference in the crude rate of primary caesarean delivery in the intervention period, in addition to several other outcomes, which were not statistically significantly different. (Vogel et al. 2024)	definitive proof of effectiveness, and does not imply any generalisation for effects in Kenyan facilities. (Vogel et al. 2024)
(Musonda et al. 2026b)	Zambia; difference-in-differences analysis, pre-print.	No significant differences were reported for the following outcomes: stillbirth, birth asphyxia and caesarean section. (Musonda et al. 2026b)	The peer-review and methods should be checked and results critically appraised before relying on them as conclusive data (Musonda et al. 2026b)
World Health Organization (WHO 2018.)	International recommendations.	WHO guidance includes recommendations for intrapartum care (WHO 2018.)	These are sources of clinical and implementation rationales; and they are not meant to be used as an alternative to empirical assessment of routine uptake, quality or outcomes of care in Kenya. (WHO 2018.)
World Health Organization (WHO 2020)	LCG user manual	What the LCG is designed to record regarding the wellbeing of mothers/fetal progress (WHO 2020)	These are sources of clinical and implementation rationales; and they are not meant to be used as an alternative to empirical assessment of routine uptake, quality or outcomes of care in Kenya. (WHO 2020)
World Health Organization(WHO 2025.)	Implementation resource package.	The support required for implementation (WHO 2025.)	These are sources of clinical and implementation rationales; and they are not meant to be used as an alternative to empirical assessment of routine uptake, quality or outcomes of care in Kenya. (WHO 2025.)
(Page et al. 2021)	The reporting guideline for systematic reviews (PRISMA).	Offers reporting advice for clear reporting of review approaches, study selection and evidence synthesis (Page et al. 2021)	The dates searched and decisions about inclusion/exclusion and the number of patients screened should be backed by the review's actual records, not by the use of PRISMA (Page et al. 2021)

DISCUSSION

This review question would be better answered as an implementation and quality question – it is no longer a comparison of two labor charts. The LCG is designed to help to enhance structured monitoring, clinical decision-making and respectful care, but its impact will rely on the understanding of staff using the LCG, consistency of its use, accurate documentation of observations and ability to respond when issues are detected (WHO 2020). Useful evidence from the multicounty evaluation, which includes data from Kenya, indicates that usability and feasibility has been evaluated in local contexts, but this does not indicate current levels of routine use by facilities in Kenya (Vogel et al. 2021b). There is a need for an unambiguous definition of utilization. If forms are not initiated for all women who would be eligible for LCG or forms are completed at a

later point in time, counting LCG forms in a maternity unit may over count the number of adoptions. A better assessment would have quantified the percentage of eligible labors initiated by a guide, the percentage of eligible labors for which the required fields were completed, and if monitoring entries were made at the proper times. These indicators should be broken down by facility, provider cadre and since training. This way, an implementation gap can be identified instead of the implementation gap being hidden within one utilization percentage.

Secondly, completeness and quality of documentation is an intermediate outcome, not an end in itself of better care. A completed full record does not have to be tied to delayed escalation or inadequate treatment and vice versa. Record audits should preferably be supplemented where possible by observation, provider interviews and an examination of the escalation decisions where appropriate. CQI cycles are particularly valuable when results of audits are not given as a punishment, but rather the teams are coached and remeasured based on the points they have identified for improvement. The implementation strategy presented allows for the adoption to be planned as a process, not just being spread out, and as part of a process that involves training and feedback (Vogel et al. 2023).

Third, there is mixed evidence regarding the clinical outcomes and the context of these outcomes. Although there was significant reduction in the primary caesarean outcome in the Indian pilot trial, there were no statistically significant differences in several measured outcomes. In the Zambia preprint, there were no statistically significant effects for selected outcomes, but it needs to be critically appraised and confirmed if it has been published, before it is weighted heavily **(**Musonda et al. 2026b). The results do not suggest that the LCG does not work, rather they indicate that the implementation impacts cannot be assumed and individual studies may be imprecise or subject to facility readiness and implementation fidelity and concurrent changes in care (Musonda et al. 2026a).

Lastly, contextualization is required: the Kenyan health-system context should influence how it is implemented. Various factors, including staff workload, levels of staffing, access to monitoring equipment, record keeping, referral systems, and the capacity to respond to an emergency obstetric and newborn situation, can affect the likelihood of taking action when warning signs are documented (Sudhinaraset et al. 2023). Therefore, it is important that CQI should monitor both the indicators for the specific tool and conditions of the system. If a facility is finding that there are frequent delays in responding to abnormal findings, a corrective action plan may need to include form-filling training as well as equipment or staffing changes, or escalation procedures (Ollerhead and Osrin).

4.1 Strengths of the Review

The review has several methodological strengths that provide insights into the implementation of the World Health Organization (WHO) Labor Care Guide (LCG) in continuous quality improvement in Kenya, and several practical strengths (WHO 2020). First, the review discusses a relevant maternal and newborn health priority, and reviews the potential of the LCG for improving intrapartum care. The review centers on implementation and utilization, documentation quality, evidence-based practices in care and outcomes for the mother and newborn, and offers a framework to review the potential contribution of the LCG to the quality of maternity services (WHO 2020) (Tunçalp et al.).

Secondly, the review also provides a separation between implementation results and clinical results. While acceptance, feasibility and usability are important measures of whether the LCG can be used as part of the routine practice of healthcare providers, these measures do not directly reflect improved clinical outcomes (Sudhinaraset et al. 2023). The multicounty evaluation offers relevant evidence on the usability, acceptability and feasibility of the LCG, and the implementation trial in India offers additional evidence about what potential effects the LCG might have in clinical practice (Vogel et al. 2024). This separation enhances the interpretation of the evidence that is available and helps to minimize the chance of mis-crediting the benefits of implementation on the basis of insufficient empirical evidence.

Third, the review takes into account the link between clinical documentation and decision making. The purpose of the LCG is to help systematically evaluate progress of labor, maternal and fetal well-being,

supportive care and appropriate clinical intervention. Measuring the completeness and timeliness of documentation along with the recognition of the warning signs and subsequent clinical responses, is more complete assessment than simply measuring completion of the guide (WHO 2025). This is especially important for CQI, as it helps facilities pinpoint specific areas where they might be lacking in their care processes and then implement specific corrective actions.

Fourth, the review draws on evidence from international research, as well as WHO guidance and recommendations for implementation. This will give a wider picture of the conditions that could help or hinder to integrate LCG into clinical practice. The WHO implementation resource package also assists with a structured approach for introducing the guide, preparing healthcare providers and enhancing implementation at the facility-level (WHO 2025). International data can help to inform planning for implementation in Kenya, but it should be recognized that there are differences with regard to staffing, facilities, clinical procedures and health system capacity (Amboko et al. 2025).

Last but not least, the review recognizes the lack of clarity in the evidence available and refrains from providing unsupported estimates of national LCG utilization as well as clinical effectiveness in Kenya. This transparency is crucial because there was no access to verify the records of literature searches provided and full screening documentation. The review highlights these gaps in evidence and provides a basis for subsequent research and the need for systematic review of how LCG is implemented in maternity facilities in Kenya.

4.2 Limitations of the Review

This review has a number of limitations which must be taken into account when interpreting the findings of this review. The first restriction is that the literature search is not comprehensive and is not reproducible. A complete list of all eligible studies, a verified list of all Google scholar search exports, search dates and screening decisions were not included in the original research materials. Thus, it is not possible to determine the actual number of records identified, screened, excluded and included independently. A structured search strategy and PRISMA 2020 reporting framework were outlined but the lack of the search strategy and search records limits the review to being considered as a fully reproducible systematic review (Page et al. 2021).

Second, there is limited empirical evidence in the materials in relation to Kenya. Multicountry studies, including Kenya, can offer valuable insights on the feasibility and acceptability of the LCG but do not necessarily reflect its extent of routine use and impact on clinical practice or patient outcomes at Kenyan health facilities. Variations in staffing, provider experience, equipment, referral and institutional support between facilities may have an impact on implementation. Hence, the results of international studies should be interpreted with caution in the context of Kenya and not assumed to be accurate measures of effectiveness in Kenya.

Third, the studies pertinent to the implementation of LCG vary in their research design, setting, approach to implementation and outcome measures. The information gained from qualitative and mixed-methods studies can be useful in determining provider experiences and acceptability/barriers to implementation, while controlled intervention studies can be used to assess clinical outcomes (Ollerhead and Osrin). The differences make direct comparisons somewhat difficult and restrict the ability to pool the results and justify it. This review, therefore, does not attempt a quantitative meta-analysis which may not be supported by the current data.

Fourth, the association between LCG usage and maternal and newborn outcomes is complicated to understand because of other factors that affect the quality of intrapartum care (Sudhinaraset et al. 2023). Baseline obstetric risk, delays to referral, staffing, emergency obstetric capacity, and compliance with clinical protocols and other quality improvement measures simultaneously carried out can impact maternal and newborn outcomes (Tunçalp et al.). Therefore, any improvement that is observed after introducing LCG would not necessarily provide evidence of improvement due to LCG alone. Likewise, if the effect of the intervention is not statistically significant in a single study, this finding alone does not prove that the intervention is not beneficial (Vogel et al. 2024).

Fifth, implementation fidelity across facilities and/or healthcare providers may vary. The presence of the LCG does not imply it will be activated at the right time, carried out in the same way, understood properly and implemented as guidance to clinical action (WHO 2020). Difficulties arise when there is a lack of appropriate measurement of these implementation processes, as it is hard to know if an observed outcome is due to the effectiveness of the intervention or delivery issues (WHO 2020). This restriction points to the need for implementation and clinical effectiveness to be evaluated.

Lastly, the conclusions of this review should be regarded as a synthesis of the evidence presented in the reviewed materials and not as a final judgment on how the implementation of LCG is going in Kenya. The conclusions are limited due to lack of complete screening records, comprehensive Kenya specific outcome data and sufficiently comparable studies. Future studies should overcome these limitations by employing clear and open literature search methods, prospective studies of facility-level performance and agreed-upon metrics of utilization, documentation, and recommended practices for care, and maternal and newborn outcomes.

CONCLUSION

While the Labor Care Guide provides a framework for labor monitoring and for respectful and evidence-based intrapartum care, it is not enough to introduce a form for it to be successfully implemented. The documentation, clinical response to abnormal findings, care practices and maternal and/or newborn outcomes should be assessed independently. Evidence available for a number of countries and nations around the world is informative, but does not give an indication of the size of impact in Kenya. The following should apply to a CQI evaluation focused on Kenya: baseline and repeated audits, provider support, providing clear and explicit definitions of outcomes, and a clear and transparent PRISMA screening record from the actual Google Scholar scans.

RECOMMENDATIONS

1. Healthcare professionals need to be trained and mentored regularly as to the proper use of the WHO Labor Care Guide (LCG).

2. Healthcare facilities should include the implementation of LCG as an ongoing quality improvement process, conducting regular reviews and taking corrective actions.

3. Regular reviews of the use of LCG, completeness, accuracy and timeliness of labor monitoring and documentation should be carried out.

4. Healthcare providers need to improve clinical decision making and appropriate reaction to any abnormal maternal and fetal observation.

5. County health departments and facility managers should make sure facilities are adequately staffed with monitoring equipment, supplies, and have efficient referral systems.

6. There is need to keep track of the extent to which evidence based, and respectful intrapartum care practices are adhered to in health care facilities.

7. Further studies are needed to assess the relationship between LCG utilization and outcomes of the mother and newborn in health facilities in Kenya.

8. The implementation barriers and facilitators should be measured in different facilities with varying healthcare capacities in future studies.9. Future literature reviews should use transparent search strategies, verified screening records and appropriate assessments of study quality.

9. County health departments and facility managers should establish continuous monitoring, feedback and accountability mechanisms to sustain improvements in LCG implementation and quality of intrapartum care.

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COMPETING INTEREST

The authors declare that they have no competing interests.

AUTHORS' CONTRIBUTION

Each author agreed to be responsible for the accuracy and integrity of the work and took part in the development of the review concept, literature synthesis, manuscript preparation, and critical review.

ETHICAL APPROVAL

Ethical approval was not required in this study as there was no opportunity for direct interaction with people or the gathering of primary data or personal data. It was therefore not necessary to make a request to the research ethics board. Besides, this research has been fairly prepared with respect to ethical issues, delivering precise information taken from peer-reviewed articles and correctly citing all sources to prevent plagiarism and presenting objective information on the topic of research. Literature published or publicly available was used in this study. Last but not least, a respectful attitude towards intellectual property was illustrated by reading and giving credit to others' work as part of the research process.

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