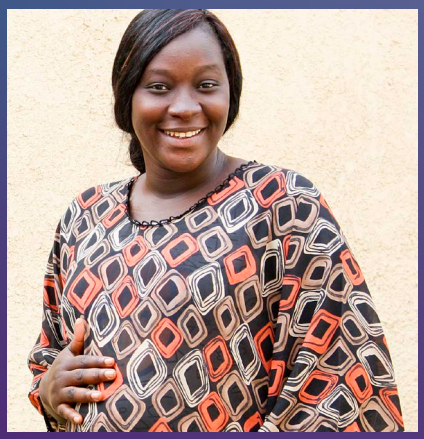
Introducing and Scaling Multiple Micronutrient Supplementation Programming

Frequently Asked Questions for Decision-makers



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HEALTHY MOTHERS HEALTHY BABIES

Multiple Micronutrient Supplementation in Pregnancy
TECHNICAL ADVISORY GROUP

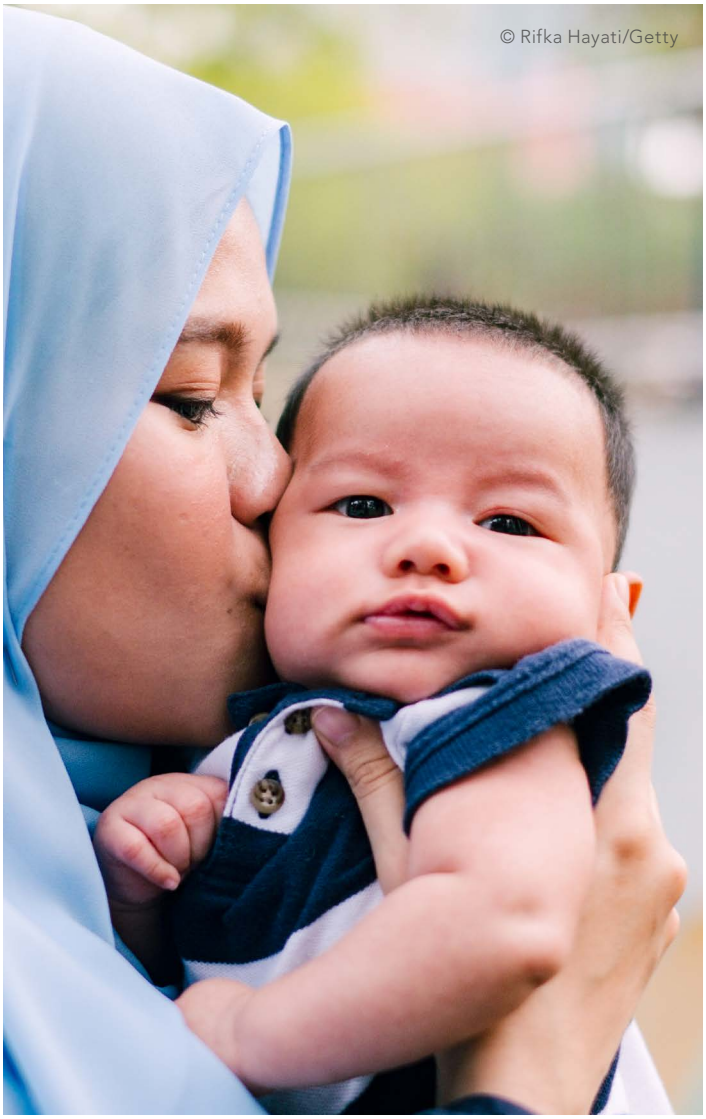
Micronutrient FORUM

FOREWORD

More than 20 low- and middle-income country (LMIC) governments — supported by United Nations (UN) organizations, non-governmental organizations (NGOs), academia, donors, and supplement manufacturers — are unlocking brighter, healthier futures by making multiple micronutrient supplements (MMS) available and accessible to pregnant women.

This guide is intended for country decision-makers who are interested in or actively considering introducing MMS. It addresses the most frequently asked questions about how to introduce and scale MMS delivery within strengthened antenatal care systems, including:

- Why introduce United Nations International Multiple Micronutrient Antenatal Preparation (UNIMMAP) MMS?
- What is the pathway for introducing and scaling UNIMMAP MMS programming?
- What is the World Health Organization's (WHO) policy guidance and how should it be interpreted?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This guidance document aims to answer commonly identified questions that have been raised by country decision-makers in their experience introducing and scaling MMS programming. The document does not provide direct instructions for how to introduce and scale MMS. Instead, it provides information to guide country decision-makers to move forward with the introduction and scaling of MMS programming and recommendations for the process.

WHY INTRODUCE UNIMMAP MMS?

What is MMS? What is UNIMMAP MMS?

Multiple micronutrient supplementation (MMS) provides the vitamins and minerals that are necessary for a healthy pregnancy. UNIMMAP MMS refers to the internationally recognized formula used in the United Nations International Multiple Micronutrient Antenatal Preparation (UNIMMAP). UNIMMAP MMS (hereinafter referred to as MMS) is a tablet that includes iron, folic acid, and 13 other essential micronutrients. Developed in 1999, it was specifically patterned after the Recommended Dietary Allowance and intended as a dietary supplement to address the increased nutrient demands of pregnant women through a collaboration of the World Health Organization (WHO), the United Nations University, UNICEF and academic nutrition scientists. UNIMMAP MMS was included in the WHO Model List of Essential Medicine in 2021. For more information, refer to the Healthy Mothers Healthy Babies Consortium's (HMHB) MMS During Pregnancy: Frequently Asked Questions.

What is the added value of transitioning from iron and folic acid to MMS?

More than 20 years of research shows that MMS is safe, affordable, and more cost-effective than iron and folic acid (IFA) supplementation in improving birth outcomes.[1,2] Compared to IFA, MMS has conclusively been shown to reduce the risk of low birthweight babies, including those born small for gestational age or preterm, and stillbirths. Benefits are more apparent in populations of pregnant women who are anemic and underweight. There is no difference between MMS and IFA in preventing anemia. For more information on the public health impact of MMS refer to the 2023 Update on the Scientific Evidence on the Benefits of Prenatal Multiple Micronutrient Supplements. Additionally, the 2023 Copenhagen Consensus named MMS as one of the 12 best investments for global development; providing a 37 USD return on every 1 USD invested, the highest benefit-cost ratio of all interventions assessed.

What other countries are implementing MMS programming?

Currently, over 23 countries are in the process of introducing and scaling MMS programming. More information on these experiences can be found at the HMHB World Map of MMS Activities and Knowledge Hub, Sight and Life's Special Report on MMS 1.0 and 2.0, and in the detailed Implementation Science Guidance document.

WHAT IS THE PATHWAY FOR INTRODUCING AND SCALING MMS PROGRAMMING?

While there is convincing evidence on the efficacy of MMS, there are many unanswered questions about how to effectively deliver MMS to pregnant women and transition a country from IFA to MMS as the standard of care. The pathway for introducing and scaling MMS programming presents a generalized approach to MMS introduction that can be adapted and applied by national governments and their partners.

What are the strategic objectives and key activities involved in the pathway for introducing and scaling MMS programming?

As explained in Figure 1 on the next page, the pathway for introducing and scaling MMS programming focuses on four pillars, each with its own strategic objective, required for MMS introduction: policy/regulatory, financing, quality product, and delivery channels. More information on each pillar can be found in the Healthier Pregnancies and Brighter Futures for Mothers and Babies investment roadmap published jointly by the Bill & Melinda Gates Foundation, Eleanor Crook Foundation, Kirk Humanitarian, and Children's Investment Fund Foundation. Key activities needed to achieve each strategic objective will differ by pillar and phase of the process. More information on activities and specific questions to consider for each pillar and phase can be found in the detailed Implementation Science Guidance document.

How can my country get started on the pathway for introducing and scaling MMS programming?

Where and how one starts introducing and scaling MMS programming will depend largely on the broader MMS landscape within the country and what MMS efforts are already underway. Key points to consider when beginning the process are:

- **Ensure government ownership and coordination from the beginning and throughout all phases of the process.** Ministries of Health are uniquely positioned to know who the existing country partners are and bring them to the table.
- **Engage a broad range of key stakeholders who need to be involved in the consensus building from the beginning and throughout the process.** This should be led and coordinated by government decision-makers and include representation from relevant government ministries or departments (e.g., nutrition, maternal health, pharmacy, financing and planning, data management, health promotions, etc.) as well as all relevant implementing partners in-country, local academia, interest groups, and professional associations (e.g., midwives, nutritionists, etc.).
- **Identify and leverage work related to maternal nutrition, including both IFA/MMS, that has been or is being conducted.** Building off the experiences and lessons learned from in-country implementers can help prioritize barriers, identify solutions, and shorten the time needed for introduction and scaling. Discussing the findings from these initial landscaping activities is essential for building awareness and building consensus for future planning.

- **Establish a structure or group tasked with moving MMS introduction and scaling programming forward.** A national MMS Task Force, Technical Advisory Group (TAG) or Technical Working Group (TWG) can guide and monitor the introduction and expansion of MMS programming in the country by providing both policy and technical recommendations to government stakeholders. Involvement of local and regional implementation stakeholders is also essential.
- **Seek support or guidance about the process.** Many national governments and implementing organizations have begun this work in other contexts. HMHB can help facilitate these connections.

FIGURE 1: FRAMEWORK FOR COUNTRY MMS PROGRAM SCALE-UP

PILLARS	I. BUILDING AN ENABLING ENVIRONMENT »	II. DESIGN & TEST IMPLEMENTATION STRATEGIES »	III. SCALING & MAINTENANCE »	STRATEGIC OBJECTIVES »	OUTCOMES
POLICY/ REGULATORY 	» Landscaping & analysis » Stakeholder mapping & engagement » Advocacy	» Advocacy » Policy & guideline development » Roadmap	» Policies & guidelines adoption » Operationalize Roadmap	**Product is included in relevant policies & instruments at all levels of government**	**REACH COVERAGE**  **IMPROVED MATERNAL NUTRITION & BIRTH OUTCOMES**
FINANCING 	» Cost-effectiveness analysis	» Forecasting » Financing strategy	» Demand planning » Finance mechanisms » Market shaping	**Sufficient funding committed by governments & donors for procurement & delivery of product**	
QUALITY PRODUCT 	» Supply readiness assessment	» Manufacturing support » Supply chain strengthening	» Cost-effective procurement coordination » Monitor & address supply chain/ distribution/stock outs	**Sufficient volumes of quality product are manufactured, available & procured**	
DELIVERY CHANNELS 	» Delivery platform(s) assessment » Exploratory distribution of Product	» Demonstration projects » System strengthening	» National rollout » Expansion of delivery channels	**Product is available & accessible & pregnant women receive product during ANC & use as recommended**	
	COORDINATION AND MONITORING, EVALUATION, AND LEARNING				

How long does it take to introduce and scale MMS programming?

The amount of time and resources required to carry out activities will vary by context. For example, in the policy pillar, some countries have matured regulatory bodies with clear regulatory development processes. Some countries, however, have limited existing regulatory infrastructure. Different timelines and resources will be needed to carry out assessments, draft policy content, and design and implement a regulatory roadmap in each of these contexts. Examples of how Pakistan, Indonesia, Cambodia, and a UN Agency serving Palestine refugees in the Middle East (starting in Jordan), are approaching the pathway to introduction and scale-up of MMS are provided in the Implementation Science Guidance document.

POLICY/REGULATORY: Appropriate policies and regulations are needed to support the introduction and scale-up of MMS programming as the standard of care.

1. **How can MMS be included in the national Essential Medicines List (EML), formulary, or its equivalent?**
   UNIMMAP MMS is already included on the WHO EML. The process for getting MMS onto the national EML will vary by country but frequently requires a formal application process (see Sight and Life Special Report 2.0 on MMS). HMHB has provided support for countries to complete the application and can be contacted to support other applications.

2. **How can existing antenatal care (ANC) guidelines be adapted to include MMS programming?**
   The window of opportunity for adapting ANC guidelines and the process to do so will vary by country. As countries begin to explore the introduction of MMS programming, it is important to gather information on when and how potential changes to the ANC guidelines can be made. It is also important to note that beyond the actual guideline document, other related materials, such as associated training, communication, monitoring and evaluation materials will need to be updated as well. Examples of the implementation package, including updated communication and monitoring tools, that was developed in Pakistan can be found here. Prior to introduction there will need to be consensus around technical guidance for MMS use that is country specific.

3. **Why is a country-specific costed roadmap for MMS programming scale-up needed?**
   A country-specific costed roadmap for MMS programming developed by key stakeholders is critical to planning how MMS programming will be introduced and affordably scaled up. Country stakeholders can plan for and leverage the resources necessary to move through the phases of MMS scale-up by identifying, costing, and establishing timelines for the key activities or milestones necessary to support MMS program introduction and scale-up.

FINANCING: A step-by-step, long-term financial plan is needed to gradually increase local funding and reduce reliance on donors to ensure the MMS program is financially sustainable.

1. **How are countries financing the pathway for introducing and scaling MMS programming?**
   Most countries are financing initial MMS introduction efforts through global donors. As countries move through the process, it is important to increase the availability of domestic resources for the scale up to ensure country ownership and sustainability of the program. There is growing momentum around funding this type of work. In May 2024, several donors dedicated to supporting MMS program introduction and scale up published Healthier Pregnancies and Brighter Futures for Mothers and Babies to lay out a roadmap for global investment that would translate into

strengthened health systems and improved health outcomes. It is expected that interest in supporting MMS program scale-up will continue to increase as success stories are communicated. Getting involved in the HMHB Consortium can be a starting point for accessing support.

2. **How much does transitioning to MMS programming cost? How does MMS product cost compare to IFA?**
   The Healthier Pregnancies and Brighter Futures for Mothers and Babies investment roadmap provides estimates of the overall cost of implementing MMS programming. These costs are divided into three categories: supply, transition, and program or scaling costs. Currently, the cost of the MMS product is estimated at 2.60 USD for a 180 tablet bottle, including shipping and logistics. This cost is applied to all pregnant women who receive MMS and is expected to decrease over time as demand increases and more manufacturers, including local and regional suppliers, enter the market.

   In addition to the MMS product cost, one-time transition costs may include revisions to routine data monitoring systems (e.g., HMIS), initial trainings for MMS implementation strategies, supply chain modifications, implementation research activities, advocacy efforts for policy changes, development of scale-up plans, and technical assistance needs. The investment roadmap estimates these one-time costs at 6 USD per pregnant woman.

   Finally, scaling or program costs include delivery, monitoring, supervision, and strengthening of ANC to reach more women with MMS. These costs are applied only to the population of pregnant women beyond current IFA coverage, since existing ANC platforms can be used to distribute MMS. The investment case document estimates these at 4 USD per pregnant woman.

   Even with the product, one-time transition, and scaling costs, MMS programming is cost-effective. Nutrition International's Cost-Benefit Tool is a free online resource that can assist country decision-makers in calculating the incremental benefits and costs of transitioning from IFA to MMS in their country.

QUALITY PRODUCT: Sourcing and building a procurement plan is imperative to ensure countries can access a stable and secure supply of high quality MMS (i.e., UNIMMAP formulation) in both the short and long term.

1. **Where can countries access initial supplies of MMS to begin implementation?**
   In the short term, MMS product is available and accessible by donation. In the long term, MMS scale-up success is dependent on governments developing and executing a sustainable MMS procurement and financing strategy. Globally, eight manufacturers are actively manufacturing MMS, and six more are close to being able to produce commercial volumes of MMS. A list of these manufacturers can be found in the Healthier Pregnancies and Brighter Futures for Mothers and Babies. To make manufacturing more locally available, a network of verified regional MMS manufacturers is being formed from which governments and other stakeholders can purchase a standardized product.

2. **What is being done to ensure a sustainable supply of MMS? How can I ensure a sustainable supply for scale-up in my country?**
   Government decision-makers should begin by reviewing existing financial resources supporting the procurement of IFA and consider how these could be leveraged within the transition from IFA to MMS. The Child Nutrition Fund (CNF) leverages donor contributions to scale MMS by

providing a catalytic one-to-one matching mechanism for country governments. By doubling government investments in MMS product, the CNF seeks to enhance financial resources for MMS implementation and strengthen partnerships between country governments, donors, and other stakeholders for improving maternal and child health outcomes.

3. **How to determine whether to pursue a supply strategy that includes local manufacturing, imported product, or both?**
   While many countries may be interested in building the capacity to manufacture a local MMS product, most countries will not have sufficient demand (e.g., enough pregnant women annually, or the opportunity for exportation to other countries) to build a business case for local production. Conducting a supply context assessment can help answer this question. The supply context assessment is designed to raise decision-makers' awareness of the barriers and enablers to creating an effective MMS supply chain and identify strategies to explore securing access to a sustainable supply of MMS.

DELIVERY CHANNELS: Strengthening existing antenatal care (ANC) platforms is important to ensure access to high-quality MMS and associated ANC services.

1. **What are appropriate channels to deliver MMS?**
   Many countries are implementing MMS in place of IFA using the current distribution system, which is primarily the public health platform, through ANC services using both their facilities and outreach programs. However, several countries are exploring whether other distribution platforms (e.g., sale in private pharmacies, or sale agents) could improve overall coverage and use of MMS.

2. **How can MMS program introduction be used as an entry point for strengthening existing ANC services?**
   Introducing MMS programming should be a catalyst to improve ANC services. UNICEF's 2024-2025 Improving Maternal Nutrition Acceleration Plan to Prevent Malnutrition and Anaemia during Pregnancy calls for the delivery of an essential package of five critical nutrition services to be included in ANC systems for pregnant women including: MMS; nutrition information, education and counseling; healthy weight gain monitoring; deworming prophylaxis and malaria control according to context; and nutritional screening and referral for balanced energy-protein supplementation. The introduction of MMS programming provides an opportunity to ensure that all services are integrated and delivered equitably and with sufficient quality. The activities to introduce and scale MMS programming should support overall strengthening and building resilience in the current ANC system.

3. **How can the challenges experienced with IFA (e.g., adherence/compliance, stock-outs, etc.) be avoided?**
   Efforts to introduce and scale MMS programming should build off of experience with IFA to avoid similar problems when implementing MMS programs. There is a need to develop a comprehensive understanding of the existing IFA system and its challenges to work towards a comprehensive solution when developing the MMS program. Beyond the health system level, solutions should be developed to address challenges identified at the individual, interpersonal, and community levels to support demand for and adherence to MMS among pregnant women.

4. **What is the appropriate dosage of MMS for pregnant women?**
   The current default recommendation is for pregnant women to begin consuming one MMS tablet daily, starting as early in pregnancy as possible, throughout pregnancy, and until she consumes 180 tablets. A consortium of MMS supply stakeholders has reached agreement on a "standardized" bottle of 180 tablets that will be given for donation (one bottle per pregnant woman). In countries where women are attending their first ANC appointment in the early stages of pregnancy, 180 tablets may not be sufficient to cover the remainder of her pregnancy. Countries should consider and explore providing additional MMS to ensure that women have MMS available for their entire pregnancy.

5. **Is 30 mg of iron sufficient? Why?**
   MMS contains 30 milligrams (mg) of iron. The WHO antenatal care guidelines recommend iron supplementation between 30-60 mg/day. While most IFA programs use 60 mg of iron, recent analyses showed that MMS with 30 mg of iron is comparable to IFA with 60 mg of iron in preventing maternal anemia during pregnancy and deaths during the first 28 days of life. More information can be found here and here.

6. **How does MMS work for the treatment of anemia?**
   MMS is only used as a preventative measure to reduce the likelihood of anemia. Supplementation with iron or IFA is the current standard of care for treatment of anemia or iron-deficiency anemia. Anemia treatment protocols are country or context specific and based on existing burden and policies for the treatment of anemia, however interim guidance available from the Global MMS TAG suggests that a safe approach is to add MMS to iron/IFA therapy to further enhance therapeutic efficacy. More information can be found in the Interim Guidance for Concurrent Antenatal MMS and Anemia Treatment in Pregnant Women.

7. **What about preconceptual and/or postpartum practices?**
   Currently, the clearest evidence is supporting the use of MMS during pregnancy. Because many women are nutritionally deficient during the preconceptual and postpartum periods, MMS would likely help these women meet their nutritional needs. Countries have different supplementation policies for these time periods and need to consider how MMS fits into the national policies and guidelines. Countries will need to consider the cost and prioritization of providing MMS during these two periods.

   The default donation will be 180 tablets of MMS for each pregnant woman. Many countries are encouraging pregnant women to continue taking MMS following birth if they have product remaining. Provision of additional product to accommodate preconceptual or postpartum supplementation will need to be prioritized and paid for by the local government or their partners.

WHAT DOES THE WHO RECOMMEND AND HOW SHOULD IT BE INTERPRETED?

What is the WHO recommendation regarding MMS?

The World Health Organization (WHO) supports context specific implementation of MMS, including in pregnant women affected by an emergency and/or experiencing active tuberculosis. In 2020, WHO released a recommendation that countries adopt MMS during pregnancy within the context of rigorous research, including implementation research that examines the acceptability, feasibility, sustainability, equity, and cost-effectiveness of MMS implementation. In 2021, the UNIMMAP formulation of MMS was included in WHO's Essential Medicines List, having recognized it as among the most efficacious, safe, and cost-effective maternal nutrition interventions. UNICEF has several programming guidance documents that are consistent with WHO policy guidance including Interim country level decision-making guidance for introducing UNIMMAP MMS and UNICEF's 2024-2025 Improving Maternal Nutrition Acceleration Plan to Prevent Malnutrition and Anaemia during Pregnancy.

The WHO is currently in the process of revising their recommendation based on the implementation research evidence being provided by early adopting countries. You can learn more about what these countries are doing in the Implementation Science Guidance document.

What is Implementation Science (IS)/Implementation Research (IR) and why is this useful when introducing MMS programming?

Implementation Science (IS) is an evidence-based process, focused on improving the uptake of evidence-based interventions in real world contexts illustrated in Figure 1. IS involves synthesizing and applying existing global and contextual knowledge about how to improve implementation of an intervention and generating new knowledge through Implementation Research (IR). IS/IR focuses on implementation outcomes (e.g., acceptability, feasibility, sustainability, etc.), is rooted in a specific context or system, is fit to the stage of program design and implementation, actively engages stakeholders, and allows for iteration or course correction. IR has been known by other names, for example, operations research and program evaluation. More information about IS/IR can be found in the Implementation Science Guidance document.

REFERENCES

1. Smith ER, Shankar AH, Wu LSF, et al. Modifiers of the effect of maternal multiple micronutrient supplementation on stillbirth, birth outcomes, and infant mortality: a meta-analysis of individual patient data from 17 randomised trials in low-income and middle-income countries. *Lancet Glob Heal*. 2017;5(11):e1090-e1100.
2. Keats EC, Haider BA, Tam E, Bhutta ZA. Multiple-micronutrient supplementation for women during pregnancy. *Cochrane database* Syst Rev. 2019;3(3).

WHERE CAN I GET MORE INFORMATION ABOUT MMS PROGRAMMING?

There is an ongoing global movement to improve maternal and newborn health. The Healthy Mothers Healthy Babies Consortium (HMHB), hosted by the Micronutrient Forum, is a growing collective of more than 250 organizations and individuals dedicated to improving maternal nutrition. HMHB supports collective action, advocacy, and information sharing on MMS activities in low- and middle-income countries and connects directly with stakeholders who have experience and are active in MMS. HMHB also hosts the Global MMS TAG (Technical Advisory Group), an interdisciplinary group of experts in nutrition, maternal health, and public health.

For additional resources and support, please visit the Healthy Mothers Healthy Babies Consortium (HMHB) website, which hosts the latest knowledge, evidence, guidance, and tools on maternal nutrition. Explore the World Map of MMS Activities, Knowledge Hub, Advocacy Resource Center, Women's Voices short films, and Knowledge Byte videos. Join us and become a member.

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hmhbconsortium.org

HMHB@micronutrientforum.org

Micronutrient FORUM

micronutrientforum.org

Micronutrient Forum

Micronutrient Forum Official

MNForum

Micronutrient Forum
1201 Eye St. NW 10th Floor
Washington, DC 20005-3915 USA

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