A Case Study: Improving Financing for Maternal Health Commodities in Ethiopia

OCTOBER 2023



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Acknowledgement

The goal of USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project is to ensure uninterrupted supplies of health commodities to save lives and create a healthier future for all. In Ethiopia, GHSC-PSM, through funding from USAID, procures and delivers health commodities and provides technical assistance to the Federal Ministry of Health and the Ethiopia Pharmaceutical Supply Service to strengthen the in-country supply chain and ensure better access to health commodities at the last mile. Part of this mandate focuses on maternal, newborn and child health commodities. This case study summarizing initiatives implemented to improve financing for maternal health commodities in Ethiopia has been successfully completed through the input of the following contributors:

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Acronyms

CBHI	community-based health insurance
	,
EPSS	Ethiopia Pharmaceutical Supply Service
GHSC-PSM	USAID Global Health Supply Chain Program-Procurement and Supply Management
IPLS	Integrated Pharmaceutical Logistic System
MCH	maternal and child health
MDG	Millennium Development Goal
MgSo4	magnesium sulfate
MH	maternal health
MMR	maternal mortality rate
MOH	Ministry of Health
R4D	Results for Development
RMNCH	reproductive, maternal, newborn and child health
SDG	Sustainable Development Goal
UN	United Nations
UNFPA	United Nations Population Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Executive Summary

Since 2000, maternal, newborn, and child health has been a priority health focus of the Government of Ethiopia, resulting in significant reductions in maternal and infant mortality. Despite these commendable efforts and notable progress, more than 10,000 women still die each year in Ethiopia due to preventable causes related to pregnancy and childbirth. A key contributor to maternal mortality is limited availability of essential lifesaving maternal health (MH) commodities due to inadequate funding for their procurement. To address this challenge, the USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project, in partnership with the Ethiopian Ministry of Health (MOH) and the Ethiopian Pharmaceutical Supply Service (EPSS), has implemented several strategies.

The purpose of this case study is to examine the changes over time in the funding landscape for MH commodities and to explore the country's effort to improve the MH commodity and funding situation. The study uses a mix of quantitative and qualitative methods: secondary data review from existing databases and qualitative data from key informant interviews with stakeholders. Data were analyzed using Microsoft Excel software with a focus on tracking trends and levels in funding and stockout rates for essential lifesaving MH commodities over time.

The case study findings indicate significant progress in funding allocation, which is the financial resources committed for procurement and delivery of MH commodities. The overall allocation rate has increased from 24 percent in 2018–2019 to 81 percent in 2022–2023. The main sources of funding are the Sustainable Development Goal (SDG) pool fund, government treasury, and the United Nations Population Fund (UNFPA). Most funding for MH commodities in Ethiopia is currently sourced from the SDG fund, but its share has been declining over time. The government allocation from the treasury for lifesaving MH commodities has increased from \$307,692 in 2021–2022 to \$615,384 in 2022–2023, and \$943,396 in 2023–2024. This significant increase has led to a notable enhancement in the government's funding contributions, from 4 percent in 2021–2022 to 8 percent in 2022–2023, and 11 percent in 2023–2024, of the total funding requirement of lifesaving MH commodities for the year.

On the other hand, UNFPA in-kind support for MH commodities has declined as the MOH's overall request has shifted to family planning commodities. Fund execution/expenditure, that is, the effective use of allocated funds for MH commodities, has shown improvement, with the expenditure rate growing from 18 percent to 77 percent. As a result of the funding improvement, the stockout rate for oxytocin, decreased from 15.3 percent in 2018 to 1.9 percent in 2023, while the stockout rate for magnesium sulfate decreased from 14.6 percent to 0.9 percent during the same period.

Our assessment revealed that the collaboration among MOH, EPSS, and GHSC-PSM has played a crucial role in improving the funding landscape. Several efforts were identified as drivers of funding improvement, including the integration of MH commodities into the national supply chain system, which enabled the prioritization of lifesaving medicines and consistent fund allocation. Regular risk analysis on MH commodities provided data for informed decisions to implement mitigation strategies. Advocacy and sensitization initiatives successfully raised awareness among parliamentarians and high-level decision makers, while media engagement influenced public opinion and pressured decision makers to allocate more funding for MH commodities. Capacity-building programs equipped MOH and EPSS staff with the skills to effectively track and advocate for increased funding.

The findings of this report demonstrate a remarkable increase in funding levels for lifesaving MH commodities. This case study brings important lessons and implications on the role of engaging political leaders. Targeting advocacy directly to women parliamentarians helped to personalize the issues and gain allies among decision makers to commit budget allocations. This commitment reflects the impact of strategic stakeholder engagement. Evidence-based advocacy, by leveraging appropriate data, is also an important mechanism in communicating realities on the ground with proven justifications. Finally, adopting a systematic, data-driven, collaboration-focused approach with an emphasis on building self-sufficient national capacities could help other nations achieve Ethiopia's success in strengthening financial flows for lifesaving MH commodities.

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Recommendations

I. Strengthen domestic funding

MOH and stakeholders should continue efforts to increase budget allocation from the government's treasury for lifesaving MH commodities. This initiative will help reduce dependence on external funding sources and ensure a consistent supply of these essential commodities. This includes allocating adequate resources from the treasury; exploring innovative financing mechanisms, such as trust funds; and considering including exempted MH service in the community-based health insurance. The engagement of the Ministry of Finance is also critical as the authoritative body in establishing co-financing agreements and for the multiyear budget appropriation. It will also be wise to consider local manufacturing of these commodities in the country's long-term plan.

2. Diversify funding sources

To reduce dependency on a single funding source, efforts should be made to diversify funding sources. Establishing a co-financing mechanism through a multi-donor compact agreement could be explored.

3. Continue advocacy work with decision makers, donors, and development partners

MOH should continue to play a pivotal role in coordinating and leading all the advocacy activities with key stakeholders to bring increased attention and financing to the maternal program by highlighting the importance of these commodities in reducing maternal morbidity and mortality and their impact on achieving the SDGs.

4. Strengthen partnerships

Collaboration among stakeholders, including the MOH, EPSS, regional health bureaus, development partners, and implementing partners, should be strengthened. This will ensure effective implementation of funding strategies, integrated management of MH commodities, and monitoring of funding utilization.

5. Monitor and evaluate funding impact

Ongoing monitoring and evaluation of funding initiatives are essential to assess their impact on the availability and accessibility of MH commodities. This includes tracking funding allocation, procurement processes, stockout rates, and MH outcomes to identify gaps for corrective measures and inform future funding strategies.



Introduction

Ethiopia has seen a significant reduction in its maternal mortality rate (MMR) over the past several years. Between 2016 and 2020, MMR decreased by 54 percent, from 412 to 267 deaths per 100,000 live births.¹ Despite the progress, more than 10,000 women still die each year due to preventable causes related to pregnancy and childbirth.²

Obstetric hemorrhage, pre-eclampsia/ eclampsia, and pregnancy-related infections remain the leading causes of maternal mortality.^{3,4} Access to essential MH products like oxytocin, misoprostol, magnesium sulfate, and injectable antibiotics could significantly prevent these causes, but limited availability due to funding challenges impedes access.⁵

In Ethiopia, the lack of adequate funding for MH commodities is a major challenge hindering mothers' access to essential lifesaving commodities and health care services needed during pregnancy and childbirth. This challenge is exacerbated by a lack of prioritization of maternal health in the national budget, inefficient use of available funds, and limited domestic funding specifically allocated for these essential commodities. Furthermore, donor funding for MH commodities falls significantly behind other health programs such as antiretrovirals, antimalarial drugs, vaccines, and contraceptives. Consequently, the funding shortfall leads to low purchase volumes, shortages, and stockouts. Women are often denied timely and quality health care services, leading to increased maternal morbidity and mortality.⁶

Insufficient budget allocations also hinder the availability of lifesaving health commodities for managing pregnancy and childbirth complications in health facilities. Despite maternal health being an exempted service, pregnant women in some public health facilities are required to pay or purchase medicines and supplies for their delivery from private pharmacies and outlets.⁷ This situation negatively impacts institutional delivery rates. To address these challenges, the Ethiopian government implemented a reimbursement protocol in 2014, allocating \$10 million to enhance institutional deliveries by providing free

I.WHO, UNICEF, UNFPA, World Bank Group, and UNDESA/Population Division. (2023). Trends in maternal mortality 2000 to 2020: Estimates by WHO, UNICEF, UNFPA, World Bank Group and UNDESA/Population Division. Geneva: World Health Organization. Retrieved from https://www.who.int/publications/i/item/9789240068759

^{2.} World Health Organization. (2023). Improving maternal and newborn health and survival and reducing stillbirth: progress report 2023. Geneva: World Health Organization. 3. Hadush, A., Dagnaw, F., Getachew, T., Bailey, P. E., Lawley, R., & Ruano, A. L. (2020, April 9). Triangulating data sources for further learning from and about the MDSR in Ethiopia: A

cross-sectional review of facility-based maternal death data from EmONC assessment and MDSR system. BMC Pregnancy Childbirth, 20(1), 206. <u>https://doi.org/10.1186/s12884-020-02899-8</u>

^{4.} Musarandega, R., Nyakura, M., Machekano, R., Pattison, R., & Munjanja, S. P. (2021). Causes of maternal mortality in Sub-Saharan Africa: A systematic review of studies published from 2015 to 2020. JGlob Health, 11, 04048. https://pubmed.ncbi.nlm.nih.gov/34737857/

^{5.} Pradhan, A., Bogue, E., Schreiber, B., Dini, H. S., Hurkchand, H., Briggs, J., & Ballard, M. (2020). Availability of Essential Commodities and Related Bottlenecks for Community Health System: Systematic Literature Review [Preprint]. In Review. https://doi.org/10.21203/rs.3.rs-24276/v3

^{6.} Dinkashe, F.T., Haile, K., & Adem, F. M. (2022). Availability and affordability of priority lifesaving maternal health medicines in Addis Ababa, Ethiopia. BMC Health Serv Res, 22(1), 524. https://doi.org/10.1186/s12913-022-07793-x

^{7.} Sarah, B. et al. (2012). U.N. Commission on Life Saving Commodities for Women and Children: Country Case Studies. Global Health Visions & Maternal Health Task Force.

services while safeguarding health facilities from health care financing risks.⁸

Despite the importance of the reimbursement initiative in improving MH outcomes, implementation challenges were significant, including inadequate funding and inefficient utilization. In 2018, for instance, the program required an estimated \$43.4 million, but only \$9.9 million (23 percent of the required funds) was allocated from the SDG and Global Financing Facility trust fund.⁹ This resulted in low purchase volumes and insufficient supply to health facilities. Furthermore, certain commodities were often unavailable in the market, leading to limited execution of the allocated funds. Inefficient execution of the reimbursement program, a lack of collective understanding among stakeholders regarding reimbursement policies and procedures, weak coordination, and limited monitoring and evaluation compounded with challenges of data visibility and the ability of the MOH to make informed decisions about the use of limited resources.¹⁰

The absence of a well-functioning supply chain for MH commodities further exacerbates the funding challenges. Before 2018, Ethiopia relied on a quantity rationing system, as these commodities were not integrated into the national supply management system. The Ethiopian Pharmaceutical Supply Service (EPSS) delivered MH commodities twice a year to health facilities based on rationing quantities determined by the MOH. However, the MOH lacked accurate data to estimate health facilities' actual needs, leading to a negative impact on monitoring commodity availability and efficient fund use. Also, procurement of MH commodities was poorly coordinated



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and not aligned with the supply plan, resulting in weak budget planning, insufficient accountability, and expenditure. Consequently, frequent stockouts of these essential products occurred in health facilities, directly affecting MH outcomes.¹¹

To address the challenges of MH funding and commodity availability, the USAID Global Health Supply Chain Program-Procurement and Supply Management (GHSC-PSM) project, in partnership with the MOH and EPSS, has implemented several strategies. However, the impact of these efforts and the changes brought on the funding landscape are not documented with systematic investigation.

This study aims to assess the funding trends for MH commodities in Ethiopia and identify key efforts that have contributed to funding improvement. The study will address the following key questions:

- I. How has the funding landscape for lifesaving MH commodities in Ethiopia changed over time?
- 2. What has been the Ethiopian government's financial commitment from domestic resources?
- 3. What are the different efforts implemented by MOH, EPSS, and GHSC-PSM to address funding challenges?
- 4. How have these efforts affected the funding landscape for MH commodities?

The findings of this study provide valuable insights for developing an applicable model of efforts to improve the funding landscape for MH commodities in Ethiopia.

^{8.} Woinshet Nigatu, Abebe Bogale, Miraf Tesfaye, Masresha Assefa, & Fantaye Teka. (2018). Maternal, Newborn, and Child Health Logistics System Assessment, Ethiopia. Arlington, VA: Strengthening High Impact Interventions for an AIDS-free Generation (AIDSFree) Project and Pharmaceuticals Fund and Supply Agency (PFSA).

^{9.} Ethiopia Pharmaceutical Fund and Supply Agency (PFSA) and Ministry of Health (MOH). (2018). National Quantification for Maternal Health Program Pharmaceuticals Needs for 2018. Addis Ababa: PFSA and MOH.

^{10.} Ministry of Health. (2021). Assessment of reimbursement mechanisms for health facilities providing exempted maternal health services in Ethiopia. Addis Ababa: Ministry of Health.

^{11.} Damtew, D., Worku, F., Tesfaye, Y., & Jemal, A. (2019). Availability of Lifesaving Maternal and Child Health Commodities and Associated Factors in Public and Private Health Facilities of Addis Ababa, Ethiopia. Health Serv Res Manag Epidemiol. <u>https://doi.org/10.1177/2333392819892350</u>



Conceptual Framework

The conceptual framework presented below illustrates the efforts and pathways through which GHSC-PSM, in collaboration with the MOH and EPSS, works toward improving the funding landscape and supply chain for maternal health commodities in Ethiopia.

FIGURE I.

Conceptual framework for improving funding for MH commodity availability



Evidence-based Advocacy to Key Stakeholders

MOH in collaboration with GHSC-PSM and other implementing partners conducted evidence-based advocacy targeting influential political appointees, leaders, and media personnel to raise awareness about the significance of funding lifesaving MH commodities. GHSC-PSM supported MOH by preparing compelling evidence showing the significant gap in funding and the level of stockouts in the country's different health facilities for MH commodities. Information was based on the monthly stock gap analysis carried out by the project. This was also interpreted into the possible impact on MH outcomes.

Pathways:

 Enhanced awareness and comprehension of the importance of investing in lifesaving MH commodities among key decision makers led to political will to allocate more resources to lifesaving MH commodities

– Increased funding for lifesaving MH commodities

Integration of MH Commodities into the Supply Chain

GHSC-PSM collaborates with the MOH and EPSS to integrate MH commodities into the existing pharmaceutical supply chain. This effort involves prioritizing MH lifesaving commodities for integration into the supply chain management system. It includes assessing the current supply chain, identifying gaps, and implementing measures to optimize commodity flow. GHSC-PSM supports the development of efficient procurement mechanisms, streamlined inventory management, and robust distribution networks. Integrating MH commodities into the supply chain ensures the consistent availability of funding and timely access to lifesaving MH commodities.

Pathways:

 Reduced stockouts and improved availability of lifesaving MH commodities Consistent fund allocation for lifesaving MH commodities

Improved data visibility for lifesaving MH commodities

Risk Analysis and Response for MH Commodity Stocking and Funding Gaps

GHSC-PSM assists the MOH and EPSS in conducting comprehensive analyses of the supply chain, stocking patterns, and funding risks related to MH commodities. This effort encompasses evaluating the current funding situation, identifying potential risks impacting commodity availability, and developing strategies to mitigate those risks. GHSC-PSM collaborates with the MOH and EPSS to establish monitoring and evaluation mechanisms for funding sources, supply-chain performance, and stock levels. The analysis enables informed decision making, resource allocation, and proactive management of funding-related risks.

Pathways:

 Reduced risk of stockouts and disruptions to the availability of lifesaving MH commodities

 Improved preparedness to respond to supply disruptions of lifesaving MH commodities

– More efficient and effective resource utilization

Training on MH Commodity Funding Analysis

GHSC-PSM works with the MOH and EPSS to train staff on MH commodity funding analysis. This effort aims to strengthen the skills and knowledge of stakeholders involved in funding decisions. Training may cover areas such as financial analysis, budgeting, resource mobilization, and proposal development. Equipped with these skills and knowledge, stakeholders can analyze funding needs, identify gaps,



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and develop effective strategies to secure and use resources efficiently.

Pathways:

 Improved comprehension of the financial resources needed to ensure the availability of lifesaving MH commodities

 Improved skill in funding analysis for lifesaving MH commodities

 Enhanced effectiveness of advocacy for increased funding for lifesaving MH commodities

 Improved financial management and planning for lifesaving MH commodities

Finally, this conceptual framework demonstrates how the MOH and EPSS, GHSC-PSM, and partners improved, and will continue to improve funding for MH commodities in Ethiopia by advocating for increased funding, integrating commodities into the supply chain, addressing funding and stocking gaps, and enhancing stakeholders' capacity in funding analysis. These efforts collectively work toward ensuring the availability and accessibility of lifesaving MH commodities for mothers in Ethiopia.



Methodology

This study uses a mixed-methods approach, combining primary data from key informant interviews and secondary data from a desk review of existing datasets and relevant literature. The study was conducted in Ethiopia from June to September 2023.

Participants and Sampling

Participants for key informant interviews were purposively selected based on their engagement in maternal and child health (MCH) commodity management technical issues. The project team compiled a list of potential partners and individuals and selected a total of 11 key informants for the interviews. Participating organizations included MOH, EPSS, USAID, United Nations (UN) agencies, Pathfinder, and Results for Development (R4D). The interviews involved representatives from different organizations (see Table 1).

List of Commodities

The case study focused on the list of commodities indicated in Table 2. The reasons for focusing on these products are:

 Prevention and treatment of primary causes of maternal deaths in Ethiopia: These specific products are critical MH commodities for preventing and treating the leading causes of preventable maternal deaths.

2. Integration into supply chain management: These MH commodities have been successfully integrated into the supply chain management system.

TABLE I.

Key informant interview participants

Participant Organization	# Interviewees	# Departments
Ministry of Health	5	2
EPSS	I	I
USAID	I	
United Nations Population Fund (UNFPA)	2	I
Implementing partners (Pathfinder and R4D)	2	2
Total	11	7

TABLE 2.

List of MH medicines

No.	Commodities	Use	
I	Oxytocin 10IU/ml in 1ml injection	Prevention and treatment of post-partum hemorrhage	
2	Ergometrine 0.25mg/ml in 1ml injection		
3	Misoprostol 200mcg tablet		
4	Misoprostol 25mcg tablet		
5	Tranexamic acid 100mg/ml, in10 ml IV injection		
6	Magnesium sulfate 50% in 20ml injection		
7	Calcium gluconate 10% 10ml injection	Prevention and treatment of preeclampsia/eclampsia	
8	Ferrous sulphate + folic acid (200mg + 0.4 mg) tablet	Antenatal care, prevention, and treatment of anemia	

Data Collection

Key Informant Interviews: The interviews aimed to gather perspectives on the impact of advocacy efforts on improving the funding landscape for MH commodities. Each interviewee granted verbal informed consent before the initiation of the interview. Interviewers used a semi-structured interview guide to ensure consistency across interviews, while allowing flexibility for exploring specific topics based on the interviewee's area of expertise.

Existing Database Reviews: Researchers developed an Excel-based tool to gather relevant quantitative data from existing databases and literature. The review focused on funding allocation, expenditure, quantities of MH commodities procured and delivered, and stockout rates for each year from 2017 to 2023.

Data Analysis

Qualitative Analysis: A qualitative analysis was conducted to explore factors contributing to changes in the funding landscape for MH commodities, and how the strategies that GHSC-PSM implemented in collaboration with MOH, EPSS, and other stakeholders influenced the funding landscape. Researchers identified recurrent themes based on a thematic framework developed from this study's conceptual framework and objectives. Each interview transcript was annotated, and results were organized based on the thematic framework using Microsoft Excel software.

Quantitative Analysis: The quantitative data were also analyzed using Microsoft Excel software and focused on tracking trends in funding and stockout rates for essential lifesaving MH commodities over time.

Ethical Clearance

Before conducting the assessment, the team obtained ethical clearance from the MOH. This involved formal recognition and endorsement of the assessment by the MOH, granting permission to access necessary resources, data, tools, and participants. The assessment adhered to ethical research practices to ensure the reliability and meaningfulness of the findings.

Limitations

While all efforts were made to maintain data quality and consistency, some limitations in interpreting study results are acknowledged:

I. Scope limitation: This case study focuses specifically on lifesaving commodities related to maternal health. While it provides valuable insights, results may not capture the complete picture of all MH commodities. Other important factors and commodities related to maternal health may not be fully represented in this study.

2. Currency fluctuations: The study used the World Bank annual average exchange rate to convert MH commodity expenditures into US dollars. However, currency exchange rates can fluctuate. The exchange rate used in this study may not accurately reflect the exact value of expenditures at the time of the transactions.

3. Attributions for improved MH commodity availability: The case study focused on the relationship between increased funding and improved availability of MH commodities. However, funding alone may not be the sole attribute contributing to the improved availability of these commodities at the last mile.

4. Generalizability: While the findings of this study are valuable for Ethiopia, caution is needed when generalizing to other contexts. Funding mechanisms often depend on the political, economic, and health contexts of each setting. Therefore, generalization should be done carefully, considering the unique characteristics of each context.



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Findings

This report provides analysis of the funding situation of MH lifesaving commodities over the years, with a focus on the period from 2017–2018 to 2022–2023.

Quantitative findings

i. Funding allocation

The analysis revealed a notable improvement in the overall funding allocation as a percentage of the annual forecasted demands, as shown in Figure 2. The allocation rate increased from 24 percent in 2018–2019 to 81 percent in 2022–2023. However, the funding allocation in 2018–2019 was relatively low, accounting for only 24 percent of the required funding for the year. This can be attributed to a lack of prioritization toward the most critical lifesaving commodities. Instead, the budget allocation was directed toward a list of MH commodities and supplies needed for the reimbursement of health facilities that provided free MH care services. In 2019–2020, priorities shifted toward lifesaving MH commodities and their integration into the supply chain management system, which addressed the previously observed low funding coverage. However, funding allocation in 2020–2021 declined, which may be attributed to the impact of COVID-19, internal conflicts, and a decline in the global funding landscape.

FIGURE 2.

Trends in funding allocations by sources for MH lifesaving commodities as percent of the estimated forecasted need



FIGURE 3.

Trends in government fund allocation from treasury for MH lifesaving commodities



ii. Domestic fund allocation

Beginning in fiscal year 2021–2022, the Government of Ethiopia began allocating funds from the treasury specifically for selected lifesaving MH commodities. Figure 3 illustrates the substantial increase in government allocation from the treasury for lifesaving MH commodities, rising from \$307,692 in 2021-2022 to \$615,384 in 2022-2023, and to \$943,396 in 2023-2024. This significant increase led to a notable enhancement in the government's funding contributions, from 4 percent in 2021-2022 to 8 percent in 2022-2023 and 11 percent in 2023–2024, compared to the total funding requirement for the prioritized lifesaving MH commodities.

iii. Funding expenditure/execution

This report highlights a significant improvement in the funding execution rate for the procurement of lifesaving MH commodities over the years. As depicted in Figure 4, the proportion of funding expenditure has shown substantial growth, increasing from 18 percent in 2018–2019 to an impressive 77 percent in 2022– 2023. This upward trend demonstrates commendable efforts in effectively using financial resources to enhance the procurement of required lifesaving MH commodities.

Analysis of expenditure shares by funding source (Figure 5) finds that the Sustainable Development Goal (SDG) fund has been the primary source of funding for MH commodities. However, its share of funding over time shows a declining trend. Conversely, funding expenditure from the government treasury has increased, with its share growing from 5 percent in 2021–2022 to 10 percent in 2022–2023. Donor contributions, particularly from UNFPA, account for a modest 2 percent of the overall funding expenditure for MH commodities.

FIGURE 4.

Trends in actual fund expenditure rate by source as a percent of the total values of MH lifesaving commodities that need to be procured



FIGURE 5.

Proportion of funding expenditure by funding source for MH lifesaving commodities



iv. Funding/stockout for oxytocin and magnesium sulfate (MgSo4)

Oxytocin and magnesium sulphate are among the most important medications for managing the top causes of maternal morbidity and mortality. Since 2020–2021, there has been an increasing trend in funding expenditure for procuring both commodities (see Figure 6).This signifies MOH's commitment to increase funding allocated to oxytocin and MgSo4 ensuring their continuous supply in health care facilities. On the other hand, the expenditure in 2019–2020 for MgSo4 and in 2020–2021 for oxytocin appear to be low, which may be attributed to the impact of COVID-19 and national conflicts in funding allocation and execution.

FIGURE 6.

Trends in annual funding coverage rate for oxytocin and MgSo4 as a percentage of the target procurement for the fiscal year



FIGURE 7.



Stockout rate trend for oxytocin and MgSo4, 2017–2023

Data source: GHSC-PSM monitoring and evaluation database

The case study findings also indicate a significant reduction in stockout rates for oxytocin and magnesium sulfate, which can be attributed to improved funding. As shown in Figure 7, the stockout rate for oxytocin decreased from 15.3 percent in 2018 to 1.9 percent at the start of 2023, while the stockout rate for MgSo4 decreased from 14.6 percent to 0.9 percent during the same period. These

improvements in stockout rates highlight the positive impact of increased funding on ensuring a consistent supply of essential lifesaving MH commodities.

v. Maternal health outcomes

According to the case study results depicted in Figure 8, the use of skilled birth attendants and early postnatal care has risen noticeably. Also, the maternal mortality ratio significantly declined from 635 per 100,000 live births in 2010 to 269 in 2020. This remarkable improvement in maternal health outcomes can be attributed to enhanced access and availability of MH commodities as a result of improved funding and the establishment of an effective supply chain system.

FIGURE 8.

Trends in skilled birth attendants, early postnatal care, and maternal mortality



Data source: MOH health and health-related indicator; estimates by WHO, UNICEF, UNFPA, World Bank Group, and UNDESA/Population Division

Overall, the quantitative results demonstrate remarkable progress in funding levels and trends for lifesaving MH commodities. The significant increases in funding coverage, domestic fund allocation, and funding execution have resulted in a substantial reduction in stockouts of essential lifesaving MH commodities. These positive outcomes indicate the effectiveness of funding improvements in ensuring a consistent supply of lifesaving medications for expectant mothers.

Qualitative Findings

This section highlights the qualitative findings from key informants about funding for MH lifesaving commodities and efforts made to improve the funding landscape. The interviews discussed integration of MH commodities into the supply chain system, advocacy work with parliamentarians, trainings on fund tracking and gap analysis, risk analysis for lifesaving MH commodities, current funding for MH commodities, the role of GHSC-PSM in improving funding for MH commodities, and key informants' suggestions to improve MH commodity funding.

i. Integration of MH commodities into the supply chain system

Integrating MH commodities into the Integrated Pharmaceutical Logistic System (IPLS), which was done at the end of 2018, was a significant effort led by MOH and EPSS, with support from GHSC-PSM and other partners. The key informants shared several challenges encountered before initiating the integration process, including disagreement among stakeholders regarding the priority of commodities to be integrated, debates over the inclusion of non-cost-effective products, and lack of clear funding commitment. The integration was initiated to address the challenges faced in implementing the reimbursement protocol and funding constraints.

A task force comprising members from multiple stakeholders was established to facilitate integration of MH commodities into the IPLS, while also resolving the various challenges and stakeholder concerns in the integration process. Informants said the established task force worked closely with the technical working group to conduct a nationallevel assessment on the MCH supply management system and identify areas for improvement. Their assessment found that the current system had several limitations, including inadequate commodity availability, lack of reliable funding, poor data visibility, limited accountability, and poor inventory and storage systems, leading to wastage and loss at the facility level.

In establishing integration, the task force addressed stakeholder concerns through reaching consensus based on facts. For instance, in reaching agreement on the priority list of MH commodities, task force members emphasized the commodity selection process to be on the basis of addressing the major causes of maternal mortality in the country and also on UN guidance for lifesaving MH commodities. Key informant respondents highlighted that the integration of MH commodities has been a significant milestone in addressing funding challenges and improving the availability and accessibility of lifesaving MH commodities in the country.

"The integration has brought focused programmatic attention from MOH, which resulted in improving financial commitment from the government for these priority products and consistent supply of maternal health commodities integrated into the IPLS."—EPSS respondent

The key informant interviews provided valuable insights into integrating MH commodities into the existing supply chain system. The integration process addressed challenges in funding, stockouts, and data visibility, and has led to improved financial commitment from the government, reduced stockouts and wastage, and increased accountability. The key informants see integrating MH commodities into the supply chain system as a successful strategy to ensure consistent funding and availability of essential lifesaving commodities.

ii. Advocacy work with parliamentarians

Key informants highlighted that engaging parliamentarians was crucial to ensure the MH program receives attention from decision makers responsible for government funding. The informants played pivotal roles in coordinating and leading advocacy activities with the parliamentarians responsible for legislation and budget allocation, providing evidence and justification to increase MH commodity funding. MOH staff expressed that they collaborated with the GHSC-PSM project and other partners organized workshops to highlight maternal health and the multiple challenges to reducing preventable maternal deathsone of which is lifesaving commodity shortages due to limited funding. The parliamentarians also joined MOHorganized supportive supervision to health facilities in Oromia, Amhara, and Tigray regions to witness first-hand the setbacks on the ground that hinder effective maternal health care services.

The key informants explained that the advocacy activity strategically targeted women parliamentarians for two reasons: (1) being mothers themselves, women parliamentarians could easily relate and were more likely to understand the importance of maternal health, and (2) they could become stronger advocates at the national and regional levels.

"...the reason we targeted women members of parliament was, as most of these women are also mothers, we could easily make the issue of maternal health relatable to them and make the cause personal for further advocacy in the wider parliament." —MOH respondent

Key messages shared with parliamentarians focused on the major causes of maternal mortality and how lifesaving MH commodities could easily prevent these deaths. Informants presented data on maternal mortality rates, emphasizing the number of mothers who die daily due to the absence of lifesaving MH commodities. The advocacy workshops helped to increase awareness among parliamentarians about funding challenges in maternal health, improved understanding of the impact of investing in maternal health, and enhanced commitment to funding allocations for MH commodities.

"As a result of the advocacy efforts, maternal health commodities now have a standing budget line from the government treasury." —MOH respondent

Engaging parliamentarians and media in advocacy workshops played a crucial role in bringing much-needed attention and focus to the maternal program. These efforts resulted in government commitment to allocate funds from the national treasury and establishment of a standing budget line for maternal health commodities.

iii. Trainings on fund tracking and gap analysis

GHSC-PSM prepared a curriculum and provided training to MOH and EPSS staff members on fund tracking and gap analysis for MH commodities to equip them with the skills needed to effectively track and analyze funding from different sources for MH commodities, and to address funding challenges. The training touched on financial analysis, budget tracking, gap analysis, and advocacy work for additional resource mobilization for reproductive, maternal, and newborn child health commodities.

The key MOH and EPSS informants stated that the training was relevant and that it enhanced their capacity to analyze funding gaps.

"Training was helpful...it helped me track, analyze, and inform funding gap for maternal health commodities" —EPSS respondent

Respondents further indicated that the training helped them to prioritize commodities based on available funds and to generate data for advocacy and resource mobilization from different donors. This training empowered MOH and EPSS staff to efficiently manage and allocate resources for MH commodities.

iv. Risk analysis for lifesaving MH commodities

The monthly stock analysis and risk mitigation for MH commodities that GHSC-PSM conducted was found to be a crucial tool in improving funding for MH commodities. Study participants expressed strong agreement that the stock analysis and risk mitigation significantly contributed to improving funding for MH commodities.

The interviews further highlighted that the stock analysis data were instrumental in generating evidence to demonstrate funding gaps and persuade donors. This evidence has been presented in meetings with donors and government officials, leading to successful advocacy for additional resources.

"The stock analysis has become a crucial source of information for decision-making related to commodity funding; it has been extremely helpful for us in our meetings with the Minister of Health and other donors to advocate for additional resources to address the funding gap for MCH commodities procurement and prioritization." ---USG implementing partner respondent

Findings suggest that the stock analysis helps in identifying the commodities that are at risk of stockout due to several reasons, such as funding gap, procurement delay, or issues with documents or customs clearance. Moreover, the stock analysis serves as a prewarning system for MOH to take proactive actions for ensuring timely delivery of essential commodities to health facilities before actual stockouts occur.

In conclusion, the stock analysis and risk mitigation tool for MH commodities was found to be effective in improving funding for MH commodities. Findings suggest that the tool has contributed to reducing stockouts, improving timely delivery of essential commodities, and achieving increased funding for MH commodities.

v. Current funding for MH commodities

Funding for MH commodities in Ethiopia is currently provided by a combination of the SDG pool fund, the government's own treasury, and donors like UNFPA. The SDG pool fund, established by the government to support achievement of the SDGs, is used to finance various health care efforts, including procurement of MH commodities.

Findings from key informants highlight that funding for essential lifesaving MH commodities, such as oxytocin, misoprostol, and MgSo4, has improved over time. While funding levels from SDG and donors have been declining, budget allocation from the government treasury for these lifesaving commodities has notably increased over the past three years. This significant improvement in funding from the government treasury has helped reduce the funding gaps that could be created from the declining SDG and donor funding and has helped maintain a consistent supply of lifesaving MH commodities that are incorporated into the IPLS.

"The government's budget allocation from its treasury has shown an increasing amount over the past three years, starting at 16 million Ethiopian birr in 2021–2022 and growing to 32 million in 2022–2023 and 50 million in current fiscal year, 2023–2024. This has helped ensure the consistent availability of prioritized lifesaving maternal health commodities." —MOH respondent

The key informants reported several challenges that affect the funding landscape of MH commodities that are not integrated into the supply chain system. These challenges include declining donor contributions, reduced funding from the SDG pool fund, ongoing conflicts in the country, COVID-19, and constraints in the budget allocation for non-integrated MH commodities.

To address funding challenges of the nonintegrated MH commodities, respondents reported that the MOH, together with GHSC-PSM and other development partners, has implemented various policies and programs. These include revising and implementing the reimbursement protocol, which aims to ensure diversified domestic funding for commodities used in exempted MH services. The MOH is also working to establish a trust fund, allocating funds from the regional (subnational) level, and including cross-cutting MH commodities into the community-based health insurance system.

Regarding UNFPA support, key informants reported that UNFPA has been supporting the MOH through procuring lifesaving MH commodities based on forecasts and official requests. However, the level of support has decreased in recent years, primarily due to a shift in commodity requests toward family planning commodities. UNFPA currently has no specific plans to increase funding for MH commodities, but priority requests from the MOH will be considered.

vi. Key informants' suggestions for sustainable funding for MH commodities

The key informants emphasized the need for a comprehensive approach to ensure sustainable funding for MH commodities, involving public and private sectors, and considering long-term solutions to address the challenges the health system faces.

In the short term, informants suggested enhanced advocacy for additional domestic fund allocation by exploring mechanisms for resources such as the regional states' contribution and engaging the private sector for corporate social responsibility. Establishing a co-financing mechanism through multi-donor and government agreement was also recommended as an



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immediate solution to ensure a diversified funding mechanism for MH commodities. In the long term, informants recommended including exempted MH services into CBHI and considering the local

manufacturing of MH commodities.



Lessons and Implications

Key lessons learned from the findings of this case study include the following:

Engaging political leaders: By presenting data on maternal deaths directly to women parliamentarians, Ethiopia personalized the issues and gained allies among decision makers to commit budget allocations. Strategic stakeholder engagement is impactful.

Leveraging data for advocacy: Ethiopia's risk analysis showed at-risk commodities and demonstrated funding gaps, fueling successful negotiations for additional resources. Evidence-based advocacy played an important role in persuading decisionmakers.

Ensuring government commitment:

Increased funding allocation from the government's own treasury has played a significant role in improving funding for lifesaving MH commodities. This highlights the importance of strong government commitment and ownership for ensuring the availability of essential medications for expectant mothers. **Diversifying funding sources:** Relying solely on donor contributions or specific funding pools can be risky, as fluctuations in funding levels may occur. Therefore, diversifying funding sources, such as through domestic budget allocation, can help mitigate the impact of declining donor funding and ensure sustainable funding for MH commodities.

Integrating into the supply chain

system: This brings structured oversight and dedicated funding commitments from the government. It ensures consistent availability compared to parallel systems that rely on sporadic donor support. Integration requires collaboration among stakeholders, clear procurement mechanisms, and monitoring systems to ensure a consistent supply.

Prioritizing funding: These case study findings highlight the importance of prioritizing funding for lifesaving MH commodities in a context of financial limitations. The shift in prioritization toward these commodities resulted in improved funding coverage and reduced stockout rates. It is crucial for policymakers and funders to allocate adequate resources to ensure the availability of essential MH commodities.

Building multisectoral collaboration:

Ethiopia formed a high-level task force involving health, finance, and procurement stakeholders to navigate the integration process and gain buy-in from all sides. This collaborative approach resolved concerns and advanced consensus-based solutions. Engaging all relevant stakeholders helps address challenges, streamline processes, and ensure the availability of MH commodities.

Conducting supply chain baseline

assessments: Ethiopia's supply chain assessment showed specific deficiencies like stockouts, wastage, and weak data systems. This provided an evidence base to focus efforts and track tangible improvements from interventions. Other nations can similarly diagnose challenges to design targeted improvements.

Empowering in-country teams:

Adopting a systematic, data-driven, collaboration-focused approach with an emphasis on building self-sufficient national capacities could help other nations achieve Ethiopia's success in strengthening financial flows for lifesaving MH care.



Conclusion

This case study revealed that funding levels for MH lifesaving commodities in Ethiopia have improved significantly over the years. The overall funding allocation as a percentage of the annual forecasted demand increased from 24 percent in 2018–2019 to 81 percent in 2022–2023.

The government's budget allocation from the national treasury increased from \$307,692 in 2021–2022 to \$615,384 in 2022–2023 and to \$943,396 in 2023–2024. The significant increases in funding for MH commodities have contributed to substantially reducing stockouts of essential MH commodities. These improvements demonstrate the effectiveness of funding improvements in ensuring a more consistent supply of lifesaving medications for pregnant and delivering mothers.

The following strategies have been highly effective in improving funding for MH commodity availability:

 Integration of MH commodities into the supply chain system, addressing funding challenges and improving availability

 Advocacy work with parliamentarians and the media, bringing attention to the maternal program and securing government commitment to allocate funds from the national treasury -Trainings on fund tracking and gap analysis, equipping MOH and EPSS staff with the skills needed to effectively track and analyze funding gaps

- Stock analysis and risk mitigation for MH commodities, providing an effective tool in improving funding for MH commodities

This report provided valuable insights into Ethiopia's experience and the key strategies employed that led to improved and sustainable funding for lifesaving MH commodities. GHSC-PSM has played a crucial role in improving financing for these commodities in Ethiopia through comprehensive supply chain support, data-driven analysis, and collaboration with key stakeholders. Development partners such as UNFPA have also contributed to funding for these commodities. However, continued advocacy and engagement with development partners are needed to maintain their support and address the declining trend in funding.



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