



A Commodity Security Framework for Maternal Health



AFP/IMAGERFORUM

By increasing the availability of three key medicines, maternal mortality from PPH or eclampsia could be reduced by 1.4 million over 10 years.

Background

As part of the Every Woman Every Child (EWEC) movement, the UN Commission on Life-Saving Commodities for Women and Children (UNCoLSC) has identified 3 overlooked life-saving maternal health (MH) commodities identified as essential commodities for managing the leading causes of death during pregnancy or childbirth: oxytocin and misoprostol to prevent and treat postpartum hemorrhage (PPH) and magnesium sulfate to prevent and treat eclampsia. Together, these conditions account for more than half of all maternal deaths globally. **By increasing the availability of these three key medicines, maternal mortality from PPH or eclampsia could be reduced by 1.4 million over 10 years.** Despite evidence supporting the widespread use of these medicines, a number of bar-

riers affect availability, accessibility, affordability, quality, and use.

The concept of commodity security is broadly defined as the ability to choose, obtain, and use health commodities when and where they are needed. It is a concept that has proven successful in identifying the gaps in access to groups of commodities and for developing strategic plans to address these gaps. Policymakers and implementers need a similar category-specific commodity security focus on MH commodities, so they can better understand, evaluate, and design solutions based on the unique characteristics of the commodities. This brief proposes a framework for maternal health commodity security (MHCS) based on an integrated health system strengthening approach to improving availability,

accessibility, and affordability of essential MH medicines.

The MHCS Framework has been designed to highlight the key components necessary to achieving commodity security for maternal health products. Countries can use this framework to identify missing or weak components at various levels and functions of their health system, and develop strategies to address them. Once applied, countries can continue using the MHCS framework to monitor their progress toward attaining MH commodity security and to adapt or adopt the necessary changes for improvement.

This framework has been designed based on expert knowledge of how health systems work; it was subsequently pilot tested in Ethiopia, Nigeria, and Tanzania to

validate its components, and based on the input received, the framework was refined, as necessary.

Commodities must be accessible, available, and affordable throughout the continuum of care

Description of the MHCS Framework

“Women and their health providers can equitably access and rationally use essential, quality, lifesaving, maternal health commodities made available and affordable throughout the continuum of care by inter-sectoral collaboration and integrated service delivery.”

- Maternal Health Technical Resource Team

The MHCS framework centers on the principle that women's

equitable access to and rational use of quality MH commodities are enabled by intersectoral collaboration and integrated service delivery. Commodities must be accessible, available, and affordable throughout the continuum of care; for the three MH commodities, the continuum of care includes the antepartum, intrapartum, and postpartum periods. The framework supports rational use of the three key MH commodities (as defined by the UNCoLSC), so they are prescribed, dispensed, or sold appropriately and patients use them correctly (WHO 2012). This framework has been designed only with consideration of the three overlooked MH commodities, oxytocin, misoprostol and magnesium sulphate, identified by the UNCoLSC. The authors recognize that while these commodities are necessary to improve MH outcomes, they are not sufficient to manage all causes of poor MH and mortality.

The MHCS framework is based on the assumption that health

system strengthening is the means through which MHCS is achieved, and that improved MH is the outcome of system improvements that specifically address MH supplies. WHO defines health systems functionality as “all organizations, people and actions whose primary intent is to promote, restore or maintain health” (WHO 2007). These functions are grouped into six categories or “building blocks” that have been incorporated into the structure of the MHCS framework:

- service delivery
- health workforce
- health information systems
- medical products
- vaccines and technologies
- health systems financing and leadership and governance.



© 2008 JAMES FALAYE, COURTESY OF PHOTOSHARE

When products such as oxytocin, misoprostol, and magnesium sulphate are deemed essential, taking a commodity security approach helps ensure their availability, accessibility, affordability, quality, and use; this approach save lives and improves birth outcomes. Policymakers, program managers, and providers must work collaboratively at global and country levels to keep essential products reliably available and accessible to all who need them.

Figure I. MHCS Framework



The components of the MHCS framework parallel the organization of health systems, which is grouped by elements at the (1) macro, (2) meso, and (3) micro levels (Goffman 1986). At the **macro level**, the framework refers to the overarching architecture of the health system and includes elements such as policies and regulations, coordination, financing, and advocacy and leadership. Stakeholders at the macro level make decisions about the health system that inform the design, financing, and rights of beneficiaries of the system. At the **meso level**, decisions from the macro level

are operationalized into programs and organizational and managerial decisions made at this level consider service delivery, human resources, health supplies, supply chain strengthening, quality assurance, and monitoring and evaluation. The **micro level** focuses on the way individuals—such as patients and providers—and families behave, communicate, and make day-to-day decisions

The MHCS framework shown in figure I requires a high degree of collaboration among stakeholders, including national governments, multilateral organizations, nongov-

ernmental organizations (NGOs), faith-based organizations (FBOs), the private sector, and civil society.

Components of the MHCS Framework

Macro (Policy and Decisionmaking) Level

The “macro” level of the MHCS framework comprises the policy, economic, political, and organizational contexts for MH, including elements of gender equity.

Policies and Regulations

Policies and regulations that directly or indirectly influence and support the public or private sector’s role in securing MH medicines are vital to shaping availability, quality, and affordability of MH medicines. Policies and regulations for MH medicines may be formulated using economic, demographic, and epidemiologic data. Supportive policies and regulations are elements of an enabling environment that signal government commitment to the availability of and access to high quality and affordable MH products. Examples include the presence of MH supplies in the country’s Essential Medicines List (EML), importation and taxation considerations, and financial management policies. National regulatory authorities implement laws and regulations that decide product-specific formulations considering the unique contextual and environmental requirements.



ELIZABETH BRITTON

Finance

Adequate and sustainable government funding for procurement of MH products is critical as MH commodities are not donor procured. Government funding is necessary to support the public network of facilities and, where applicable, NGOs and private sector facilities. Funding is also necessary to perform other aspects of logistics management and MH programming, such as information, education, and communication (IEC) campaigns; training; and supervision. Sustainable financing policies must consider individuals' and families' out-of-pocket spending and minimization of financial barriers, especially for the poor.

Financing for life-saving MH products may come from a range of sources, including households, third party payers (e.g., insurers,

employers), governments, and donors. The mix of funding sources may include government budget lines drawn from internally-generated revenues, donor grant funds, loan credits, or families' direct payments. Funding support may also come from donors who provide direct financing of MH programs or in-kind donations of MH commodities and supplies.

Advocacy and Leadership

Advocates and leaders raise awareness for MH supplies by actively engaging stakeholders to address gaps in global and national plans, policies, and initiatives to increase the availability and use of MH medicines. Leaders and advocates can provide strategic input to advance the implementation of recommendations for increasing availability and use of the three overlooked MH com-

modities. A range of partners—civil society, academia, the voice of women's health advocates, media, and other health partners—can be effective advocates by participating in advocacy campaigns and activities. Advocacy efforts must continuously inform policymakers, program managers, and development partners of the gaps and effective solutions to address the gaps and support activities aimed at increasing availability and use of these LSCs. For guidance and tools that advocates can use to mobilize support for commodity-based strategies within their own countries, see [Scaling Up Life Saving Commodities for Women, Children, and Newborns](#).

Coordination

Coordination is necessary across stakeholders, levels, and functions of the health system and should include both private and public sector. Formal and informal coordination mechanisms, including councils and committees, with membership from a variety of stakeholders from different sectors should exist to facilitate information flow, efficient use of resources, and effective implementation of policies and regulations. The different sectors include international and domestic donor organizations, government agencies, NGOs, FBOs, social marketing and private providers, and technical agencies. Coordination mechanisms should be used to formalize processes, roles, responsibilities, ensure effectiveness

of advocacy and monitoring efforts and prevent duplication of efforts. These mechanisms become even more important in environments that involve decentralized financing and decisionmaking. For considerations, tools, and resources to establish or expand an existing supply coordination committee to include the full set of Reproductive, Maternal, Neonatal, and Child Health (RMNCH) commodities, see [Guidance and Resources for Inclusion of Reproductive, Maternal, Newborn, and Child Health Commodities in National Commodity Supply Coordination Committees](#).



Meso (Program) Level

At the “meso” level, the critical components of MH programming are transformed from policies into programs. This level includes service delivery, human resources, health supplies, supply chain strengthening, quality assurance, and monitoring and evaluation.

Supply Chain Strengthening

Strong supply chains are necessary to increase access to MH medicines and to improve MH outcomes. Supply chain strengthening focuses on streamlining and standardizing processes at all levels and functional areas of the supply chain to address system problems and overcome challenges. Because challenges differ based on the country context and the unique and diverse characteristics of MH medicines, the range of

supply chain strengthening activities must always take into consideration these unique requirements. Supply chain strengthening activities can include system assessments, participatory design and implementation of in-country supply chains, development of national and subnational supply chain processes and procedures, capacity building in quantification and warehouse management, among others. Examples of context-specific supply chain needs include—

- better quantification for accurate estimates for the procurement of MH products, which does not occur at the global or national levels
- adequate transportation for punctual distribution of prod-

ucts according to the design of the system

- cold chain for temperature-sensitive oxytocin
- double-aluminum single-dose blisters for misoprostol to protect against humidity and for ease of administration at the time of delivery
- injection supplies to administer oxytocin and magnesium sulfate.

Service Delivery

The delivery of high quality MH services by healthcare providers must be organized around the health needs of women and their communities. This encompasses delivery of health services that uphold the pillars of the Safe Motherhood Initiative and



includes provision of services for health promotion, disease prevention, diagnosis, treatment, and disease management through different levels and sites of care within the health system. Health-care providers must be guided by standard guidelines and protocols based on best practices and enabling policies for access and use of MH medicines. Guidelines and protocols must be harmonized and made consistent for different cadres of healthcare providers at the national, subnational, regional, and community levels. An important aspect to bear in mind is the vital role of the market-based sectors (e.g., private and commercial sectors), including private physicians, midwives, and pharmacies—the full range of providers and places where services are provided—in making quality services available.

Health Supplies, Diagnostics, and Devices

Accurate diagnosis of PPH and pre-eclampsia (PE) and eclampsia requires diagnostics to detect abnormal hematocrit, blood pressure, and protein levels in the urine, among other things. Consumable health supplies such as alcohol swabs and gloves are required for the safe, hygienic administration of the three LSCs. Each of the three MH commodities has unique additional health supply requirements. Magnesium sulfate requires intravenous (IV) catheters and tubing for IV administration and syringes and needles for intramuscular administration; oxytocin requires cold chain storage in some countries; home- and community-based administration of misoprostol should be an element of safe delivery, as well as the use of clean delivery kits,

which may be distributed with misoprostol. It is important to consider all the sectors—public, private, and commercial—where health supplies, diagnostics, and devices are manufactured, distributed, sold, and purchased. Complementary to understanding the need for and use of these services (and supplies), a health management information system (HMIS) is required to identify where these supplies are being used and where gaps exist.

Human Resources Development

Human resources are an essential component of high-performing health systems that meet the needs of MH clients and service providers. Workers must be provided in sufficient numbers, they must be adequately trained, motivated, and competent in the skills required to fulfill the essential roles required for MH services.

Quality Assurance

The quality, safety, and efficacy of MH medicines are ensured through quality assurance measures, regulatory agencies, pharmaceutical producers, distributors, and other actors involved in medicines management. For medicines such as oxytocin that requires cold chain to maintain the stability and potency of products, quality assurance measures are especially critical to make sure the integrity of the product has been maintained throughout the sup-

ply chain. Drug registration and monitoring of good manufacturing practices are essential to ensure that only quality-assured products reach the marketplace.

Monitoring and Evaluation

Regular collection, analysis, and use of programmatic and population data for planning and decisionmaking are cross-cutting themes throughout the framework since *monitoring and evaluation must occur at all levels of a health system, including at the macro and micro levels.* Monitoring and evaluation provides evidence for determining programmatic adjustments. Indicators and targets should routinely be linked to outputs and outcomes, be specific, and include data sources and plans for analysis. National or subnational research studies, such as Demographic and Health Surveys (DHS), Reproductive Health Surveys (RHS), and behavioral studies, should supplement these measures. An efficient monitoring and evaluation function supports managerial decisionmaking by providing evidence to determine progress and by identifying challenges and opportunities for meeting strategic objectives.

Micro (Community) Level
The “micro” level of the MHCS framework focuses on social contexts, women and men as individuals, family and community members, consumers and providers of goods and services,



2014 GIRDHARI BORA FOR INTRAHEALTH INTERNATIONAL

and the population. It focuses on behavior, communication, and decisionmaking processes.

Population Awareness

Increasing acceptability, demand, and use of life-saving products is essential to improving MH outcomes. Awareness-raising campaigns and behavior change communication (BCC) and IEC interventions can influence the decisions health providers, managers, families, and patients make. These types of interventions can inform health-seeking behaviors of individuals and families and help facilitate communication between patients and providers. Interfaces between these levels of the population are susceptible to weakening under various conditions, such as devolution, decentralization, or weak management systems.

Patient and Family Behavior, Communication and Decisionmaking

Health-seeking behaviors, communication, and day-to-day decisionmaking processes of individuals and families, as well as provider biases and beliefs, are influenced by the various components of the health system such as awareness-raising BCC and IEC interventions; these interventions can also help facilitate communication between patients and providers, as well as family and community members. They are also influenced by cultural considerations, biases, and religious beliefs. The behavior and decisions made by the ultimate consumers of the goods and services.

Resources

- 1) Background of the development and use of various CS frameworks—
 - SPARHCS: (<http://www.policyproject.com/pubs/monographs/SPARHCS.pdf>)
 - HIV and AIDS: (http://deliverjsi.com/dlvr_content/resources/allpubs/guidelines/HivaCSFram.pdf)
 - Essential medicines: (http://deliverjsi.com/dlvr_content/resources/allpubs/policypapers/CSEssMedChall.pdf)
- 2) Other lists of essential, priority, or life-saving medicines for women and children developed by international organizations, such as—
 - WHO Priority Medicines for Mothers and Children 2011 (<http://www.who.int/medicines/publications/A4prioritymedicines.pdf>)
 - WHO Priority Medicines for Mothers and Children 2012 (<http://apps.who.int/medicinedocs/documents/s19290en/s19290en.pdf>)
 - 2006 Interagency List of Essential Medicines for Reproductive Health (http://whqlibdoc.who.int/hq/2006/WHO_PSM_PAR_2006.1_eng.pdf)
- 3) Reproductive Health Supplies Coalition resources and tools (<http://www.rhsupplies.org/resources-tools.html>)
- 4) UNCoLSC Recommendation 6, Outcome 1: Good Practice in Supply Chain Management: Challenges and Barriers along the In-Country Supply Chain (<http://siapsprogram.org/wp-content/uploads/2014/07/14-076-Barriers-Supply-Chain-Format.pdf>)
- 5) UNFPA contraceptive/commodity security implementation results documents, such as—
 - Ten Good Practices in Essential Supplies for Family Planning and Maternal Health (<http://www.unfpa.org/public/home/publications/pid/11457>) and
 - Key Data and Findings: Medicines for Maternal Health (<http://www.unfpa.org/publications/medicines-maternal-health>)

Acknowledgements

Authors:

JSI: Ellie Bahirai, Paula Nersesian, and David O'Brien

PRE EMPT/University of British Columbia: Tabassum Firoz

This brief has been drafted in cooperation with the UN Commission on Life Saving Commodities (UN-CoLSC) and in consultation with the UNCoLSC's Maternal Health Technical Resource Team. The authors of this brief would like to thank all of the many individuals and organizations for their valuable contributions. In particular, we thank all of the colleagues and country representatives who generously shared knowledge of practical considerations at the country level in Ethiopia, Nigeria, and Tanzania by participating in validation meetings to review and comment on the MHCS framework. We are grateful for their time and valuable input. Finally, the authors would like to thank the United Nations Children's Fund for its financial support. We hope the framework presented in this brief is a helpful tool for countries to monitor their commodity security for maternal health and take action to improve key components of health systems to improve the availability, accessibility, affordability, quality, and use of oxytocin, misoprostol, and magnesium sulfate.

For a more detailed discussion of the MHCS Framework components and the commodities oxytocin, misoprostol, and magnesium sulfate, please see the more in-depth [white paper](#). As the UNCoLSC initiative continues to advance and further field implementation is documented, this version of the framework may be revised in the future with the benefit of more field experience and information.

