Master Trainers' Manual for the Multiple Micronutrient Supplementation (MMS) Pilot

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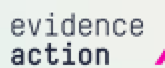


Introduction to Evidence Action

WHERE WE WORK

CAMEROON

Supporting national scale up of dual HIV/syphilis testing + syphilis treatment for pregnant women

NIGERIA

Supporting deworming treatment of 6 million+ children per year

LIBERIA

Reaching 70% of pregnant women with dual HIV/syphilis testing and 64% of syphilis-positive pregnant women with treatment

ZAMBIA

Supporting national scale up of dual HIV/syphilis testing + syphilis treatment for pregnant women

Pakistan

Supporting deworming treatment of 12 million+ children per year

India

Supporting deworming treatment of 250 million+ children per year

Supporting weekly iron folic acid supplementation for ~36million+ children per year

Supporting scale up of safe water access to 17.5M people by 2027

KENYA

Supporting deworming treatment of 6 million+ children per year; prevalence decreased from 32.3 % to 5.8% for soil-transmitted helminths and 18% to 5% for schistosomiasis after nine years of treatment

Providing 2.1 million+ people with access to safe drinking water (Dispensers for Safe Water)

UGANDA

Providing 1.5 million+ people with access to safe drinking water

MALAWI

Providing 680,000+ people with access to safe drinking water

We reach **250+ million people** in nine countries.

We are **locally led**, with ~90% of our nearly 800 staff members located in countries where our programs are implemented.

Our programs are built on evidence of impact, and scaled through context-specific implementation models

Safe Water Now

We provide **10 million+ people** with access to safe water through chlorination, for less than $1.50 per person per year.

Deworm the World

We've helped governments deliver **1.8 billion deworming treatments** for less than $0.50 per treatment on average.

Syphilis-Free Start

We're saving newborn lives by helping governments provide **low-cost syphilis screening and treatment** to pregnant women.

Equal Vitamin Access

We're helping governments **tackle micronutrient deficiencies** and prevent conditions like anemia among children and adolescents.

Our WORK in Nigeria

- Registered in Nigeria, since 2016, to provide technical assistance to Federal and State governments to implement **deworming programmes** in five states
- Globally, Nigeria has the fourth-largest number of children at risk for worm infections
- We target **over 6 million** school-age children annually for Schistosomiasis and Soil Transmitted Helminthiasis treatment
- Currently scoping for and piloting new programs in Nigeria

Over 36,000,000 SAC treated at less than $0.5 cost per child's treatment

Oyo

Ogun

Lagos

Rivers

Cross River

Our deworming work in Nigeria

We've been delivering deworming treatment in Nigeria since 2016, in collaboration with the Ministry of Health, Ministry of Education and SUBEB

- Annually our deworming program targets **6 million+** children aged 5-14 in schools and communities

- We collaborate with the education sector, targeting treatment in more than **27,000 schools** annually

- We provide logistics for the movement and positioning of more than **9 million tablets** of MEB and PZQ
- Annually, we support training at three levels of the cascade, training more than **2,500 government personnel** from Education and Health
- We collaborate with the Government to train more than **28,000 teachers, community distributors and health workers** to deliver deworming treatments to SAC

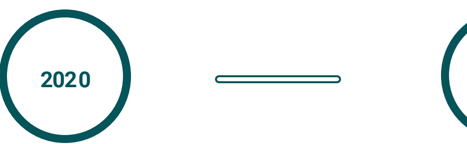
A Commissioner of Health flagging off the deworming round in one of Evidence Action's states. Deworming targets 6 million+ children annually

Pre-test - 15 mins

Overview of Multiple Micronutrient Supplementation (MMS) in Nigeria

National Coordinated Response on MMS

Work to Date



2020

Nigeria approved the use of MMS (alongside IFA) by the Honourable Minister of Health and Social Welfare.

2021

The National guidelines for prevention and control of micronutrient deficiencies in Nigeria was revised to include "use of multiple micronutrient supplements (MMS) during pregnancy"

2021

MMS included in the launch of the 2021 Food Consumption and Micronutrient Survey (NFCMS) report in collaboration with Federal Ministry of Budget and Economic Planning and the Federal Ministry of Agriculture and Food Security.

2024

Ministerial press briefing held on MMS implementation in country in attainment of Sustainable Development Goals (SDG) come 2030.

National Coordinated Response on MMS

Ongoing Activities

- In line with the 2021 WHO recommendations, FMOH is coordinating implementation researches on optimizing the uptake and adherence of **MMS as a replacement for IFA supplementation in Nigeria**. The results of these studies will be used to decision making on MMS scale up in-country.
- A national nutrition task force is being formed to tackle the nutrition issues including maternal micronutrient deficiency in-country.
- The revision of policy and guidelines on Antenatal Care is ongoing to incorporate use of MMS by pregnant women for better birth outcomes.
- The planning to ensure that sufficient volumes of quality UNIMMAP on MMS are manufactured locally.
- There is need for integration and strengthen government-partner coordination for MMS Research and Programming at National and Sub-national levels.

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National Coordinated Response on MMS

Looking Ahead:

- Development of MMS production and/or supply strategy and funding for program sustainability and ownership
- Development of contextual MMS training materials and Training of Trainers (TOT) for health care workers
- National and subnational partners coordination for MMS scale-up
- Integration of MMS into the existing routine interventions in Primary Health Care level in the 36 states and FCT
- Country-wide MMS scale-up through strong awareness creation
- The collaborative review of the anemia management protocol in the context of MMS by FMoHSW Family Health and Nutrition departments

Introduction to the MMS Pilot Project in Nigeria

In partnership with the Government, Evidence Action is piloting MMS in FCT and Oyo State to assess the feasibility of MMS in Nigeria.

- The current standard of care is Iron and Folic Acid supplementation however there are gaps on uptake and adherence.
  - **69%** of ANC attending pregnant women report to have received any IFA supplementation[1]
  - **31%** of ANC attending pregnant women report to have taken IFA supplementation for 90+ days[1]
- A WHO systematic review showed that multiple-micronutrient supplementation reduced the risk of small-for-gestational age birth, low birth weight and stillbirth compared to IFA
- In collaboration with the Government of Nigeria, Evidence Action is conducting a pilot to assess the feasibility, acceptability, and cost-effectiveness of replacing prophylactic IFA with MMS.

[1]*Nigeria 2018 DHS Report*

Pilot funded by Waterloo Foundation and Givewell, using UNICEF-approved MMS donated by Kirk Humanitarian

In partnership with the Government, Evidence Action is piloting MMS in FCT and Oyo State to assess the feasibility of MMS in Nigeria.

Pilot Objectives

- **Access:** Ensure consistent MMS supply availability at sites and full upfront provision of the full 180 day course to pregnant women
- **Adherence:** Ensure support and reminders for pregnant women to take MMS daily and understand what consumption levels can be reached. Determination of which package of adherence interventions is most cost-effective.
- **Anemia Screening and Management:** Ensure anemia management protocols are in place to support anemia screening and treatment

Pilot Beneficiaries

- **Distribution:** MMS Pilot will be distributing MMS to all ANC attending pregnant women at government facilities (regardless if they are enrolled in the pilot study)
- **Sites:** MMS Pilot will be conducted at 90 government ANC across Oyo State and FCT
- **Enrollment:** MMS pilot study will be enrolling first-time ANC-attending pregnant women at the above government facilities

In partnership with the Government, Evidence Action is piloting MMS in FCT and Oyo to assess the feasibility of MMS in Nigeria.

Planning

Jan - Aug 2024

- **Formative research** (facility assessment, focus group discussions) to investigate barriers and enablers to uptake and adherence, which will inform the program design.
- **Pilot planning** for hiring, research approvals and design, procurement, training, and operational rollout planning.

Implementation

Sep 2024 - Aug 2025

- **Implementation** across 90 ANC sites in Oyo state and FCT to assess feasibility, acceptability, and cost-effectiveness (testing a delivery model that can be taken to scale). We plan to test two versions of the adherence support packages (one with and another without paper calendars) to assess their relative cost-effectiveness.

Transition

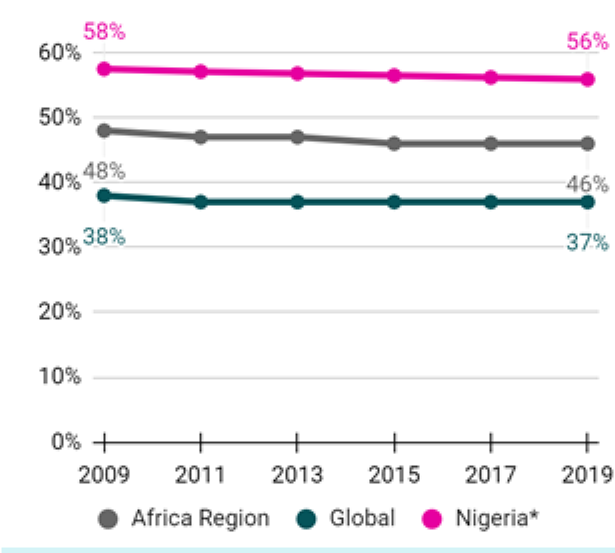
Sep 2025 - Dec 2025

- **Wrap-up**, including data analysis and dissemination.
- **Scale-up planning**, if a decision is made to advance the intervention.

Micronutrient Needs and Consequences of Micronutrient Deficiencies during Pregnancy

Micronutrient deficiencies are highly prevalent among pregnant women in Low and Middle Income Countries (LMICs)

- **During pregnancy, energy, protein and micronutrient requirements increase** due to the increase in body tissue reserves and metabolic needs and the development of the fetus and placenta[1]
- **In LMICs, micronutrient deficiencies are more common in pregnant women** due to worse baseline micronutrient levels, poor diets, and suboptimal pregnancy practices like poor birth spacing.[2] Prevalence data for LMICs indicates that **31% of women of reproductive age (WRA) are anemic, 23% are folate deficient, 63% are vitamin D deficient, 41% are zinc deficient, and 16% are vitamin A deficient** [3]
- Pregnant women in LMICs are at increased risk of being deficient in:[3]
  - ***Vitamins***: *A, C, D, E, B1 (thiamine), B2 (riboflavin), B3 (niacin), B6, B12, folic acid*
  - ***Minerals***: *iron, zinc, iodine, copper, and selenium*

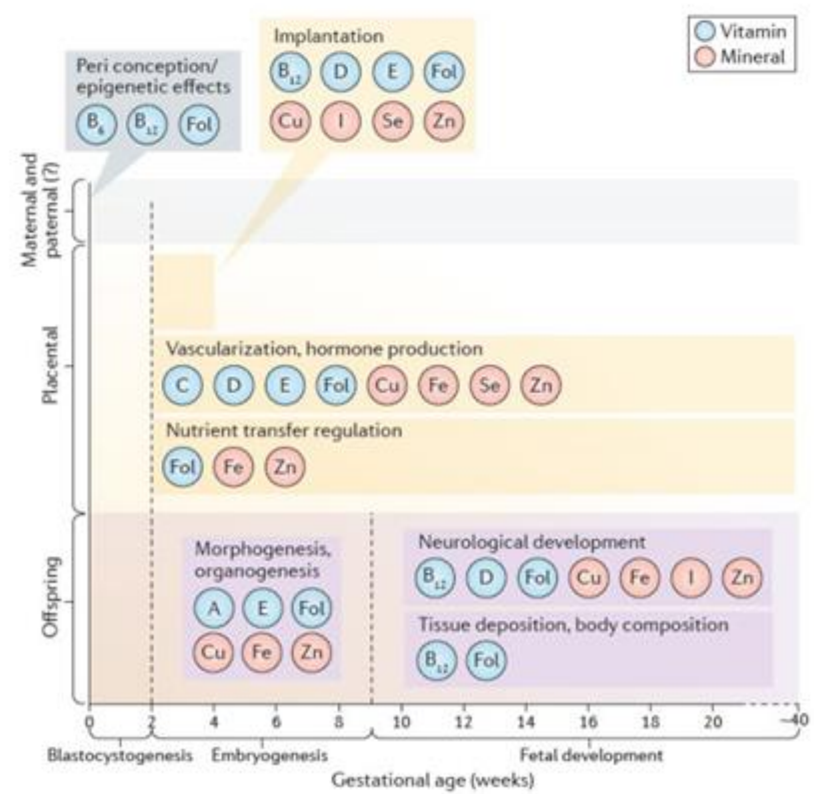


Anemia rates among pregnant women have remained stagnant over the last decade.

Notes: 1. Kominiarek et al (2017) 2. Bourassa et al (2019); 3. Lander et al, (2019), *WHO

Vitamins and minerals play a critical role at all stages of fetal development

- Zinc, folate, niacin, riboflavin, and vitamins B6 and B12 **are considered particularly important in early gestation** and are essential for cell proliferation, growth, and protein synthesis in the earliest stages of gestation *(without this, there is greater risk for neural tube defects - outcomes like anencephaly, spina bifida)*
- Zinc, vitamin D and vitamin E **contribute to adequate placental implantation, development, tissue development and metabolism**
- Iron, folate, zinc, niacin, and vitamins B6 and A s**upport the development of organs and the fetal central nervous system**.
- Vitamin A is **essential for eye and lung development**.
- Iodine, through its incorporation to the thyroid hormones, has a **crucial role in early brain development**.



Fol – folate; Cu – copper; I – iodine; Se – selenium; Zn – zinc; Fe - iron

Slide Adopted from Healthy Mothers Healthy Babies Consortium MMS Training Guide
Gernand A.D., et al. 2016. Nat Rev Endoc 12: 274–289.

The role of individual micronutrients and consequences of their deficiency during pregnancy (1/4)

Nutrient	Primary function	Function in pregnancy	Consequences of deficiency in pregnancy
Vitamin A	Required for normal vision (essential component of rhodopsin, a protein that absorbs light in the retinal receptors; normal differentiation and functioning of the conjunctival membranes and cornea); cell growth and differentiation; antioxidant properties.	Cellular differentiation (related to embryonic development and immunity, induced by retinoic acid); positive effect on iron metabolism and hemoglobin production by enhancing non-heme iron absorption; anti-infective properties; fetal uptake in late pregnancy.	Xerophthalmia; vitamin A-deficiency anemia; maternal mortality; slower infant growth and development.
Vitamin B1 (Thiamine)	Essential to key reactions in energy metabolism (hence growth, development and function of cells); thiamine diphosphate is an essential cofactor for several enzymes involved in glucose, amino acid and lipid metabolism.	Fetal growth and development, and production of adenosine triphosphate (ATP) from glucose in the brain.	Beriberi which is associated with extensive neurological and/or cardiovascular damage.
Vitamin B2 (Riboflavin)	Essential component of two coenzymes (flavin mononucleotide and flavin adenine dinucleotide) that play major roles in energy production; cellular function, growth, and development; and metabolism of fats, drugs, and steroids; involved in the metabolism of other B vitamins (B3, B6 and B9).	No additional roles in pregnancy were identified.	Possibly preeclampsia (decreased levels of flavocoenzymes could cause mitochondrial dysfunction, increase oxidative stress and interfere with nitric oxide release and thus blood vessel dilation); cardiac outflow tract defects and preterm birth.
Vitamin B3 (Niacin)	Its metabolically active form, the coenzyme nicotinamide adenine dinucleotide, is required by more than 400 enzymes including those involved in glycolysis, fatty acid metabolism, and tissue respiration.	No additional roles in pregnancy were identified.	Pellagra, which clinically presents as dermatitis, diarrhea, and dementia.

Slide Adopted from Healthy Mothers Healthy Babies Consortium MMS Training Guide

Sources: Institute of Medicine 1990. Nutrition During Pregnancy: Part I: Weight Gain, Part II: Nutrient Supplements. Washington, DC: The National Academies Press.; Gernand A.D., et al. 2016. Nat Rev Endoc 12: 274–289; United Nations. 1999. Composition of a multi-micronutrient supplement to be used in pilot programmes among pregnant women in developing countries; https://ods.od.nih.gov ; https://lpi.oregonstate.edu/mic/life-stages/pregnancy-lactation

The role of individual micronutrients and consequences of their deficiency during pregnancy (2/4)

Nutrient	Primary function	Function in pregnancy	Consequences of deficiency in pregnancy
Vitamin B6 (Pyridoxine)	B6 vitamers are required for the function of numerous enzymes including those involved in nervous system function, red blood cell formation and function, steroid hormone function, nucleic acid synthesis, and niacin formation.	Some primary functions are augmented during pregnancy (e.g. increase of blood by >40% requires more vit. B6 for red blood cell formation); fetal uptake in late pregnancy.	Impaired fetal nervous system development.
Vitamin B9 (Folate)	Cofactor required in single-carbon transfers in the synthesis of DNA and RNA and metabolism of amino acids; involved in methylation reactions and conversion of homocysteine to methionine.	Cell proliferation and growth in the early stages (materno-placental tissue expansion and fetal growth); increased maternal erythropoiesis	Anomalies in the fetus and placenta in early pregnancy; neural tube defects; and megaloblastic anemia.
Vitamin B12 (Cobalamin)	Coenzyme in single-carbon transfers in the synthesis of DNA and RNA and metabolism of amino acids; involved in methylation reactions and conversion of homocysteine to methionine.	Normal cell division and protein synthesis during pregnancy (gene expression, cell differentiation and the formation of organs); fetal uptake in late pregnancy.	Slowed DNA synthesis and its consequences, such as neural tube defects; elevated homocysteine and megaloblastic anemia; deficiency may be masked by folic acid supplementation.
Vitamin C	Antioxidant function (as a reducing agent, protects against free-radical-induced oxidative damage and regenerates other antioxidants within the body, e.g. vit. E); synthesis of L-carnitine, some neurotransmitters and collagen, an essential component of connective tissue, which plays a vital role in wound healing; immune function (stimulates the production and function of leukocytes); increases the bioavailability of non-heme iron by enhancing its intestinal absorption.	In addition to the crucial "primary functions" which also apply to the developing fetus, vitamins C and E may help to prevent preeclampsia because oxidative stress has been implicated in the pathogenesis of this condition; positive effect on iron metabolism and hemoglobin production.	Scurvy and impaired synthesis of collagen, a protein that gives structure to bones, cartilage, muscle and blood vessels.

Slide Adopted from Healthy Mothers Healthy Babies Consortium MMS Training Guide

Sources: Institute of Medicine 1990. Nutrition During Pregnancy: Part I: Weight Gain, Part II: Nutrient Supplements. Washington, DC: The National Academies Press.; Gernand A.D., et al. 2016. Nat Rev Endoc 12: 274–289; United Nations. 1999. Composition of a multi-micronutrient supplement to be used in pilot programmes among pregnant women in developing countries; https://ods.od.nih.gov ; https://lpi.oregonstate.edu/mic/life-stages/pregnancy-lactation

The role of individual micronutrients and consequences of their deficiency during pregnancy (3/4)

Nutrient	Primary function	Function in pregnancy	Consequences of deficiency in pregnancy
Vitamin D	Maintenance of bone mineralization through the regulation of calcium and phosphorus homeostasis; non-skeletal effects on the immune, endocrine, and cardiovascular systems	Promotes placental vascular endothelial growth factor (VEGF) production; modulates immune function; supports implantation and placental metabolism; fetal uptake in late pregnancy.	Possible increased risk of preeclampsia, low birth weight and preterm birth
Vitamin E	Coenzyme in single-carbon transfers in the synthesis of DNA and RNA and metabolism of amino acids; involved in methylation reactions and conversion of homocysteine to methionine.	Required to protect essential fatty acids from oxidative degradation during embryogenesis; may promote vascularization of the placenta, presumably by enhancing expression of angiogenic factors, such as the vascular endothelial growth factor (VEGF); required for fetal uptake in late pregnancy.	Possible increased risk of pregnancy complications involving oxidative stress, such as pre-eclampsia.
Copper	Antioxidant function (as a reducing agent, protects against free-radical-induced oxidative damage and regenerates other antioxidants within the body, e.g. vit. E); synthesis of L-carnitine, some neurotransmitters and collagen, an essential component of connective tissue, which plays a vital role in wound healing; immune function (stimulates the production and function of leukocytes); increases the bioavailability of non-heme iron by enhancing its intestinal absorption.	Required for iron metabolism for erythropoiesis.	Animal models suggest neurological and vascular deficits in offspring, as well as stillbirth.
Iodine	Maintenance of bone mineralization through the regulation of calcium and phosphorus homeostasis; non-skeletal effects on the immune, endocrine, and cardiovascular systems	Required for fetal and child brain development.	Poor physical and cognitive development; hypothyroidism, goiter; deafness; and stillbirth.

Slide Adopted from Healthy Mothers Healthy Babies Consortium MMS Training Guide

Sources: Institute of Medicine 1990. Nutrition During Pregnancy: Part I: Weight Gain, Part II: Nutrient Supplements. Washington, DC: The National Academies Press.; Gernand A.D., et al. 2016. Nat Rev Endoc 12: 274–289; United Nations. 1999. Composition of a multi-micronutrient supplement to be used in pilot programmes among pregnant women in developing countries; https://ods.od.nih.gov ; https://lpi.oregonstate.edu/mic/life-stages/pregnancy-lactation

The role of individual micronutrients and consequences of their deficiency during pregnancy (4/4)

Nutrient	Primary function	Function in pregnancy	Consequences of deficiency in pregnancy
Iron	Required for the function of numerous enzymes and proteins (including hemoglobin).	Required for increasing blood cell mass and delivering oxygen to tissues; fetal uptake in late pregnancy	Increases risk for low birth weight, preterm birth and perinatal mortality.
Selenium	Required for antioxidant activity of glutathione peroxidase, which catalyzes hydrogen peroxide to water.	Required to prevent fetal and maternal oxidative stress.	Causes a frequently fatal cardiomyopathy for mothers and infants, known as Keshan disease. Also associated with infertility, miscarriage and disruption of fetal nervous and immune systems and low birth weight.
Zinc	Required for nucleic acid and protein metabolism; the synthesis of DNA and RNA; and initiation of transcription.	Essential for every phase of gestation, including implantation and cell division to neurological development.	Increases risk of congenital abnormalities, impaired intrauterine growth, low birth weight, and preeclampsia. Animal studies have shown zinc restriction during pregnancy has teratogenic effects on organs, especially skeletal and central nervous systems, as well as deleterious effects on the immune system and growth retardation.

Slide Adopted from Healthy Mothers Healthy Babies Consortium MMS Training Guide

Sources: Institute of Medicine 1990. Nutrition During Pregnancy: Part I: Weight Gain, Part II: Nutrient Supplements. Washington, DC: The National Academies Press.; Gernand A.D., et al. 2016. Nat Rev Endoc 12: 274–289; United Nations. 1999. Composition of a multi-micronutrient supplement to be used in pilot programmes among pregnant women in developing countries; https://ods.od.nih.gov ; https://lpi.oregonstate.edu/mic/life-stages/pregnancy-lactation

Ask

Activity 1
Recommended Micronutrients in Pregnancy

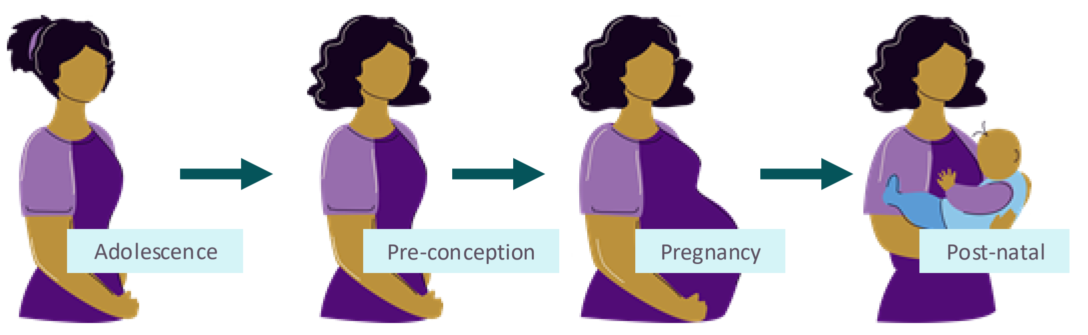
Recommended dietary allowances (RDA) increase during pregnancy

- Increased maternal, placental and fetal nutrient demands, elevate the recommendations for some of the nutrients' intake by up to ~50% during pregnancy.
- The nutritional requirements of malnourished pregnant women may be even higher than those listed here (which are estimated for well nourished populations in the US and Canada), as pre-existing micronutrient deficiencies may need to be corrected.

Nutrient	Non-pregnant and nonlactating women	Pregnant women
Vitamin A	700 µg RAE	770 µg RAE
Vitamin B1 (thiamine)	1.1 mg	1.4 mg (+27%)
Vitamin B2 (riboflavin)	1.1 mg	1.4 mg (+27%)
Vitamin B3 (niacin)	14 mg	18 mg (+28%)
Vitamin B6 (pyridoxine)	1.3 mg	1.9 mg (+46%)
Vitamin B9 (folate)	400 µg DFE	600 µg DFE (+50%)
Vitamin B12 (cobalamin)	2.4 µg	2.6 µg
Vitamin C	75 mg	85 mg
Vitamin D	600 IU	600 IU
Vitamin E	15 mg	15 mg
Copper	900 µg	1000 µg
Iodine	150 µ	220 µg (+47%)
Iron	18 mg	27 mg (+50%)
Selenium	55 µg	60 µg
Zinc	8 mg	11 mg (+38%)

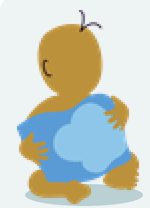
Slide Adopted from Healthy Mothers Healthy Babies Consortium MMS Training Guide
Sources: Institute of Medicine reports on Dietary Reference Intakes for each nutrient (http://fnic.nal.usda.gov/dietary-guidance/dietary-referenceintakes/dri-nutrient-reports)

Micronutrient deficiencies result in poor pregnancy and birth outcomes consequences across a woman's life course



- Short stature
- Impaired cognitive development
- Anemia and other micronutrient deficiencies
- Fatigue & impaired well-being
- Impaired productivity & school performance
- Low pre-pregnancy BMI
- Lower income

- Obstructed/prolonged labour
- Eclampsia & pre-eclampsia
- Maternal mortality



Consequences for infants and children:

- Low birthweight, small-for-gestational age
- Pre-term birth, stillbirth
- Spina bifida, congenital defects
- Child mortality and morbidity
- Poor post-natal physical and cognitive growth and development

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS

Sources: Gernand et al. 2016. Micronutrient deficiencies in pregnancy worldwide: Health effects and prevention. Nature Publishing Group.

Aviram et al. 2011. Maternal obesity: implications for pregnancy outcome and long-term risks-a link to maternal nutrition. Int J Gynaecol Obstet.

Darnton-Hill et al (2015)

Interventions to improve micronutrient nutrition in pregnant women

In order to address micronutrient malnutrition in the general population, World Health Organization (WHO) and the Food and Agricultural Organization of the United Nations (FAO) suggest:

1. nutrition education leading to increased diversity and quality of diets;
2. food fortification and biofortification;
3. disease control measures; and
4. supplementation

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS

Interventions to improve micronutrient nutrition in pregnant women

Challenges associated with these strategies:

- Food fortification is a long-term measure used to tackle nutritional deficiencies in the general population, and therefore may not cover the increased micronutrient needs of pregnant women
- Nutrition education using local foods can be challenging because even optimized local diets are likely to be insufficient to meet the high nutritional requirements of pregnancy

For example, in order to reach the recommended daily intake of 27mg of iron for a pregnant woman, she would need to consume:

- 4.5 cups of boiled lentils, OR
- 5.5 portions (3oz) of beef liver

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS

Sources: https://ods.od.nih.gov/factsheets/Iron-HealthProfessional/ https://www.maxpixel.net/India-Asian-Daal-Dal-Bowl-Toor-Dal-Dhal-Toor-1740205 When food-based solutions are not practical, supplementation can help

Introduction to MMS

Multiple micronutrient supplementation (MMS) has emerged as a more effective solution for micronutrient deficiencies in pregnancy compared to IFA

MMS is a strong substitute for IFA for pregnant women

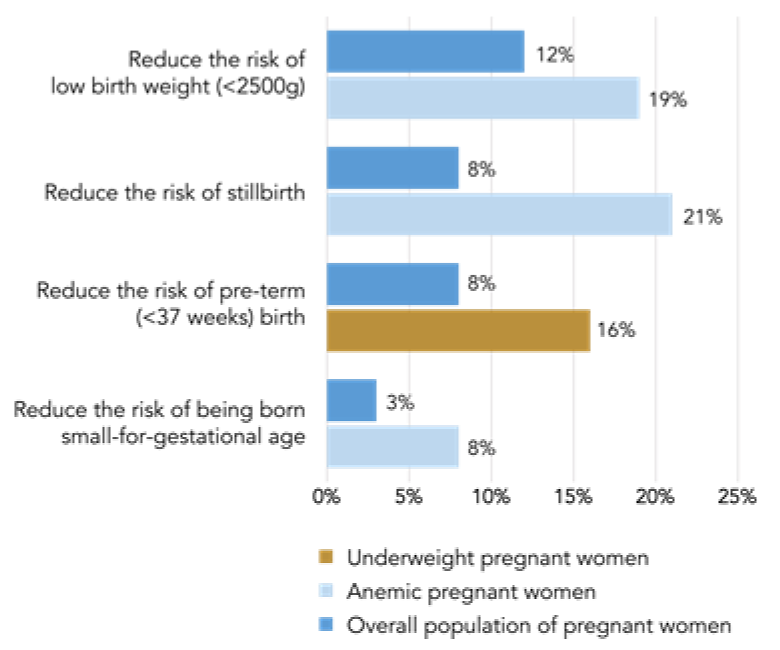
- **In place of IFA supplementation, pregnant women can take multiple micronutrient supplementation (MMS) -** one pill a day - from the first identification of pregnancy/antenatal care visit for the duration of pregnancy (~180 days).
- **UNIMMAP MMS contains 15 vitamins and minerals, including iron and folic acid, in recommended doses.** The formulation was developed in 1999 through a collaboration between WHO, the United Nations University, and UNICEF, and then tested rigorously through RCTs for safety and effectiveness. **In 2021, it was added to the WHO EML[1] and has been added to Nigeria's EML.**

UNIMMAP MMS composition*	
Vitamin A	800 µg
Vitamin D	200 IU
Vitamin E	10 mg
Vitamin C	70 mg
Thiamine (Vit B1)	1.4 mg
Riboflavin (Vit B2)	1.4 mg
Niacin (Vit B3)	18 mg
Vitamin B6	1.9 mg
Folic Acid (Vit B9)	400 µg
Vitamin B12	2.6 µg
Copper	2 mg
Iodine	150 µg
Iron	30 mg
Selenium	65 µg
Zinc	15 mg

**United Nations International Multiple Micronutrient Antenatal Preparation Multiple Micronutrient Supplementation (UNIMMAP MMS)*
Note: for brevity, the term MMS will be used moving forward

Sources: 1. MMS TAG and the Micronutrient Forum (2020)

More than 15 RCTs have been analyzed from LMICs and meta-analyses confirm MMS is effective, significantly improving birth outcomes.



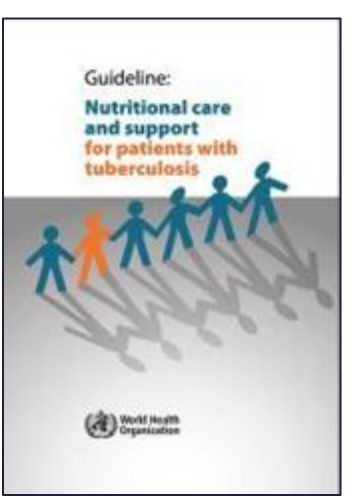
MMS reduces the risk of **LBW, stillbirth, preterm birth and SGA, particularly for anemic and underweight pregnant women.** Evidence shows MMS with 30 mg iron is just as effective at preventing maternal anemia as IFA with 60 mg iron.[3]

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS
Sources: 1. Keats et al. 2019; 2. Smith et al. 2017; 3. Gomes et al. 2022

Global guidance supports MMS in various settings. MMS was added to the WHO ANC guidelines in 2020 as a context-specific recommendation.

In emergency situations:

For patients with tuberculosis:



In the context of rigorous research:

WHO recommendation 2020:
Antenatal multiple micronutrient supplements that include iron and folic acid are recommended in the context of rigorous research.
Research includes:

- Controlled clinical trials
- Where MMS programs are being considered, **implementation research** to establish the impact of switching from IFA supplements to MMS, including evaluation of acceptability, feasibility, sustainability, equity and cost-effectiveness

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS
Sources: Bloem et al, 2007. Preventing and controlling micronutrient deficiencies in populations affected by an emergency. WHO, WFP, UNICEF.
WHO. 2013. Guideline: Nutritional care and support for patients with tuberculosis. World Health Organization.
WHO. July 2020. Nutritional interventions update: multiple micronutrient supplements during pregnancy. World Health Organization.
WHO. 2021. World Health Organization Model List of Essential Medicines. World Health Organization.

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National Guidelines on Nutrition in Pregnancy

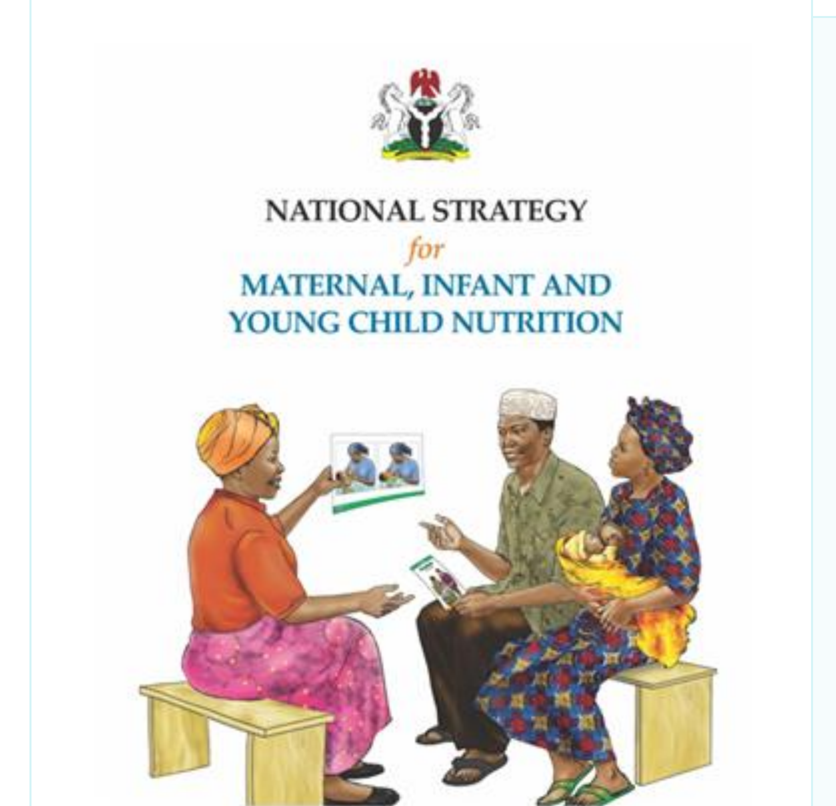
National

National Guidelines on Micronutrients Deficiencies Control in Nigeria

FEDERAL MINISTRY OF HEALTH

NATIONAL GUIDELINES ON MICRONUTRIENT DEFICIENCIES CONTROL IN NIGERIA

FEDERAL MINISTRY OF HEALTH
DEPARTMENT OF FAMILY HEALTH
NUTRITION DIVISION
ABUJA, NIGERIA
2013



National Guidelines on Nutrition in Pregnancy

VALIDATED COPY

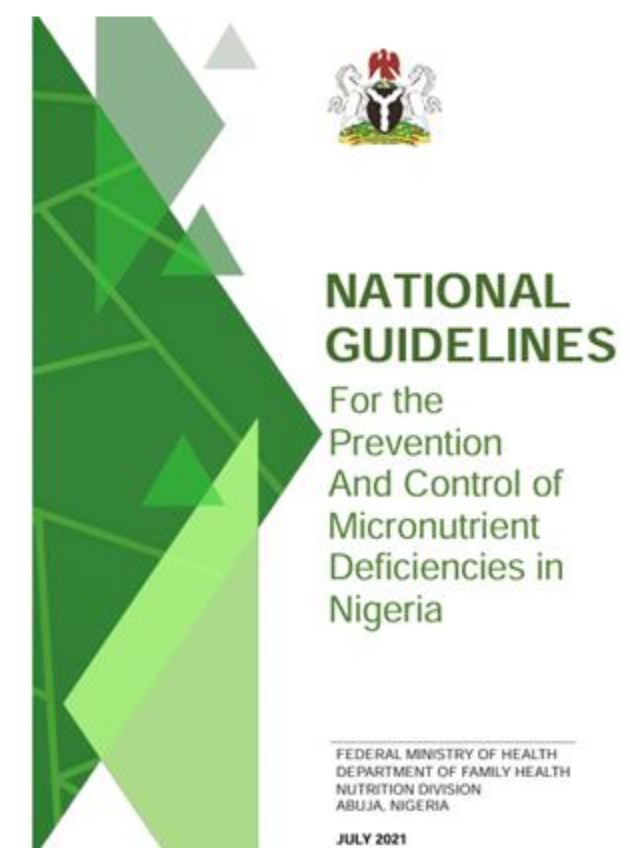
HEALTH SECTOR COMPONENT OF NATIONAL POLICY ON FOOD AND NUTRITION

NATIONAL STRATEGIC PLAN OF ACTION FOR

NUTRITION

(2021 - 2025)

September 2021



evidence action

Side Effects of MMS

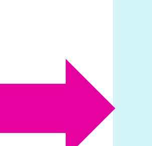
When compared to IFA, MMS is found to have no significant difference in side effects for pregnant women

- Available data show no significant differences in side effects between IFA and MMS in 6 trials
- Women often report to have less symptoms when taking MMS compared to IFA

It is important for to know the common side effects of MMS to counsel pregnant women on what to expect when taking MMS.

Most common side effects of MMS:

- Nausea
- Diarrhea
- Constipation
- Black stools



Recommendations for managing side effects from MMS:

- Take MMS with meals
- Eat plenty of fruits and vegetables while taking MMS

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS

Guidelines on the use of MMS in Pregnancy

evidence action

Distribution of MMS

Protocol for Distribution:

- **1 MMS bottle with 180 tablets to be provided to all pregnant women at their first antenatal care visit/contact**
- After the pregnant woman has been tested for anemia, she will be offered a bottle of MMS instead of IFAS (if she is not found to be severely anemic).
- The MMS will be provided in an unopened bottle of 180 tablets.
- MMS will be provided free of cost to pregnant women

MMS Regimen:

- **1 MMS tablet per day starting from their first ANC visit/contact, continuing daily throughout the entire pregnancy.**
- The MMS tablet should be swallowed with a glass of clean water. It should not be chewed or crushed, should not be taken with tea or coffee and should not be consumed with calcium or calcium-rich foods (like milk) as they can decrease the absorption of iron in the body.
- If the pregnant woman forgets to take her MMS tablet, she should resume her regular regimen by taking one tablet per day. It is important not to exceed the recommended daily dosage, meaning she should not take two tablets the following day to compensate for the missed dose.
- The MMS bottle should be kept away from direct sunlight, heat and moisture, in a dry and secure location and out of reach of children.

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS

Counseling for Pregnant Women

Healthcare professionals have a crucial role in assessing and reinforcing compliance to MMS through group counseling sessions.

It is also recommended that dedicated 1:1 counseling be provided for all first time ANC attendees.

Group and 1:1 counseling sessions should contain information on:

- General information on MMS
- Benefits of MMS for mother and benefits for child
- Recommended dosing of MMS
- Recommended time to take and recommended manner of taking MMS
- Potential side effects of MMS
- What a pregnant women should do if she forgets to take MMS
- Strategies or interventions for remembering to take MMS daily

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS

evidence action

Counseling for Pregnant Women

When counseling pregnant women, it is important to understand the causes for a client's poor compliance, and follow this by appropriate advice.

Poor compliance may be due to:

- Side effects
- Lack of knowledge or misconceptions
- Forgetfulness

Side Effects

- Educate on potential side effects from MMS
- Provide strategies for correct consumption

Lack of Knowledge or Misconceptions

- Utilize provided flip chart to provide counseling on MMS benefits and regime to all pregnant women at first contact visit
- Provide 1:1 counseling to pregnant women on MMS if capacity allows

Forgetfulness

- Counsel women to take MMS with meals or at the same time each day, as a way to remember to take the supplement
- If the facility is distributing paper calendars, provide calendar reminders to all pregnant women at first contact visit

Slide Adopted from Healthy Mothers Healthy Babies Consortium Overview of MMS

Role Play

Activity 2
Counseling and reporting Adverse Events

Adverse Event Monitoring

An adverse drug reaction (ADR) is a response to a medicine that is harmful and unintended, and which occurs at doses normally used for the prevention, diagnosis, or treatment of diseases, or the modification of physiological function.

NATIONAL PHARMACOVIGILANCE CENTRE (NPC) NIGERIA

Patient reports an adverse drug reaction or side effect to the health worker

Mild/minor side effects that are known. For example, nausea, diarrhea, constipations, mild stomach cramps

Counsel and reassure. Continue taking the medicine

Severe adverse event

Stop the medication, visit the state NAFDAC office, and fill out an ADR yellow form

You can also download the Med Safety app on Android or App Store, and report on the App.

Guidelines on Anemia Testing and Management in Pregnancy

Anemia Testing Protocol

All ANC attendees are to be **tested** for anemia at the following visits:

- First-contact ANC visit (typically ~12 weeks gestation age)
- Gestation age of 26 weeks
- Gestation age of 36 weeks

Women **diagnosed with anemia (mild, moderate and severe) are to be tested for anemia at all follow-up visits** until Hb levels return to normal.

Symptom screening **should not** be used to determine eligibility for anemia testing; all pregnant women should be tested regardless of symptoms at the three recommended visits.

Clinical Features of Anemia

Pregnant women should also be screened for signs and symptoms of anemia at every visit. If a patient exhibits signs and symptoms, anemia testing should be conducted, even if the visit falls outside of the three recommended visits for anemia testing.

SYMPTOMS

- Malaise
- Tiredness
- Weakness
- Dizziness
- Breathlessness on mild exertion
- Fainting attack
- Anorexia
- Cold feet and hands
- Rapid heart rate

SIGNS

- Pallor (conjunctiva , tongue, gums, nail beds, palms and soles of feet)
- Hepatomegaly (enlarged liver)
- Splenomegaly (enlarged spleen)
- Pedal edema (swollen feet and ankles)

Anemia Testing Protocol

Anemia testing should be conducted through by conducting a full-blood count (FBC).

The following g/DL cutoffs[1] from the WHO should be used to determine the severity of anemia:

	Hemoglobin concentration (g/dL)			
	No anemia	**Mild anemia**	**Moderate anemia**	**Severe anemia**
First trimester	≥ 11.0	10.0-10.9	7.0-9.9	<7.0
Second trimester	≥ 10.5	9.5-10.4	7.0-9.4	<7.0
Third trimester	≥ 11.0	10.0-10.9	7.0-9.9	<7.0

Sources: [1] WHO Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity

Anemia Testing Protocol

If FBC testing is not possible at the facility, point of care testing by hemoglobinometer or packed cell volume/hematocrit testing should be conducted.

The following %s should be used to determine the severity of anemia if only PCV test can be conducted. This is based on a 1:3 conversion factor for Hb:PCV.

	Hemoglobin concentration (PCV %s)			
	No anemia	**Mild anemia**	**Moderate anemia**	**Severe anemia**
First trimester	≥ 33%	30 - 32.9 %	21 - 29.9%	< 21%
Second trimester	≥ 31.5%	28 - 31.4%	21 - 27.9%	< 21%
Third trimester	≥ 33%	30 - 32.9 %	21 - 29.9%	<21%

Anemia Management Protocol

When a pregnant woman is found to be anemic the following treatment protocol should be followed:

	Therapeutic Treatment of Anemia
Mild anemia	Patient is to take 90 mg of iron total comprised of 1 MMS tablet (30 mg of iron) + 1 iron-only or IFA-combination tablet (60 mg of iron) until Hb levels return to normal. If Hb levels do not return to normal by the next screening, increase the daily dose of iron to 120mg.
Moderate anemia	Patient is to take 90 mg of iron total comprised of 1 MMS tablet (30 mg of iron) + 1 iron-only or IFA-combination tablet (60 mg of iron) until Hb levels return to normal. If Hb levels do not return to normal by the next screening, increase the daily dose of iron to 120mg.
Severe anemia	Urgent referral is needed to: ● Transfuse with packed cells, if necessary ● Treat for any heart failure that has resulted from severe anaemia ● Manage as for severe/complicated malaria, if malaria is diagnosed. ● Treat for hookworm, if in endemic area

Distribution of Top-up Iron Dosage

Pregnant women should be counseled to take the 1 daily tablet of iron-only or combination IFA according to the standard guidelines and procedures for IFA supplementation.

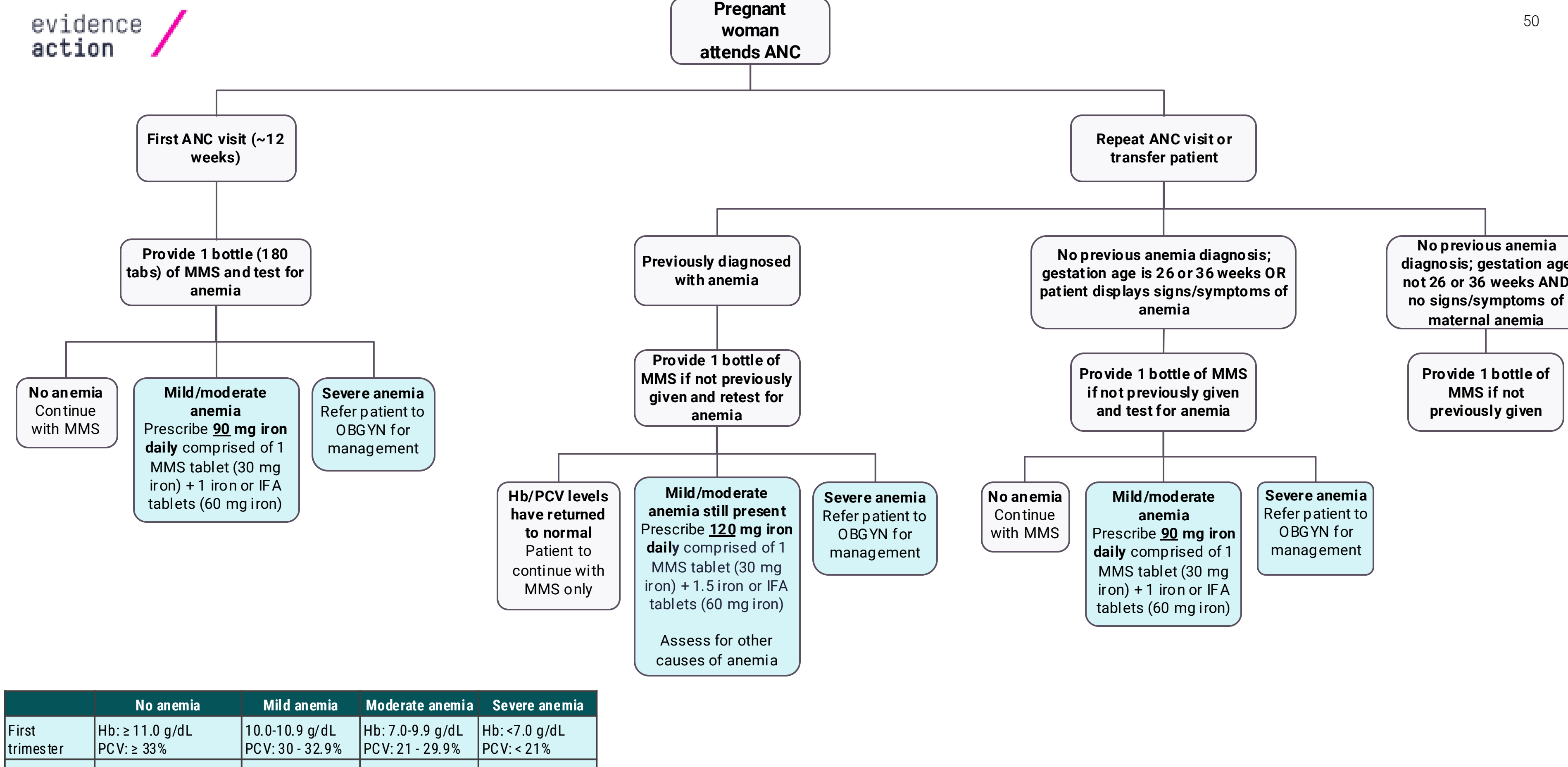
If Hb levels do not return to normal by the next screening, pregnant women should be counseled to take 1.5 tablets daily of iron-only or combination IFA (with 60 mg iron) according to the standard guidelines and procedures for IFA supplementation.

It is recommended that pregnant women be distributed the amount of iron-only or combination IFA **to cover them until their next planned ANC visit.**

Recommended ANC Schedule	
First trimester	Contact 1: up to 12 weeks
Second trimester	Contact 2: 20 weeks Contact 3: 26 weeks
Third trimester	Contact 4: 30 weeks Contact 5: 34 weeks Contact 6: 36 weeks Contact 7: 38 weeks Contact 8: 40 weeks
Return for delivery at 41 weeks if not given birth	

Group Work

Case Scenarios
Anemia Testing and Management in Pregnancy

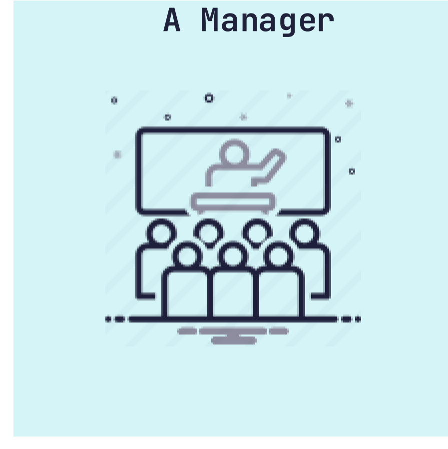


	No anemia	Mild anemia	Moderate anemia	Severe anemia
First trimester	Hb: ≥ 11.0 g/dL PCV: ≥ 33%	10.0-10.9 g/dL PCV: 30 - 32.9%	Hb: 7.0-9.9 g/dL PCV: 21 - 29.9%	Hb: <7.0 g/dL PCV: < 21%
Second trimester	Hb: ≥ 10.5 g/dL PCV: ≥ 31.5%	9.5-10.4 g/dL PCV: 28 - 31.4%	Hb: 7.0-9.4 g/dL PCV: 21 - 27.9%	Hb: <7.0 g/dL PCV: < 21%
Third trimester	Hb: ≥ 11.0 g/dL PCV: ≥ 33%	10.0-10.9 g/dL PCV: 30 - 32.9%	Hb: 7.0-9.9 g/dL PCV: 21 - 29.9%	Hb: <7.0 g/dL PCV: < 21%

Role of Master Trainers for the MMS Pilot Program

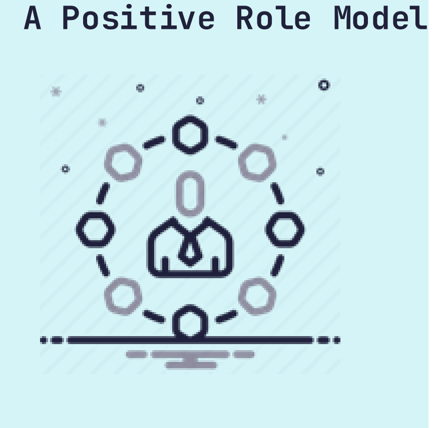
Who is a Master Trainer?

A Manager



A Problem Solvers

A Positive Role Model



Roles & Responsibilities of a Trainer

- Trainers are key personnel from the State Ministry of Health (SMoH), State Primary Healthcare Board (SPHCB), State Hospital Management Board (SHMB), Federal Ministry of Health (FMOH) etc.
- They serve as AMBASSADORS and CHAMPIONS for the MMS pilot program in their respective states.
- Trainers form an integral and critical component of the MMS pilot project and can determine whether the program succeeds or fails.
- They conduct trainings for frontline health workers at the LGA level on how to successful provide to pregnant women enrolled in the pilot program.
- They provide supportive supervision including mobilization of resources and capacity for the MMS pilot implementation.

MMS Data Reporting Tools

evidence action

Data Collection Objective

Data is being collected to answer the following key research questions related to the pilot:

IFA/MMS Coverage

1. What is the coverage rate of MMS among pregnant women at government ANC facilities?
2. What is the difference in IFA and MMS coverage rates, if any, among pregnant women at government ANC facilities before and after introducing MMS?

IFA/MMS Adherence

1. What is the adherence rate of MMS among pregnant women attending government ANC facilities?
2. What is the difference in IFA and MMS adherence rates, if any, among pregnant women at government ANC facilities between baseline and endline (i.e., before and after the introduction of the MMS pilot)?

Screening and Treatment of Mild to Moderate Anemia

1. What is the rate at which ANC patients are screened for anemia?
2. What proportion of ANC patients diagnosed with mild/moderate anemia receive iron treatment?
3. What is the adherence rate of therapeutic iron/IFA among pregnant women diagnosed with mild to moderate anemia?

Health Facility IFA/MMS Register

Based on the requirement listed above, the source document will be the Health Facility IFA/MMS adherence register. ALWAYS USE AN MMS NUMBER FOR ALL NEW ENROLLEES

Must Know!

- It is a cohort register
- Progressively collect data on adherence and uptake of MMS.
- Tracks Anemia status of enrolled pregnant women at every visit
- Designed to gather longitudinal data on IFA/MMS uptake and adherence in individual PWs for a maximum of eight (8) ANC visits

NATIONAL HEALTH MANAGEMENT INFORMATION SYSTEM
HEALTH FACILITY IFAS/MMS REGISTER

Must Know!

- Register is in Wide-Format, and to be use in 90 HF
- PWs are enrolled once for the period of the pregnancy
- Updated at each visit where IFAS/MMS was distributed
- Links the ANC registers to document routine ANC services provided with regards to IFA/MMS distribution

Link: MMS Register

Job aid for data generation and recording on the MMS register (+ Anemia Component)

Client A: 1ST ANC VISIT

Enroll Client A: Enter her details in both the ANC and MMS Register

Fill out Columns (6-14c) for Client A in the MMS Register. *(This should be done for ANC first Attendees)*

Write Client's MMS number on the top right corner of her ANC card and on the cap of MMS bottle/ Rx-Envelop (Format SEP-24-001 or SEP-2024-001)

In Column 11a, indicate as new with "N" on both registers

Client A: 2ND ANC VISIT

Enter her details afresh in the ANC Register but do not re-enter clients name in MMS Register.

Trace client name on the MMS Reg from her 1st visit using client MMS number on her ANC card

Enter details of services provided only in column 15a - 16d. (update the next section on the same row during her subsequent visits)

VISIT 2

Client A : 3RD ANC VISIT

Record details of clients visit in the ANC reg., and columns 17a - 18d only in the MMS Register

Client A : 4TH ANC VISIT

Record details of clients visit in the ANC reg., and columns 20a - 21d only in the MMS Register

Client A : 5TH ANC VISIT

Record details of clients visit in the ANC reg., and columns 22a - 23d only in the MMS Register

VISIT 3

Client A : 6TH ANC VISIT

Record details of clients visit in the ANC reg., and columns 24a - 25d only in the MMS Register

Client A : 7TH ANC VISIT

Record details of clients visit in the ANC reg., and columns 26a - 27d only in the MMS Register

Client A : 8TH ANC VISIT

Record details of clients visit in the ANC reg., and columns 28a - 29d only in the MMS Register

Continue till VISIT 8

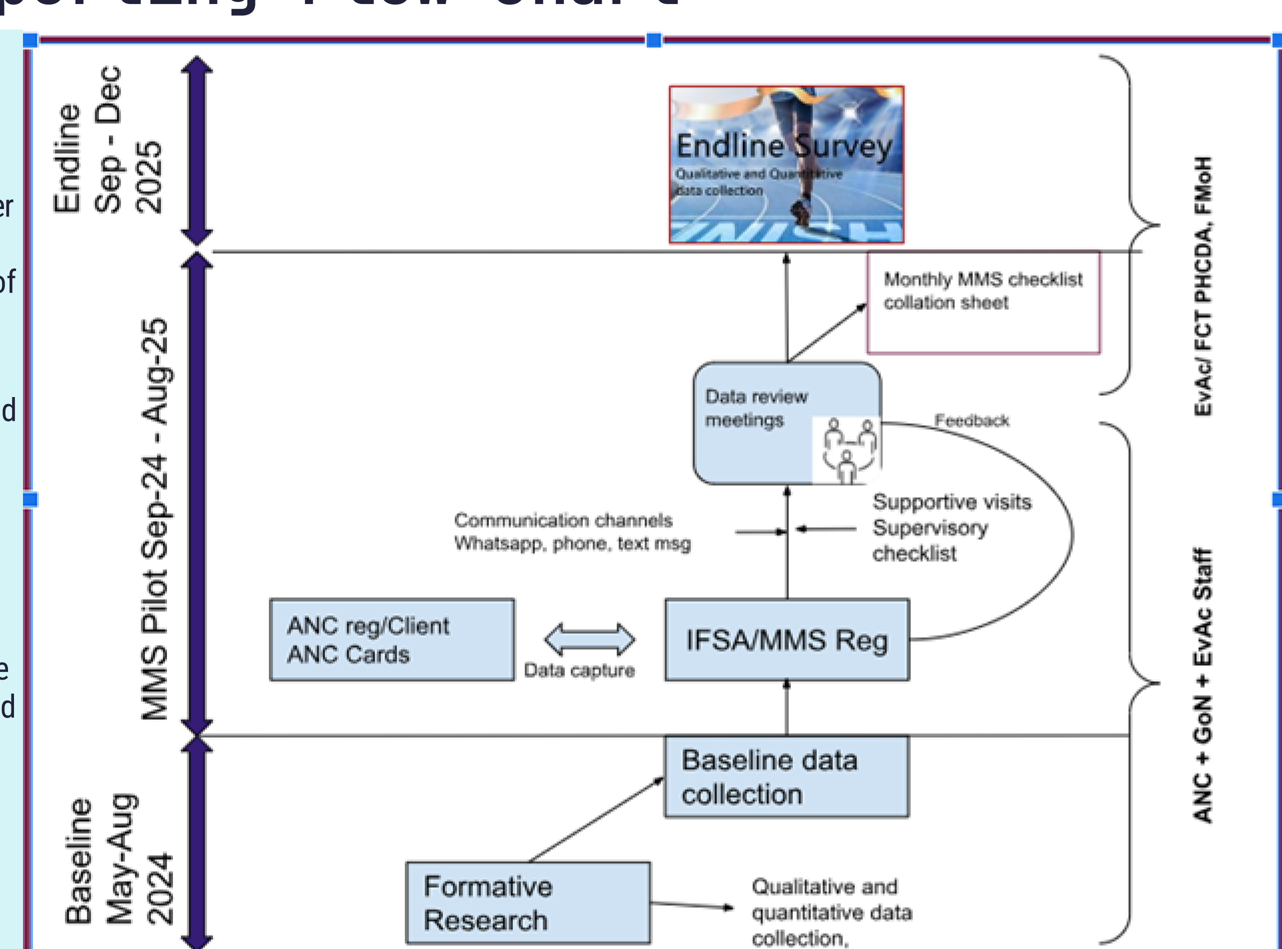
Pregnant Women should go screened for anemia by haematology/blood test at each visit

evidence action

Data Reporting Flow Chart

NOTES

- Source documents are the Clients ANC Cards/folders
- PW are enrolled in the MMS Register after conducting anemia screening and being provided services including distribution of IFAS/MMS
  - PW who are referred to another facility for anemia testing should be counseled to return to the facility with test results once completed
- Clients are given MMS numbers for easy identification during subsequent visits.
- Monthly data review meetings will double as both a capacity building, feedback and data extraction meeting.
- Routine supportive supervision will be conducted for on-the-job mentoring



Practical Session

Activity 3
Use of the MMS Register

evidence action

Consumption data reporting

MMS Consumption

Facilities will be provided kitchen scales and a pill counting conversion table to monitor consumption of MMS by pregnant women at every follow-up visits.

1. Identify if MMS bottle has desiccant pack still in bottle.
2. Weigh MMS bottle brought back to facility by pregnant woman.
3. Find weight according to the correct weight column for if the bottle still contains desiccant pack.
4. Note the corresponding amount of tablets remaining in bottle and subtract that amount from the amount distributed.

If a pregnant woman forgets her MMS bottle at a follow-up visit, record consumption by asking the patient how much they have consumed and note “Self Reported” on the register.

Bottle Weight - Pill Count Conversion Table

Weight of Bottle (g) (With Dessicant Pack)	Weight of Bottle (g) (Without Dessicant Pack)	# of Tablets	Weight of Bottle (g) (With Dessicant Pack)	Weight of Bottle (g) (Without Dessicant Pack)	# of Tablets	Weight of Bottle (g) (With Dessicant Pack)	Weight of Bottle (g) (Without Dessicant Pack)	# of Tablets	Weight of Bottle (g) (With Dessicant Pack)	Weight of Bottle (g) (Without Dessicant Pack)	# of Tablets	Weight of Bottle (g) (With Dessicant Pack)	Weight of Bottle (g) (Without Dessicant Pack)	# of Tablets	Weight of Bottle (g) (With Dessicant Pack)	Weight of Bottle (g) (Without Dessicant Pack)	# of Tablets
109	107	180	97	95	150	85	83	120	85	83	90	73	71	60	73	71	30
108.6	107	179	96.6	95	149	84.6	83	119	84.6	83	89	72.6	71	59	72.6	71	29
108.2	106	178	96.2	94	148	84.2	82	118	84.2	82	88	72.2	70	58	72.2	70	28
107.8	106	177	95.8	94	147	83.8	82	117	83.8	82	87	71.8	70	57	71.8	70	27
107.4	105	176	95.4	93	146	83.4	81	116	83.4	81	86	71.4	69	56	71.4	69	26
107	105	175	95	93	145	83	81	115	83	81	85	71	69	55	71	69	25
106.6	105	174	94.6	93	144	82.6	81	114	82.6	81	84	70.6	69	54	70.6	69	24
106.2	104	173	94.2	92	143	82.2	80	113	82.2	80	83	70.2	68	53	70.2	68	23
105.8	104	172	93.8	92	142	81.8	80	112	81.8	80	82	69.8	68	52	69.8	68	22
105.4	103	171	93.4	91	141	81.4	79	111	81.4	79	81	69.4	67	51	69.4	67	21
105	103	170	93	91	140	81	79	110	81	79	80	69	67	50	69	67	20
104.6	103	169	92.6	91	139	80.6	79	109	80.6	79	79	68.6	67	49	68.6	67	19
104.2	102	168	92.2	90	138	80.2	78	108	80.2	78	78	68.2	66	48	68.2	66	18
103.8	102	167	91.8	90	137	79.8	78	107	79.8	78	77	67.8	66	47	67.8	66	17
103.4	101	166	91.4	89	136	79.4	77	106	79.4	77	76	67.4	65	46	67.4	65	16
103	101	165	91	89	135	79	77	105	79	77	75	67	65	45	67	65	15
102.6	101	164	90.6	89	134	78.6	77	104	78.6	77	74	66.6	65	44	66.6	65	14
102.2	100	163	90.2	88	133	78.2	76	103	78.2	76	73	66.2	64	43	66.2	64	13
101.8	100	162	89.8	88	132	77.8	76	102	77.8	76	72	65.8	64	42	65.8	64	12
101.4	99	161	89.4	87	131	77.4	75	101	77.4	75	71	65.4	63	41	65.4	63	11
101	99	160	89	87	130	77	75	100	77	75	70	65	63	40	65	63	10
100.6	99	159	88.6	87	129	76.6	75	99	76.6	75	69	64.6	63	39	64.6	63	9
100.2	98	158	88.2	86	128	76.2	74	98	76.2	74	68	64.2	62	38	64.2	62	8
99.8	98	157	87.8	86	127	75.8	74	97	75.8	74	67	63.8	62	37	63.8	62	7
99.4	97	156	87.4	85	126	75.4	73	96	75.4	73	66	63.4	61	36	63.4	61	6
99	97	155	87	85	125	75	73	95	75	73	65	63	61	35	63	61	5
98.6	97	154	86.6	85	124	74.6	73	94	74.6	73	64	62.6	61	34	62.6	61	4
98.2	96	153	86.2	84	123	74.2	72	93	74.2	72	63	62.2	60	33	62.2	60	3
97.8	96	152	85.8	84	122	73.8	72	92	73.8	72	62	61.8	60	32	61.8	60	2
97.4	95	151	85.4	83	121	73.4	71	91	73.4	71	61	61.4	59	31	61.4	59	1

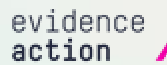
Iron- only or IFA Consumption

Facilities should evaluate consumption of iron-only or IFA-combination tablets either through patient self reporting or through pill counts.

Note which method was used to verify consumption of iron or IFA in the register.

Data Collection Objective

Outcome	Definition	Data Requirements
Coverage	Percentage of pregnant women attending government ANC facilities initiated on IFA	# of PW attending ANC visits # of PW attending ANC visits initiated on IFA
Coverage	Percentage of pregnant women attending government ANC facilities initiated on MMS	# of PW attending ANC visits # of PW attending ANC visits initiated on MMS
Coverage (anemia screening)	Percentage of pregnant women attending government ANC facilities screened for anemia	# of PW attending ANC visits screened for Anemia # of PW attending ANC visits
Coverage (prophylactic MMS)	Percentage of non-anemic pregnant women attending government ANC facilities provided a full 180-ct MMS bottle on initiation	# of PW attending ANC visits # of PW attending ANC visits provided a full 180-ct MMS bottle on initiation
Coverage (therapeutic MMS + iron-only or IFA-combination tablets with 90mg of iron)	Percentage of pregnant women diagnosed with mild to moderate anemia who receive therapeutic MMS + iron-only or IFA-combination with 90mg of iron	# of PW diagnosed with mild to moderate anemia who receive therapeutic MMS + iron-only or IFA-combination tablets # of PW diagnosed with mild to moderate
Adherence	Average consumption of IFA among pregnant women attending government ANC facilities	# of IFA tablets consumed by all PW attending ANC visits # of PW attending ANC visits
Adherence (prophylactic MMS)	Average consumption of MMS among pregnant women attending government ANC facilities	# of MMS tablets consumed by all PW attending ANC visits who were provided a full 180-ct MMS bottle on initiation # of PW attending ANC visits provided a full 180-ct MMS bottle on initiation
Adherence (therapeutic MMS + iron-only or IFA-combination tablets with 90mg of iron)	Average rate of consumption of therapeutic IFA among pregnant women diagnosed with mild or moderate anemia	# of therapeutic IFA tablets consumed by PW diagnosed with mild to moderate anemia who received therapeutic IFA # of PW diagnosed with mild to moderate anemia who receive therapeutic IFA



Introduction to the MMS Adherence Packages

Adherence Packages

Two different adherence packages used in the pilot.

Facilities will be assigned either package #1 or package #2 for the pilot.

Package #1:

- Counseling Flipcharts
- eHealth/ SMS Reminders
- Phone Alarm Reminders
- Paper Calendar Reminders

Package #2:

- Counseling Flipcharts
- eHealth/ SMS Reminders
- Phone Alarm Reminders

MMS Adherence Counseling Flipcharts

What is it?

- The counseling flipchart is a tool to assist health workers provide counseling support to pregnant women about the benefits of MMS and adequate nutrition required for a healthy mother and healthy baby during ANC visits.
- Each flip chart represents a key message to be discussed with the pregnant women at the facility.

In-practice:

- During the 1:1 or group session, the flip chart will be used to guide the discussion and encourage the timely adoption of one or two key practices or behaviours that have been identified and prioritized.

evidence action

MMS eHealth/ SMS Reminders

What is it?

- A cost-effective behavioural change intervention targeting pregnant women with informative, educational and motivational messages on MMS.
- This is a mobile-based reminder system aimed at improving MMS uptake and compliance and the overall wellbeing of pregnant women.
- Pregnant women will receive short messages, usually of 90 -160 characters on the **"5 Ws and 1 H"** of maternal nutrition in the context of MMS uptake and adherence.
- Messages will be sent once or twice a week in the morning (around breakfast time)

In practice:

- Health workers will collate the contact number(s) of pregnant women or their husband/ partners to be enrolled.
- A general consent will be obtained from pregnant women attending ANC.

Phone Alarm Reminders

What is it?

- A cost-effective behavioural change intervention to help pregnant women remember to take their MMS at a specified time during the day.
- This is a mobile-based reminder system aimed at improving MMS uptake and compliance and the overall wellbeing of pregnant women.
- Pregnant women with phones will set an alarm on their phone for a particular time of day when they want to daily take their MMS.

In practice:

- Health workers will help pregnant women set up the alarm reminder on their phones (for the pregnant women who have phones and have brought them to the appointment).

MMS Paper Reminders for Pregnant Women

What is it?

- A behavioural change intervention that serve as visual reminders to promote MMS adherence.
- Paper reminders serves as a visible reminder to the pregnant women and/or her partner for her daily consumption of MMS.
- Annual calendar (12 months) with pictorials and educational messages on adequate maternal nutrition including the importance of MMS during pregnancy.

In-practice:

- Paper calendendars to be distributed to every pregnant women attending ANC for the first time.

Guidelines on MMS Stock Management and Coordination

evidence action

Why Proper Stock Management?

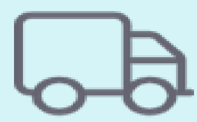
Prevent Stock-Out: Effective stock management ensures a consistent supply of MMS, avoiding disruptions in distribution and delivery.

Reduce Waste: Proper handling, careful monitoring of inventory levels and expiration dates minimizes the risk of MMS wastage and account for every drug provided.

Optimize Cost: Proactive planning and forecasting help manage procurement costs and maintain a cost-effective and sustainable program.

evidence action

MMS Pilot Product Logistics & Stock Management

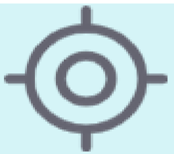


Logistics & Warehouse

- MMS will be moved from the state store to the LGAs and facilities for distribution.
- Logistics support will be provided for movement of MMS to the facilities.

Packaging

- The UNIMMAP MMS is packed in bottles containing 180 tablets, to be stored at 18 - 30°C. Each tablet contains 15 vitamins and minerals.
- **Bottle weight (BW)** is used to determine the monthly supply consumption rate.



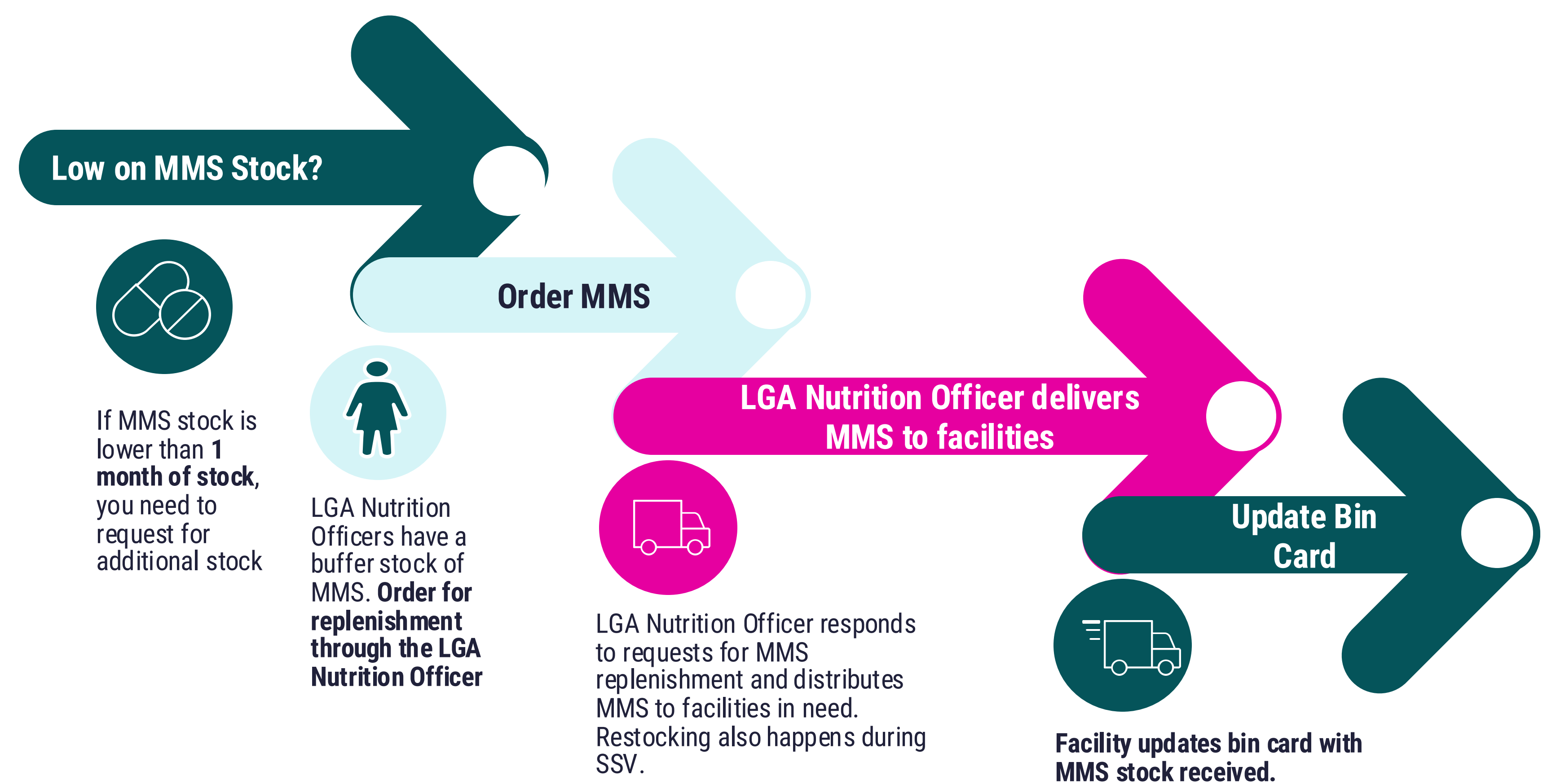
Distribution Point

- **Nutrition Focal Persons** will serve as the distribution points.
- LGA level distribution channels to be used is the **monthly review meetings**.

Stock Management

- **Facility stock/ Bin cards** will be used to record stock in and out in the facility.
- The MMS **supervisory checklist** will be used to provide guidance and support to HWs

MMS Pilot Stock Replenishment



MMS Supportive Supervision

MMS Pilot Supportive Supervision

WHO recommends that supportive supervision should be conducted at least a minimum of once a monthly or within four weeks after training to determine whether the trained health worker is able to use the knowledge and skills effectively.

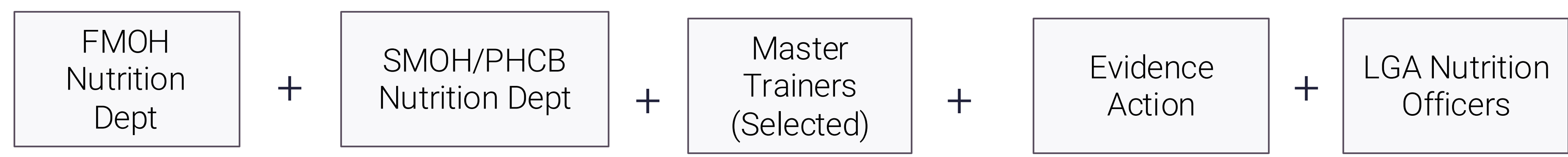
For the MMS Pilot:

- Supportive supervision will be conducted **monthly first then bi-monthly**, using a checklist to document **agreed action plan** for follow up
- Master trainers constitutes a major part of the supervision team.
- An essential component of the supportive supervision and mentoring visit is to provide **constructive feedback and on-the-job coaching** of the health worker's performance as well as a discussion of how to overcome any difficulties or challenges being faced.
- Follow-up **data review meetings** with facility health workers conducting nutrition counseling during ANC, will be used to reinforce skills, share experiences, and provide mutual support.
- Using a **supervision checklist**, supervisors/ trainers will reinforce best practices provide on-the-spot refresher training, as needed.

evidence action

MMS Supportive Supervision

Team Composition and schedule



FMOH: Support SSVs twice a year

SMOH/PHCB: Monthly first then bi-monthly and then quarterly visits to facilities

Master Trainers: Selected master trainers will join personnel from the SMOH/PHCB to conduct scheduled SSVs

Evidence Action; Evidence Action staff will join the SMOH/PHCB and master trainers on scheduled SSVs

LGA Nutrition Officers: Officers will conduct routine SSVs in addition to joining the other teams for scheduled supportive supervisory visits

Guide to Conducting Supportive Supervision

Planning a Supportive Supervision Visit:

- Prepare the materials required for the visit such as trainers manual, supportive supervision checklist, MMS commodity etc.
- Develop your supportive supervision and mentoring plan outlining visit date, location and health facilities to visited
- Contact selected facilities, agree and finalize visit plans
- Make logistic arrangement and arrive on time.

During the Visit:

- Fill out questionnaire provided on DHIS2, review registers for correctness and completeness, and observe the health worker facilitate MMS 1:1 and/ or group counseling sessions with pregnant women
- Provide on-the-job coaching and other additional support to health workers who are experiencing difficulties during your visit.
- Supervisors should set some time aside to review and discuss their performance to standards that are outlined in the supervision checklist, and provide constructive feedback on both the strong points, areas of improvement and document action point with agreed timelines.

Points to Note:

- Ideally, supportive supervision or mentoring is part of routine monitoring activities. Therefore, the first visit will be used to determine whether the trained health workers are using their knowledge and skills gained to effectively adhering to best practices.
- Supervisors should be able to provide constructive feedback on health worker's performance, and even provide on-the-spot refresher training as needed.
- Low performing facilities may be given more attention and time during the follow up visit and agreement reached on where and how to improve.

Summary of the MMS Supervisory Checklist

MMS Training

Review focuses on:
- Health workers training attendance.
- Check for the HWs knowledge gained on MMS training: benefits of MMS, side effects, dosage, MMS distribution etc. (refer to checklist), anemia testing protocol, and anemia management protocol

MMS Register Data Checks

Review focuses on:
- Anemia testing rates
- The availability and usage of IFA/ MMS in the facility
- IFA/ MMS consumption and distribution to PW
- Review the registers for data correctness and completeness (refer to the checklist for indicators).

MMS Counseling

Review focuses on:
- The availability of behavioural change materials - MMS counseling flipcharts, IEC materials etc. in the facility?
- Types of counselling provided, duration, and counselling scope

Stock Management

Review focuses on:
- The availability of MMS Bin or stock cards in the facility
- MMS stock in and out data review, identify staff responsible for data entry
- Distribution practices in the facility.

Agreed Action Plan: *To be completed by the Supervisor and HW, after every site supervisory visit and will form the basis for the next review.*
- Clearly outline all gaps identified and agree on next steps for resolution
- Provide the necessary support to the HW where necessary
- During every site visit, review action plan and close “resolved action plans”
- Each supervisor will leave a paper copy of the action plan at the facility for reference and follow-up.

evidence action

Guide to using the SSV Tool

- The tool is in electronic form while a copy of the Facility Action Plan will be in paper form. The paper Action Plan section of the paper form is to be left behind at the facility for their reference.
- There are **eight sections** in the SSV tool is to be completed during each visit to the pilot facility.
- It is important to complete every section during each visit.
- Regardless of when the last visit was conducted, the SSV form will be looking at only the prior full month of data.
- For **indicators (Column A)** measured as %s, first fill out ***column C-Denominator****)* and then fill out ***column B-Numerator****) where appropriate*. Then use these numbers to calculate the **% value, D.**
- At the end of each section, rate the performance of that section 1, 2, or 3. (**1 - Poor performance with many issues**, **2 - Adequate with some issues**, **3 - Great with few to no issues).**
- Complete the electronic action plan section and leave the facility the paper copy of the action plan behind as a reference point for the next visit.

Activity 4
Practical Session on completing the Supportive Supervisory Form

Post-test - 15 mins