Co-construction of strategies for Elimination of mother-to-child transmission of HIV in Burkina Faso: results of a multi-stakeholder workshop

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Abstract

Burkina Faso aims to eliminate mother-to-child transmission of HIV (eMTCT). Despite the significant efforts, indicators across the prevention cascade remain inadequate. This study aims to propose co-developed strategies to achieve the eMTCT target in Burkina Faso.

Materials and Methods

This was a descriptive qualitative study based on a multi-stakeholder participatory workshop, organised following a mixed-methods study that analysed the eMTCT programme in Burkina Faso. We conducted a multi-stakeholder participatory workshop involving 27 key actors. The results of a study on the functioning of the eMTCT-HIV programme in Burkina Faso served as a guiding thread in the working groups to identify challenges and formulate solutions.

Results

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This approach brought together stakeholders of the eMTCT-HIV programme in Burkina Faso. Among the solutions that emerged were: i) addressing the turnover of trained health workers, ii) advocating to decision-makers to integrate eMTCT modules into training schools, iii) establishingt of a 'one-stop shop' model where women receive integrated consultations, testing and antiretroviral drugs (ARVs) to avoid having to travel between departments, iv) mobilizing domestic funding to ensure the sustainability of the programme's achievements.
Conclusion
Relevant solutions have been proposed by national eMTCT stakeholders in Burkina Faso. To move towards the elimination of mother-to-child transmission (eMTCT) in Burkina Faso, the programme now has solutions to strengthen its interventions.

Keywords: eMTCT, stakeholders, HIV, co-construction, Burkina Faso.

Co-construction de stratégies pour l'élimination de la transmission du VIH de la mère à l'enfant au Burkina Faso : résultats d'un atelier multipartite

Résumé

Introduction
Le Burkina Faso aspire à l'atteinte de l'élimination de la transmission mère enfant du VIH (eTME). Malgré les nombreux efforts fournis pour atteindre l'eTME, les indicateurs de la cascade demeurent faibles. La présente étude a pour objectif de proposer des stratégies coconstruites pour atteindre l'objectif de l'eTME au Burkina Faso.
Matériel et Méthode
Il s'est agi d'une étude qualitative descriptive s'appuyant sur un atelier participatif multipartite, organisé à la suite d'une étude à méthodes mixtes qui analysé le programme eTME. Cet atelier participatif multi-acteurs avec des parties prenantes nationales de la eTME a réuni 27 acteurs clés. Les résultats d'une étude sur le fonctionnement du programme eTME VIH au Burkina ont servi de fil conducteur dans les groupes de travail pour identifier des causes et la formulation de solutions.
Résultats
Cette approche a permis de réunir les parties prenantes du programme eTME VIH au Burkina Faso. Parmi les solutions qui émergent, on peut citer ; i) la lutte contre le turn-over des agents de santé formés, ii) un plaidoyer à l'endroit des décideurs pour intégrer des modules sur l'eTME dans les écoles de formation, iii) la mise en place d'un « guichet unique » où les femmes seront consultées, prélevées et ravitaillées en antirétroviraux (ARV) pour éviter les déplacements entre les services, iv) un apport des financements endogènes pour la pérennisation des acquis.
Conclusion
Des solutions pertinentes ont été proposées par les parties prenantes nationales du programme eTME au Burkina Faso. Pour aller vers l'élimination de la TME au Burkina Faso, le programme bénéficie désormais des solutions pour renforcer ses interventions.

Mots clés : eTME, parties prenantes, VIH, co-construction, Burkina Faso.

Introduction

Mother-to-child transmission (MTCT) of HIV remains a public health problem (1). Despite the progress made, transmission rates remain high in West and Central Africa, compared with Eastern and Southern Africa (2). However, several countries have achieved the elimination of mother-to-child transmission of HIV(eMTCT) according to WHO criteria, demonstrating the feasibility of this goal (3).

In Burkina Faso, a national plan for the elimination of MTCT (eMTCT) has been in place since 2017, with a decentralised organisation at all levels of the health system (4). Despite these efforts, several indicators of the eMTCT cascade remain inadequate. National studies have reported early virological screening coverage (PCR at 6 weeks) of 52.7% among exposed children (5), as well as a loss-to-follow-up rate of 22.9 per 100 person-years among women followed under the programme (6). According to UNAIDS, the eMTCT rate in Burkina Faso is estimated at 16% (2), suggesting the need to strengthen implementation and retention of mother-child pairs.

Achieving eMTCT requires not only high coverage of biomedical interventions, but also effective implementation, a resilient health system, and optimal retention within the mother-child cascade (7). This involves identifying shortcomings in implementation. Studies conducted in many African countries have highlighted shortcomings related to the health system and to the retention of the mother-child pair (8–13).

To identify the main bottlenecks, an analysis of the programme's implementation was carried out. Based on these results, a workshop was organised, bringing together the various stakeholders involved in the programme's implementation. The aim of this workshop was to encourage discussion among stakeholders regarding the identified shortcomings and to enable them to propose strategies for improving the eMTCT programme. This article describes context-specific solutions and strategies, developed jointly by the various stakeholders, taking into account the context in which the programme is being implemented, with a view to strengthening the strategy to eliminate mother-to-child transmission of HIV and contributing to the achievement of universal health coverage in Burkina Faso.

Materials and Methods

Study design

This was a descriptive qualitative study based on a multi-stakeholder participatory workshop, organised following a mixed-methods study that analysed the eMTCT programme in Burkina Faso. The workshop aimed to collectively interpret the results of the mixed-methods study and to co-develop operational solutions to improve the implementation of the eMTCT strategy in Burkina Faso.

Workshop participants

Participants were selected using a purposive sampling approach to ensure representation across all levels of implementation (central, regional, operational, private, community) as well as beneficiaries (mothers enrolled in the programme). They were informed in advance of the purpose of the co-design workshop.

In total, 27 out of 33 invited participants took part in the workshop (Table I). They represented the central, regional, operational, community and private sectors, as well as the beneficiaries (mothers enrolled in the programme).

Organisation of the workshop

The workshop took place over two days. Three groups were formed; participants were allocated to groups in such a way as to ensure a balanced representation of all levels of implementation (central, regional, operational, private and community) as well as of the beneficiaries (the mothers enrolled in the programme).

The findings from the quantitative and qualitative components were presented in a plenary session by the research team, and then discussed in working groups to help identify the causes and formulate solutions. The data presented were drawn from complementary studies. The first, a quantitative study, estimated the incidence of loss to follow-up and identified associated factors among women who were screened and started on antiretroviral treatment between, May 2023 and March 2024 in the Do and Dafra health districts of Burkina Faso (6). The second, a qualitative study, identified shortcomings in the health system that could affect the retention of mother-child pairs and the achievement of the programme’s objectives.

Table I: Profile of stakeholders who participated in the workshop and their organisations of origin.

Structure	Participant profile	Number of participants
Central-level stakeholders	- eMTCT Officer - Coordinator of the Global Fund AIDS project unit for the public sector, - Head of the Health Department at the SP/CNLS-IST (Permanent Secretariat of the National Council for the Fight against AIDS and Sexually Transmitted Infections)	3
Hauts-Bassins Regional Health Directorate	- Regional Director of Health - Reproductive Health Officer	2
DO Health District	- Active Case Manager - eMTCT Officer for Sikasso-Cira - Doctor	3
Dafra Health District	- Active Case Manager - eMTCT Manager for GUIMBI - Manager of the Centre for Health Information and Epidemiological Surveillance	3
Associations	- eMTCT Manager, Association Espoir pour Demain (ADE) - eMTCT Coordinator for Responsabilité Espoir Vie Solidarité (REVS+) - eMTCT Coordinator for ESPOIR ET VIE - 1 AED Mediator - 1 REVS+ Mediator	5
Private healthcare facility	- Maternity ward manager at « Le NID »	1
Mothers monitored in the eMTCT programme	- 1 DO district - 1 Dafra district	2
Centre MURAZ	- Members of the RPSS project	6
Key people	- Former DSF manager - Coordinator of the sectoral health programme to combat AIDS/STIs (PSSLS))	2
Total number of participants		**27**

Data collection

The workshop took place at the Centre MURAZ in Bobo-Dioulasso from 30 September to 1 October 2024.

The researchers facilitated the workshop using a discussion guide. The workshop was organised into two sessions, each lasting 8 hours. The language used was French. An analytical framework for co-construction was developed based on data from studies on the

functioning of the eMTCT program. These studies highlighted shortcomings related to i) the six (6) pillars of the World Health Organisation (negative attitudes and behaviours of some health workers towards mothers, shortage of trained health workers, stock-outs, ineffective data management, inequalities in access to inputs, difficulties in implementing guidelines, cost of transport for women to reach health centres), ii) the global context (socio-economic, security, environmental stigmatisation, fear of disclosure) (8–13). This framework is summarised in Figure 1.

Discussions within the groups were led by a facilitator and a rapporteur. Building on a brainstorming session, they interpreted the results in the light of their own experience, analysed trends in the indicators used to monitor mother-child relationships, and proposed solutions to the problems identified.

In order to encourage equitable participation and reach a consensus, the following facilitation techniques were used: a preliminary presentation of the results by each group, open-ended questions, follow-up questions to explore certain points in greater depth, and paraphrasing of comments to ensure they had been properly understood.

The facilitators recorded and summarised the responses and then reached a consensus. They took care to minimise dominance bias. The facilitation was neutral.

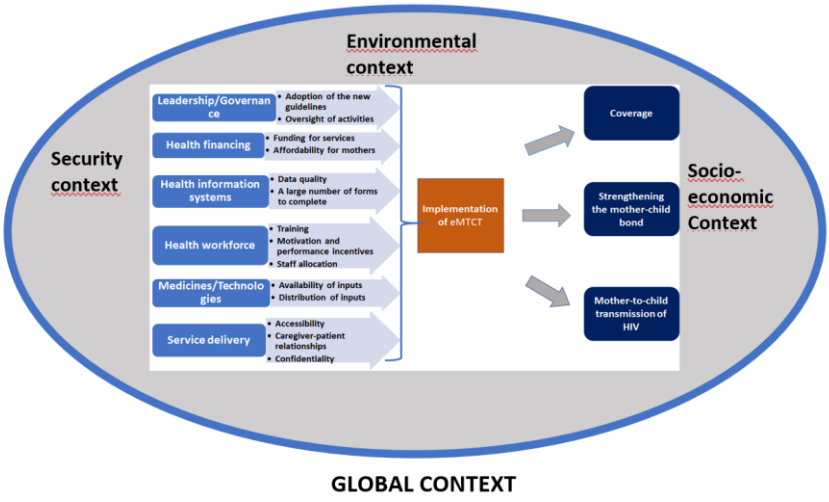

Figure 1: Analytical framework used to co-develop strategies for improving eMTCT

Data analysis

The proposals put forward by the groups were summarised and then grouped by theme according to the pillars of the healthcare system. A collective validation process was carried out in a plenary session to finalise the list of solutions. The discussion sessions were recorded using a digital voice recorder. The recordings were transcribed in full and analysed manually.

Ethical considerations

This work was carried out in accordance with ethical research principles. Verbal consent was obtained from the various participants prior to the recording of the debriefing session. The studies used to identify the bottlenecks were submitted to and approved by the Ethics Committee of the Ministry of Health (No. 2023-07-178 of 12 July 2023).

Results

Proposed solutions to the shortcomings identified by healthcare workers at the operational level and stakeholders at the central level

Proposed solutions to the various problems identified have been put forward (Table II). Solutions have been proposed to strengthen the various pillars of the health system in order to achieve HIV eMTCT. Regarding human resources management and the turnover of trained staff, it was proposed to advocate to decision-makers to integrate eMTCT modules into training schools. As highlighted in these comments:

« *Still on human resources, at the operational level we have now proposed integrating eMTCT modules into the basic training curricula. The other aspect is advocacy, and that is integration.* » **(SK_G3)**.

On-site training at the operational level was proposed, where there is a need for refresher training on new guidelines.

For input management, stakeholders proposed strengthening skills in stock monitoring to avoid frequent shortages of inputs, as well as improved communication between the various actors in the system to address the poor distribution of inputs.

This is illustrated by the following statement: « *With regard to supplies, we need to strengthen communication between stakeholders across all health systems, improve storage conditions and ensure equitable distribution. "Because at times we have realised that there are sites where only two people are being treated and they have a lot of reagents, which leads to them going out of date, whilst there are others with many people being treated and not enough supplies*. » **(DC_G2)**.

Regarding the health information system, stakeholders proposed harmonising data collection tools to take into account all partners' needs; this is to address the enormous volume of data to be collected. The stakeholders proposed improving the referral and counter-referral system.

This is reflected in the following statement: « *As regards operational matters, the aim was to strengthen the referral and counter-referral system by taking all interventions into account, because patients are often referred, but the receiving facility does not provide a counter-referral; it does not provide feedback so that those who referred the patient know whether the person has been seen or not, and also to improve internal organisation*. » **(DC_G2)**.

To address the funding shortfall, it was proposed to mobilise local resources, drawing on local authorities and local partners.

To strengthen governance, stakeholders in Group 2 proposed the imposition of sanctions on stakeholders who fail to carry out their work properly. As evidenced by these comments:

« *With regard to governance and leadership, in terms of solutions, it was added that sanctions should be applied according to the severity of the offences committed, because it was felt that often, if work does not progress or is not done properly, it is partly because certain implementing actors are not sanctioned; therefore, it would be important to enforce the regulations and then sanction people as appropriate* » **(DC_G2)**.

Proposed solutions to the shortcomings identified by community stakeholders and the children's mothers

The shortcomings identified relate to the care received under the programme, specifically in terms of service accessibility and affordability, the organisation of services, the caregiver-patient relationship, and treatment adherence (Table III). Regarding the organisation of services, stakeholders propose establishing a sort of

« one-stop shop » where women can be consulted, have samples taken and be supplied with ARVs to avoid having to travel between different services (consultation, laboratory, pharmacy). To improve financial and geographical accessibility, and in the context of insecurity, the stakeholders propose strengthening the differentiated approach to services (providing mediators with regular fuel supplies and offering regular incentives to mediators). This is illustrated by the following comments: « *With regard to accessibility, we have proposed the implementation Differentiated Approach to Services with personalised care. Under the current Differentiated Approach to Services system, it is possible to deliver treatment to beneficiaries without them necessarily having to visit the healthcare facility.* » **(SM_G1)**.

Table II: Solutions proposed by the various groups to the problems identified in the health system by frontline health workers and central-level stakeholders

Pillars of the healthcare system	Identified constraints	Solutions
Healthcare human resources	- Shortage of healthcare staff (particularly midwives) - Ongoing need for training in healthcare facilities for new recruits and staff when guidelines change - Staff turnover in healthcare facilities is high;	- Redeploy staff from certain health facilities to areas where there is a shortage - Provide training for staff at their place of work - Integrate e-TME modules into the training curriculum for health workers
Input management	- Failure to meet delivery deadlines and the quantities requested by the distribution body, the Central Purchasing Agency for Essential Generic Medicines and Medical Consumables (CAMEG) - Delays in healthcare facilities submitting supply requests; - Uneven distribution of supplies among healthcare facilities	- Strengthening of stock management skills, with close monitoring of stock levels - Strengthening of communication between stakeholders across the entire health system regarding stock levels
Governance and leadership -	- Inconsistent supervision and failure to implement guidelines - Lack of dedicated eMTCT staff in health facilities	- Strengthen formative supervision and follow-up on recommendations from previous supervision visits; - Imposing sanctions on health workers who fail to comply with guidelines; - Strengthening the organisational capacity of District Management Teams.
Service delivery	- Failure to carry out activities; - Low level of male involvement; - Difficult working conditions: lack of rooms that ensure confidentiality during counselling sessions	- Increased awareness-raising and counselling for mothers and their partners; - Advocacy for improved working conditions
Health information system	- Poor quality of collected data due to a lack of understanding of certain item - The volume of data to be collected in health facilities is enormous - Lack of feedback ; - Delays in data transmission;	- Standardise data collection tools to reduce the workload of health workers; - Strengthening the referral/counter-referral system; - Strengthening data collection skills.
Funding	- Difficulties in managing funds; - Programme funding has decreased - Not all health facilities receive funding	- Compliance with management rules; ensuring better monitoring of funded activities; - Mobilising local resources with the support of local authorities

Table III: Solutions proposed by the various groups to address the problems identified by community members and the mothers of the affected children.

	Problems	**Solutions**
Accessibility	- Remote healthcare services (particularly in rural areas) - Financial access (tests, transport, medicines)	- Extend the ARV supply interval (number of months) - Develop income-generating activities for women - Carry out tests in rural health facilities - Reduce the cost of tests - Ensure the long-term availability of all tests in health centres - Implement the Differentiated Service Approach (DSA) with personalised care
Organisation of services	- Inadequate privacy in some facilities - Insufficient seating during consultations - Long waiting times, particularly for ARV supplies - Limited number of days and limited number of patients seen per day for laboratory tests - Occasional shortages of ARVs in health facilities (rural areas)	- Improve stock management (avoid ARV stock-outs in healthcare facilities, particularly in rural areas) - Coordinate doctors' consultations with the days on which patients receive ARV supplies to avoid them having to make multiple trips. This helps protect the patient (avoids stigmatisation) - Establish a 'one-stop shop' where women can be seen, have samples taken and receive ARVs to avoid moving between departments (consultation, laboratory, pharmacy) - Reduce waiting times for mothers with children. - Strengthen awareness campaigns (women's partners+++) - Send invitation letters to the partners of women who have tested positive - Emphasise communication around self-testing - Strengthen the skills of community-based actors
Caregiver-patient relationships	- Poor reception, including offensive language - Delays or absence of healthcare staff - Inadequate communication regarding test results - Failure to respect confidentiality.	- Improve communication during consultations (provide information on changes in CD4 counts and viral load); - Avoid stigmatising behaviour towards patients - Reminder of patient-centred care and professional ethics.
Adherence to treatment	- Interruption of treatment due to travel, inability or fear of disclosing one's status to one's husband, the husband's refusal, financial difficulties in obtaining food, stigmatising behaviour by healthcare staff, and the poor location of EMTCT services, which exposes infected mothers to public scrutiny.	- Attending appointments and taking medication correctly - Supporting destitute mothers or those lacking food or income-generating activities - Bringing EMTCT services even closer to patients - Working to reduce stigma

Implementation strategies for achieving the eMTCT have been developed.

The various groups then proposed strategies for achieving the eMTCT. These strategies relate to the mobilisation of financial resources, the management of inputs, human resources and service delivery (Figure 2).

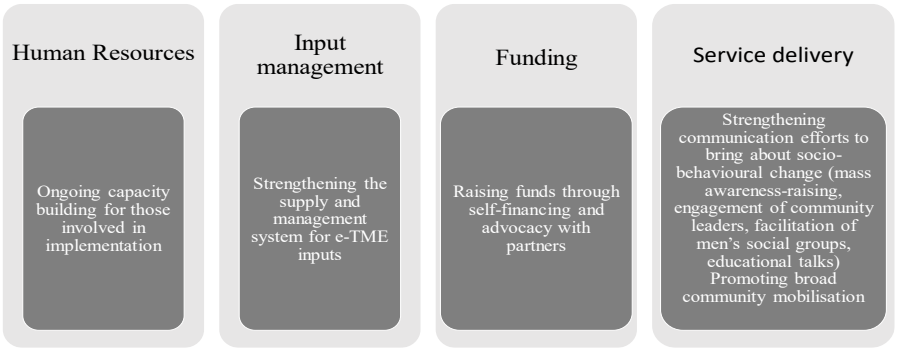

Figure 2: Proposed implementation strategies for achieving the eMTCT

Discussion

The elimination of mother-to-child transmission of HIV is a key programme adopted by Burkina Faso. This programme aims to minimise transmission and meet the WHO's recommended targets in terms of impact and process.

This workshop was held with stakeholders involved in implementing the strategy. Participants included mothers receiving care, community representatives, health workers and central government officials. Discussions focused on implementation shortcomings identified through a mixed-methods study (qualitative and quantitative survey). These surveys had been conducted among the various stakeholders. solutions were proposed to address the shortcomings identified by health workers and central-level stakeholders, as well as by community stakeholders and the mothers of the children at risk. The shortcomings relate to the delivery of care (lack of confidentiality, long waiting times, discrimination), the management of supplies (irregularity in provision), human resource management (quality and quantity), lack of or insufficient funding, the health information system, and governance. Shortcomings in programme implementation have been highlighted in evaluation studies in Indonesia, Zambia and South Africa (9,14–16) .

The meeting achieved a dual objective: i) to report the study's findings to programme implementers, decision-makers and beneficiaries of the strategy; (ii) and to gather from them strategies for improving implementation.

This workshop offers added value as the proposed solutions stem from discussions among the various stakeholders. The solutions are based on their field experiences and knowledge of the health system. This takes into account the needs of the various stakeholders in order to improve the implementation of the strategy and the provision of care related to eMTCT. Similar workshops were held as part of efforts to improve research on the eMTCT programme in Namibia, following the adoption of Option B+ in that country (17).

Taking these solutions into account and implementing the strategies could enable Burkina Faso to meet the process and impact indicators developed by the WHO and hopefully achieve eMTCT goals (18,19).

Proposing various solutions to improve the six pillars will strengthen the health system. This will also enable the country to meet the elimination targets for syphilis and hepatitis, as well as other similar strategies. It will allow the country to accelerate its response in the fight against HIV and eMTCT.

Solutions have been devised to address human resource-related shortcomings. These focus on strengthening skills and ensuring staff availability. Studies have shown that poor engagement by healthcare providers in monitoring mother-child pairs is a cause of mothers' non-adherence to the eMTCT programme (8). Advocacy for the teaching of eMTCT modules in training colleges will improve the skills of graduating staff in implementing the strategy, thereby avoiding the need for additional funding for the training of health workers. These solutions can be implemented in the medium to long term. Taking these solutions into account will ensure that staff are competent and ready to support mother-child pairs during follow-up.

To improve service delivery, it has been proposed to establish a sort of 'one-stop shop' where women can be consulted, tested and supplied with ARVs to avoid having to move between departments (consultation, laboratory, pharmacy). Implementing these solutions is an absolute priority. It will improve patient care and ensure their adherence to the various stages of the cascade. Indeed, according to UNAIDS data, 69% of mothers were on treatment by 2024 (2), and a

recent study reports a loss-to-follow-up rate of 22.9 per 100 person-years (6). This will reduce the stigma faced by patients and also improve their adherence to the programme. Some authors have identified the functioning of health services as a barrier to access to healthcare in resource-limited settings for people living with HIV (10,20–23).

Some solutions advocate for the mobilisation of local financial resources. This is necessary given the scarcity of external funding. It is an absolute priority for the successful implementation of the programme.

Strengthening the differentiated approach to services (providing mediators with regular fuel supplies and regular motivation) has been proposed as a solution to improve patients' geographical access to health centres and also as a palliative measure in the context of the insecurity currently affecting the country. Indeed, the country is facing a security crisis that is causing the internal displacement of many communities. This solution will ensure a more reliable supply for mothers, prevent ARV stock-outs, and also improve mothers' adherence to the stages of the cascade.

A proposal to implement interventions in line with the proposed solutions will improve the programme's implementation. Indeed, studies have highlighted the value of implementing interventions to improve the implementation of the eMTCT programme (24–27).

Conclusion

The strategy to eliminate mother-to-child transmission of HIV remains a key public health programme. Achieving the elimination of mother-to-child transmission requires improved implementation at all levels of the health system. The workshop facilitated collaboration among the various stakeholders. It also fostered a shared understanding of the challenges observed at each level. The discussions led to the proposal of solutions and strategies tailored to the local context.

The outcomes of this workshop propose strengthening the health system and strategies to retain mother-child pairs. These solutions provide avenues for action for national decision-makers to improve programme implementation and hopefully achieve eMTCT. Their implementation will benefit HIV eMTCT and also help to enhance the effectiveness of other maternal and child health programmes.

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Conflict of Interest
No conflicts of interest to declare.

Authors' contributions
BLDS, BK and BI managed the data.
BLDS and BK implemented the methodology, interpreted the results and drafted the first version of the manuscript.
BLDS prepared the final version, with critical revisions by BK, BI, PS, HH, SMM, ZCM and LGS.
All authors read and approved the final manuscript.

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