Somalia Case Study

Multiple Micronutrient Supplements in Humanitarian Emergencies

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Contents

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Executive summary

Somalia has been in a state of protracted crisis for many years, characterised by a complex political environment, extreme poverty, food insecurity, conflict and instability. In recent years, Somalia has faced devastating drought emergencies, mainly as a result of reduced rainfall in most parts of the country. In some areas, escalated insecurity in recent years has resulted in new waves of displacements. Alongside drier than normal conditions that reduce milk availability below normal levels, as well as the recent food price rises, the deteriorating security situation has aggravated the already-poor nutrition situation.

Multiple Micronutrient Supplements (MMS) programming has been included as part of antenatal care (ANC) services in Somalia since the launch of the 2014 National Micronutrient Deficiency Control Strategy.

MMS programming has also been included in the national Maternal, Infant, Young Child & Adolescent Nutrition (MIYCAN) strategy. Somalia has 74 districts in total, of which 69 are labelled 'accessible' and the national MIYCAN programme is active in all 69 accessible districts. While geographic coverage of MMS through the MIYCAN programme is therefore high, population coverage of women reached with any kind of ANC services remains low at 31%. The MMS supply chain has been reasonably stable under UNICEF's management and the distribution system established both through health facilities and community platforms, where staff and resources allow, works well. There were, however, some MMS supply breaks through 2023 due to funding challenges, with UNICEF working with government on resource mobilisation to help address these.

An earlier strategy (the Somalia National Micronutrient Deficiency Control Strategy 2014-2016), dedicated to micronutrient deficiency control in Somalia, did feature the use of MMS for pregnant and breastfeeding women as one of the priority interventions to be implemented under it and referred to the joint United Nations 2007 recommendations on MMS in emergencies. It is unclear why MMS was not written into the updated (2020) national nutrition and linked strategies, but this does not appear to have affected its inclusion in ANC components of the national nutrition programme. That said, this omission is likely to have limited the development of clear programme guidance and protocols for the use of MMS, both of which need considerable improvement. There is now work ongoing that will help with this, including an update to the Reproductive, Maternal, Neonatal, Child and Adolescent Health Strategy 2020-2024 by the Ministry of Health and Human Services and the development of updated guidance for the current national MIYCAN programme.

Key informants suggested the primary reasons for the low population coverage of ANC services include the need for more financial resources and community-based staff who can access and mobilise women to increase demand for, and access to, these ANC services. If demand were to increase, however, key informants felt that ensuring supply can meet demand may be a challenge, particularly as current stocks are entirely donor/UNICEF dependent.

In summary, the key issues to address for scaling up MMS in Somalia include: the revision of national strategy and improving programme guidance to clarify the protocols for MMS within ANC provision; improving health worker motivation and understanding to prioritise nutrition and MMS within services for pregnant and breastfeeding women; increasing demand among women through more community mobilisation and improved access to ANC services; stabilisation of supply issues through support for buffer stocks of MMS at facility level; and more reliable and flexible funding support from donors for prevention of micronutrient deficiencies and poor pregnancy and birth outcomes.

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Introduction

In recent years there has been significant global momentum on progressing women's and adolescent girls' nutrition, led by governments, UN agencies, non-government organisations (NGOs), research institutions, the private sector and donors. Daily multiple micronutrient supplements (MMS), received through antenatal care (ANC) platforms, have received particular attention. The growing evidence base describing the effectiveness of MMS for birth and maternal outcomes, together with an increasing volume of documented learning about operational aspects from several implementation research pilots and a strongly supportive advocacy agenda, means that our understanding of the potential impacts of MMS when taken to scale is rapidly improving. However, there remain large knowledge gaps regarding what is happening (or not) with MMS programming for women and girls in humanitarian contexts.

To address this gap, Emergency Nutrition Network (ENN) developed a 'State of Play of MMS in Humanitarian Contexts', informed by a survey, two case studies (this one from Somalia and an accompanying one from Pakistan) and additional key informant interviews. In the 'State of Play' we provide a brief background to MMS, summarising the key evidence and policies, define how we describe humanitarian emergencies and summarise the humanitarian system for nutrition programming. We use the results of the survey to provide a snapshot of where MMS is being used in humanitarian emergencies and by whom. We then summarise the two case studies and pull together the key themes regarding overall barriers to, and opportunities of, use of MMS in humanitarian emergencies.

This standalone case study provides the full information on the use of MMS in nutrition programmes in Somalia, alongside key barriers and opportunities for future scale-up in the country.

Access the **'State of Play'** report and the accompanying case study from **Pakistan**.

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Methods

Somalia and Pakistan were selected as examples of two contrasting country contexts to illustrate key themes of MMS programming in humanitarian emergencies in depth. UNICEF headquarters introduced the ENN researcher team to the in-country UNICEF offices, who in turn then helped with the selection of key informants from relevant government, further UN, NGO and private sector contacts. An interview guide was developed (*Annex 1*) and used to guide conversations in both countries. Interviews lasted 45-60 minutes.

All interviews with key informants from Somalia were conducted remotely online. Key findings on barriers and opportunities were summarised by World Health Organization (WHO) health system building blocks (1). All key respondents provided oral consent for the interviews to be recorded for the purposes of note taking. Key respondents reviewed the final draft of the case studies to check for accuracy and to provide final consent for inclusion by name in the acknowledgements.

Photo credit: © UNICEF Somalia

Background

MMS

The formula of MMS recommended for use in pregnancy, and which therefore forms much of the evidence base, is the United Nations International Multiple Micronutrient Antenatal Preparation (UNIMMAP). UNIMMAP MMS are formulated to contain 15 micronutrients to contribute toward the recommended dietary intakes of pregnant and breastfeeding women (PBWs). When compared to iron-folic acid (IFA), MMS further reduces low birthweight (LBW) by 15%, stillbirth by 9%, pre-term birth by 4%, and small-for-gestational age deliveries by 7% (2). Compared to iron with or without folic acid MMS has similar benefits for preventing maternal anaemia (3). The 2023 Copenhagen Consensus Report underscores the considerable economic advantages of replacing IFA with MMS, estimating a return on investment of USD37 for every USD1 spent (4).

In 2007, the WHO, World Food Programme (WFP) and UNICEF issued a joint statement on preventing and controlling micronutrient deficiencies in populations affected by an emergency, including recommendations on the use of daily MMS for pregnant and breastfeeding women (PBW) (5). Since the 2007 joint statement, the recommendations have been implemented to varying degrees around the world.

Somalia context

Somalia has been in a state of protracted crisis for many years, characterised by a complex political environment, extreme poverty, food insecurity, conflict and instability. In recent years, Somalia has faced devastating drought emergencies, mainly as a result of reduced rainfall in most parts of the country. In some areas, escalated insecurity in recent years has resulted in new waves of displacements. Alongside drier than normal conditions that reduce milk availability below normal levels, as well as the recent food price rises, the deteriorating security situation has aggravated the already-poor nutrition situation.

A 2019, a 'Fill the Nutrient Gap' assessment for Somalia conducted by WFP (6) highlighted that it is very difficult to meet nutrient needs with locally available foods in many markets and not possible at all in some markets, with eight in ten households unable to afford to meet nutrient needs with locally available foods. This is particularly true for those household members that are nutritionally vulnerable, such as PBWs and adolescent girls.

The prevalence of micronutrient deficiencies is generally high, with anaemia during pregnancy estimated at 47.4% in 2019 (7) and the prevalence of LBW also thought to be high, although data is scarce – the last Somalia Demographic and Health Survey (DHS) found birth weight was reported for only 10% of the live births occurring in the five years preceding the survey. Of these, 9% were LBW (<2.5 kg) (8). Poor maternal nutrition and LBW is aggravated by high rates of pregnancy (116 per 1,000) in adolescent girls aged 15-19 years (UNFPA, 2022) and there is currently no programme in the country that supports supplementation with IFA for non-pregnant adolescent girls.

Nutrition strategies for women and adolescent girls

There are currently two active strategies in Somalia that cover maternal nutrition, both of which stipulate the use of IFA supplementation for addressing micronutrient deficiencies among PBWs, but do not specifically mention the use of MMS: the National Nutrition Strategy 2020-2025 and the Reproductive, Maternal, Neonatal, Child and Adolescent Health (RMNCAH) Strategy 2020-2024 (see details in *Box 1*).

Box 1: Nutrition strategies in Somalia

The National Nutrition Strategy 2020-2025 (9) emphasises improved access and availability of adequate maternal nutrition before and during pregnancy and lactation, as well as nutritious, diverse and safe foods in early childhood. Result 3 within this strategy stipulates: '*The nutritional status of women of child-bearing age (15-49 years) is improved consistent with the reproductive, maternal, neonatal, child and adolescent health strategy (RMCAH) Strategy (2020-2024)*'. Interventions linked to this result include:

- ensuring access to micronutrient services including:
  - for the prevention of anaemia daily IFA supplementation in pregnant women with the WHO- recommended daily intake of 30-60 mg of elemental iron and 400 µg (0.4mg) of folic acid;
  - for the treatment of anaemia daily IFA supplementation in pregnant women with the WHO- recommended daily intake of 120 mg of elemental iron and 400 µg (0.4mg) of folic acid; and
  - deworming during the 2nd and 3rd trimester of pregnancy.

The RMNCAH Strategy 2020-2024 (10) is mentioned in the national nutrition strategy and also refers to '*preventing anaemia with IFA while addressing other micronutrient deficiencies*'.

> *"Somalia has been in a state of protracted crisis for many years, characterised by a complex political environment, extreme poverty, food insecurity, conflict and instability."*

An earlier strategy (the Somali National Micronutrient Deficiency Control Strategy 2014-2016), dedicated to micronutrient deficiency control in Somalia (11), did feature the use of MMS for PBWs as one of the priority interventions to be implemented under it and refers to the joint UN 2007 statement on MMS in emergencies (12). This strategy remains in use at service delivery level and provides the following recommendations:

- MMS should be continued and distribution extended to all maternal and child health (MCH) clinics and other facilities that provide ANC and postnatal care (PNC) services.
- Educate women on the importance of MMS and manage myths (e.g., that supplementation can increase the risk of difficult labour by increasing the birth size of the infant).
- Consider also providing the supplements to traditional birth attendants (TBAs) or community health workers (CHWs) with clear instructions on use (in accordance with the roles and responsibilities identified for TBAs/CHWs in the Community Health Strategy).
- The current packaging (bottles of 100 tablets) is too big. Consider packaging into smaller containers which can be given to mothers in sealed packages.
- Develop guidelines for the provision of supplements containing iron to adolescents and non-pregnant women of reproductive age, where resources exist.

As a result of this earlier strategy, the use of MMS is mentioned in programme guidance in Somalia, most notably in the 'Harmonised Community Health Workers Training Manual' (13) that was developed by the Ministry of Health and Human Services (MoH) in 2020 with support from UNICEF and WFP. This guidance lists MMS programming for pregnant women under 'Strategies for combatting micronutrient deficiencies' and 'Preventing anaemia in pregnant and lactating women', although specific protocols and directions for use are unclear (see below). Operational and programmatic guidance for the national MIYCAN programme, also discussed below, builds on the training manual for CHWs and is currently being finalised with support from UNICEF. It includes MMS programming for the prevention of micronutrient deficiencies among PBWs distributed through facilities or through CHWs.

This programme draws on the networks of CHWs in Somalia and is the main platform through which ANC services, including MMS, are currently delivered.

MMS in nutrition programmes in Somalia

Key agencies supporting the use of MMS in programmes

Somalia's MoH provides overall coordination and leadership of the MIYCAN programme with UNICEF and other NGO support, as needed. UNICEF supplies the large majority (circa 90%) of MMS, which is delivered through ANC and PNC components of the national MIYCAN programme (see *Box 2*). International NGOs procure and supply the remaining 10%.

The roles of UNICEF and NGOs in the context of MIYCAN programming differ across states/geographic areas. In the North and North East region (the states of Puntland and Somaliland), the health system is more stable and the capacity of the state government is stronger compared to the states in the Central South Region (CSR). In North and North East region, the MIYCAN programme is more government led, with UNICEF and NGOs providing support to government health staff in delivering health and nutrition interventions where needed. This support includes procurement and delivery of MMS, financial and other support for training of health staff, programme monitoring, etc. In CSR, health service capacity is less strong; MIYCAN programme delivery is therefore implemented through NGO partners of UNICEF and is overseen/coordinated by government. UNICEF has 39 implementing partners, both international and national, across Somalia for the MIYCAN programme. Some of the largest of these partners are Save the Children, Action Against Hunger, World Vision, Concern Worldwide and the African Network for the Prevention and Protection Against Child Abuse and Neglect.

Box 2: The MIYCAN programme

The national MIYCAN programme is grounded in the Somalia Nutrition Strategy (2020-2025), which emphasises the promotion of improved access and availability of adequate maternal nutrition, before and during pregnancy, and while breastfeeding. It also highlights the importance of nutritious, diverse and safe foods in early childhood. Objective 1 of this strategy is '*to prevent malnutrition in the first five years of life, with particular emphasis on the first 1000 days of life from conception to 2 years of age*'. Under this objective, a component of the national programme aims to deliver comprehensive ANC and PNC to PBWs, which includes the delivery of micronutrients for the treatment and prevention of anaemia and other micronutrient deficiencies.

Geographic and population coverage

Somalia has 74 districts in total, of which 69 are labelled 'accessible'. The national MIYCAN programme is active in all 69 accessible districts and the programme strategy aims to reach the whole maternal-child population across these districts. The target group for MMS delivered through this programme is PBW, lasting until the infant is six months old. Pregnant women and pregnant adolescent girls are included (as PBW). Non-pregnant women and adolescent girls are not targeted for micronutrient supplementation at present.

While in theory the geographic coverage of the MIYCAN programme is high, coverage of services at population level can be low due to a range of challenges (discussed below). In 2020, 89% of mothers did not receive any postnatal check-ups in the first two days after childbirth, while only 31% of women of reproductive age accessed any kind of ANC services (8,14,15). Even where women do access ANC services, uptake of micronutrients by PBWs can be low, as reported in the RMNCAH Strategy 2020-2024. Data used for this strategy were provided by the DHIS-2, which estimated that, in 2017, 31% of the pregnant women who attended ANC services were provided with MMS, and in 2018 this proportion was 29%. For anaemia treatment (see *Box 1*) during the same years, 22% and 19% respectively of pregnant women who attended ANC were provided with IFA.

More recent data provided by DHIS-2 from all MIYCAN implementing partners (IPs) on the numbers of women in receipt of MMS suggests that numbers receiving MMS has remained relatively stable over the past three years, with a total of 1.3 million PBWs reported to have received MMS in 2022 (*Table 1*).

Table 1: Total number of women receiving MMS through the MIYCAN programme by year

Year	2017	2018	2019	2020	2021	2022	2023 (Nov)
Number of women who received MMS (millions)	0.9	1.2	1.6	1.3	1.2	1.3	0.8

Source: 2017–2023 DHIS-2 Somalia

Delivery of MMS through the MIYCAN programme

According to national guidance (2014-2016) and the MIYCAN programme protocol, MMS is used for the prevention of micronutrient deficiencies among PBWs, with the provision of one tablet per day from enrolment into ANC until the infant is six months old. MMS is provided free of charge in all areas as part of the ongoing MIYCAN programme.

There are two main channels of delivery of MMS depending on the location, capacity of primary health service, security and available IP support:

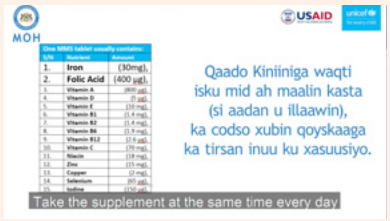
1. MMS is offered to non-anaemic PBWs who access ANC services at **health facilities** (monthly visits) in all areas. Any PBW diagnosed with anaemia (confirmed with Hb readings at health facilities) should first, according to the protocol, be treated with the appropriate dose of IFA (see *Box 1*) and transferred onto MMS once the anaemia is resolved.
2. There is also a **community component** of the MIYCAN programme with mobile outreach, through a network of CHWs in many locations. Many of the MIYCAN programme implementers consider this to be a valuable strategy to improve coverage of services as it helps reach communities with lower levels of access to health facilities. Where mobile outreach is in place, teams of CHWs work at community level and go house to house to implement a range of activities included in the MIYCAN programme, including referral of malnourished infants and children, social behaviour change (SBC) linked to infant and young child feeding (IYCF), and maternal nutrition (see *Box 3*). Regarding MMS specifically:

- In some locations (e.g. Puntland, Hirshabelle, Jubaland and Banadir) CHWs have been trained with the harmonised CHW training package that includes micronutrient powders for children aged 6-23months and MMS for PBWs. These are delivered within the IYCF promotion sessions and/or at house-to-house visits (to both internally displaced persons (IDPs) and non-IDP populations).
- In IDP camps, IPs such as Banadir Primary Health Care Consortium aim to cover all PBWs with MMS programming. All PBWs are also given fortified blended flour to make porridge at home. They also provide education in group sessions and use role plays about how to use MMS, its benefits, etc.
- In other locations, such as the Concern-supported programme in Banadir and the Save the Children-supported programme in facilities across the country, CHWs are not trained to distribute MMS due to challenges with the product's availability. As such, they focus on mobilising and informing PBWs about the benefits of micronutrients and refer women to health facilities for assessment and intervention.

Box 3: SBC to improve uptake of MMS

The SBC package is considered important by all partners that support the MIYCAN programme and is implemented, whenever there are resources and funding, through CHWs and through media (radio, video and mobile theatre). This focuses on the range of actions promoted/supported by the MIYCAN programme, including the benefits and possible side effects of MMS for PBWs as well as addressing myths around micronutrient supplementation. Many interviewees note the critical need for this, given a general lack of knowledge and some harmful cultural beliefs among women in Somalia linked to taking micronutrients while pregnant (see the 'Challenges' section below). To increase access to and uptake of MMS, SBC tools have been developed with support from UNICEF and other partners and are used for training health care staff, as well as for promoting knowledge and good practices for PBWs and community members as part of the nutrition programme. Other strategies used to promote MMS include women's group promotion, one-to-one counselling and cooking demonstrations (where the benefits of taking MMS in addition to consuming as nutritious a diet as possible are discussed).

Thumbnails from joint MoH, USAID and UNICEF video training



MoH staff capacity around knowledge and delivery of nutrition actions under the MIYCAN programme is variable and largely depends on location. In Concern-supported areas, for example, MoH and IP staff do know about MMS, are well qualified and, once trained (Concern provide on-the-job training and mentoring), are able to promote benefits. In other areas such as the UNICEF-supported programme in South West State/Baidoa, the perception is that knowledge and capacity of health care providers for MMS is limited to how to administer tablets rather than any technical knowledge around benefits. Here health staff do prescribe MMS, but only through the ANC programme delivered at facilities in Baidoa. Outside Baidoa, CHWs are reportedly less willing/able to promote MMS for pregnant women, with much more focus directed to treating anaemia with IFA, as well as supplementation with vitamin A.

Supply chain

UNICEF procures and delivers nearly all the MMS needed for the national MIYCAN programme in Somalia. All MMS procured and distributed is UNIMMAP MMS. This is a specific formulation of the supplement that has been proven to have a significant and positive impact on maternal and child health (16). Distribution is quarterly to the health facilities/facility pharmacies and/or to IPs' storage facilities. There is some flexibility within the UNICEF system to release additional supply to fill gaps when they occur in between quarterly deliveries. At the time of our interviews, UNICEF and partners agreed that the supply chain for MMS usually worked well with few breaks in supply, although recent communication with UNICEF has highlighted some pipeline breaks in some areas linked to funding restrictions (see below). The fact that the product is not bulky to store helps to ensure sufficient product can be procured and delivered in a timely fashion. There was a general consensus among interviewees that there is benefit to both health staff and PBWs of delivering multiple micronutrients in one tablet, versus the previous approach that meant women had to take several different micronutrient tablets daily. This was both hard to manage for health staff and for women, particularly if the latter were also experiencing adverse pregnancy effects such as morning sickness.

The MMS tablets are supplied in bottles of 100 tablets through the UNICEF supply catalogue, and women are usually given 30 or 60 (sufficient for one or two months) at a time. Where access is difficult, 90 tablets may be provided. Tablets are decanted from the bottle and distributed in a plastic/ziplock bag with some education on how to take as well as how to manage side effects if they occur.

Monitoring and evaluation (M&E) systems for MMS

UNICEF collect MIYCAN programme monitoring data every month from IPs through a system (that runs parallel to the national DHIS-2) called ONA,[1] as well as through DHIS-2. ONA is a mobile data collection platform that is used for data collection and real-time monitoring. An indicator for IFA/MMS is included in this system (number of women who received IFA/MMS), which requires facilities to complete a monthly paper form that is handed to M&E and support staff for entry in the ONA database. Some IPs find it useful to have the weekly reports for stock control and preventing stockouts. The government DHIS-2 system also has an indicator for the quantity of MMS distributed to ANC and PNC sites, with monthly paper reports at facility level submitted to regional health officers for input into the DHIS-2 platform. UNICEF and the MoH are currently transitioning to adopt DHIS-2 for monitoring of all their programmes in Somalia, but use both systems currently until fully transitioned to DHIS-2.

> *"UNICEF and the MoH are currently transitioning to adopt DHIS-2 for monitoring of all their programmes in Somalia."*

1 Mission & Vision – Ona

Challenges and opportunities for MMS programming

Challenges for programming and delivery of MMS in Somalia, as well as some benefits and opportunities for addressing challenges, were raised by interviewees. These are discussed by WHO health system building block below and summarised in *Table 2*.

Building block 1
Leadership and governance

Challenges

The current Somalia integrated nutrition strategy that addresses all nutrition issues does not propose MMS specifically for prevention of micronutrient deficiencies among PBWs. It only includes IFA for prevention and treatment of anaemia for this group (see *Box 1*).

Opportunities

Stakeholders interviewed for this case study suggested that the revision and/or addition of an addendum to the current strategy, outlining the use of MMS for prevention of micronutrient deficiencies among PBWs, could support development of improved country-wide guidance for programmes (see below). This addendum could draw on the previous 2014 strategy, specific to the control of micronutrient deficiencies in Somalia, which featured the use of MMS programming for PBWs as one of the priority interventions within ANC (see above).

Building block 2
Service delivery

Challenges

Coverage of MMS programming among PBWs in Somalia is low. There are several reasons for this:

- Difficulty for health staff to access populations, even in areas that are labelled 'accessible', as well as insufficient capacity and understanding of the benefits of micronutrients for the prevention of anaemia and poor birth outcomes among some health workers.
- Poor access for communities in some areas to health services is a barrier, particularly where MMS is not delivered through the CHW network.
- A limited understanding of the benefits of micronutrients among women and of the availability of ANC services.
- Fear/misconception among PBWs and their families around the risks of supplementation increasing the size of their baby.
- Fear around the side effects of supplementation (although, as discussed below, in practice this appears to be a relatively minor occurrence).
- Aggressive advertisement (through satellite TV, radio and billboards) of multivitamin and mineral syrup sold in drug stores. This multivitamin syrup is imported into Somalia[2] and advertised to give health benefits, but is understood by interviewees for this case study to be substandard compared to the UNIMMAPP formulations provided through UNICEF and other suppliers of MMS. Many of the middle class buy this from the pharmacy rather than access ANC/MMS free of charge.

> *"The revision and/or addition of an addendum to the current strategy, outlining the use of MMS for prevention of micronutrient deficiencies among PBWs, could support development of improved country-wide guidance for programmes."*

2 See: Multivitamin syrup Imports in Somalia – Import data with price, buyer, supplier, HSN code (volza.com)

An additional challenge for service delivery is linked to some confusion over the distinction and different uses of MMS vs IFA as well as some stated challenges around supporting health workers understand when to give one or the other. From programme reports and discussions with interviewees, the approach adopted for the ANC component of the national MIYCAN programme entails the treatment of anaemia in PBWs with IFA (see *Box 1*) and then use of MMS once anaemia is resolved and/or as a preventative measure among women who are not anaemic. However, this does not come across clearly in guidance documents.[3] There is also no guidance given on how to operationalise this protocol. For example, Hb meters at community level (particularly among CHWs) are rarely found; as such, diagnosis of anaemia is challenging and reliant on observation of clinical signs and symptoms. In practice, there is likely to be MMS used in cases where IFA is indicated.

Opportunities

There are several benefits and opportunities linked to MMS programming that could help to address low coverage:

Integration of MMS within wider health services

The inclusion and delivery of MMS within the MIYCAN broader package of services means the MMS intervention is able to leverage the resources and platforms in place for delivery of the wider programme. Inclusion of MMS programming within this broader package supports the outreach, mobilisation and distribution mechanisms needed for MMS and ensures that MMS does not become a standalone intervention. There is broad agreement among implementers of the MIYCAN programme that once women are reached through outreach and mobilisation for the programme, they are keen to participate and are able to understand the value of ANC and of taking micronutrients during pregnancy.

In addition, the inclusion of MMS programming in the package provided at facility level has also been seen to encourage women to come to the health facility where they will receive other benefits. Inclusion of the number of women reached with MMS in the DHIS-2 and UNICEF's ONA system is beginning to allow some understanding of the coverage of MMS programming nationally, although gaps in data remain.

Improved adherence

A common observation from implementing agencies and staff in Somalia is that, once mobilised, most mothers are happy to take MMS and they report that it helps with aspects such as improving appetite and sleep and reducing fatigue. Women are also observed to be keen to continue taking it after they have given birth, calling it '*help for milk production*'. While a few mothers highlight some side effects like diarrhoea and nausea, this is usually early on in pregnancy and can be mitigated by action such as taking the supplement with food. There is a common observation among implementing staff that there are fewer side effects associated with MMS consumption compared to IFA. This has been noted elsewhere (17) and is likely a result of MMS containing a lower level of iron (30 mg of elemental iron per tablet) than IFA, which contains 60 mg of elemental iron per tablet.

> *"The inclusion of MMS programming in the package provided at facility level has also been seen to encourage women to come to the health facility where they will receive other benefits."*

3 For example, the 2020 harmonised community health workers training manual stipulates 'giving iron/folate supplementation (or other recommended supplements for pregnant women) to the mother as soon as she knows that she is pregnant and continue for at least 3 months after having the baby'.

Improving mobilisation

There was broad consensus among programme implementers that mobilising more women with messages around the benefits and availability of ANC services and MMS is critical to increase uptake in Somalia. Improved mobilisation could be achieved through:

- Increasing the number of community-based staff that are well supported to sensitise communities that know little about the programme and the benefits of interventions such as MMS, as well as the benefits of accessing MMS through ANC services versus the purchasing of unregulated supplements.
- In some areas CHWs are not supported to distribute MMS and this is felt to be a missed opportunity for scale-up. However, the importance of women accessing a full ANC service run by trained health workers is acknowledged.
- Improving the capacity and understanding of CHWs around the importance of MMS along with mobilisation strategies, through better training and improved mobilisation/SBC materials (see below).
- Better leveraging of existing platforms for MMS mobilisation and distribution, such as household assistance (food or cash/vouchers), which often happen from central points/shops, etc.

> *"To overcome the confusion over the distinction and use of MMS versus IFA, improved, shorter and more focused guidance and SBC materials for health workers on the delivery of micronutrient interventions for women and children are needed."*

Improving guidance for health workers

To overcome the confusion over the distinction and use of MMS versus IFA, improved, shorter and more focused guidance and SBC materials for health workers on the delivery of micronutrient interventions for women and children are needed. There is some guidance that supports implementation of the current MIYCAN programme currently under development and this should help improve understanding, delivery and operationalisation of the protocols of MMS vs IFA, particularly where CHWs are responsible for delivering the interventions.

Building block 3
Health system financing

Challenges

Resources to support all aspects of MMS delivery through ANC are donor dependent in Somalia, and more donor funding is prioritised for treatment of acute malnutrition rather than preventative actions. It is often the community and prevention components, such as CHW-led mobilisation for MMS programming (and the MIYCAN package), that are cut from funded programmes because of increasing pressure on resources, particularly during periods of more severe drought and increasing levels of food insecurity/undernutrition. Some key informants suggested that this channelling of funds for supporting malnutrition 'treatment' programmes rather than prevention, as well as some restrictions/earmarking of funding to certain interventions or geographic areas, can disrupt the supply chain for MMS. Most recently this has led to some areas in Somalia running out of MMS, while supply in other areas is available.

Opportunities

Improving flexibility of funding, as well as leveraging the recent increased focus and understanding around the need for prevention of acute malnutrition and the strengthened evidence base for MMS programming, may help to improve funding for outreach, mobilisation and availability of MMS.

Building block 4
Health workforce

Challenges

Programme implementers observe that, in practice, health staff/services give nutrition less attention (compared to other health interventions) as they do not see it as falling within their remit to deliver nutrition services. Linked to this, the focus and priority in Somalia has traditionally been on the treatment of acute malnutrition, and this can result in lower prioritisation of actions for prevention among some health and community-based staff.

Opportunities

Improved training, guidance and job descriptions are needed in order to clarify nutrition as an important part of the responsibility of the health service, and micronutrient provision as a key component of ANC. This will help increase the levels of understanding and capacity of health workers to deliver MMS. Similar to the opportunities with financing, leveraging the recent increased focus on prevention – both in national nutrition programmes and within donor priorities – could provide an opportunity to scale-up MMS programming through the community component of programmes. Additionally, it could help facilitate early identification of pregnancy by CHWs and ensure pregnant adolescent girls and women attend ANC services at the earliest opportunity.

Building block 5
Supplies and technology

Challenges

While the supply chain for MMS in Somalia (to stores/facilities) is generally observed to work well under UNICEF management, with few breaks and timely delivery, there are some exceptions to this. Partners note that challenges with reporting and estimating need at health facilities can lead to breaks in supply of MMS at this level. The number of PBWs requiring MMS can fluctuate considerably at community level over a three-month period due to population movements resulting from emergencies linked to conflict and drought. This can mean supplies ordered and then available in store do not subsequently meet demand.

The process of decanting MMS into plastic bags (described above) has been noted as fiddly and time-consuming for busy health workers.

Opportunities

To help to alleviate supply issues due to unforeseen increases in demand, a buffer stock of MMS, held at facility/pharmacy level, is considered by service providers to be a feasible solution where there is sufficient storage capacity availability, but this would require donor and UNICEF support.

Blister packs in strips of 30 could ease the challenge of splitting bottles of tablets for distribution and are available through the current UNICEF supply catalogue. They are, however, considerably more expensive (as much as 74% more expensive) and may not be financially viable in a resource-constrained setting with high demand.

MMS is not yet on the national essential medicines list. Work to include it has started, however, and this could facilitate the procurement and distribution of the supplements as part of the national MIYCAN programme.

Building block 6
Information systems

Challenges

While the DHIS-2 reports on numbers of women reached with MMS programming, there are gaps in this reporting in places. MMS programming has not yet been included in national surveys (e.g. DHS and national micronutrient surveys) and this creates gaps in understanding of MMS coverage nationally.

There is also a challenge in getting data on actual consumption and adherence.

Opportunities

Interviewees felt there would be value in both strengthening DHIS-2 and ONA reporting as well as leveraging data collected through national surveys on IFA, to include an additional question on MMS.

“MMS is not yet on the national essential medicines list. Work to include it has started, however, and this could facilitate the procurement and distribution of the supplements.”

Table 2: Summary of key challenges and opportunities for MMS programming in Somalia

Challenges	Opportunities
Leadership and governance	
1. Nutrition strategy does not include MMS for prevention of micronutrient deficiencies among PBWs.	· Revise and/or add an addendum to current strategy based on earlier guidance. · The RMNCAH Strategy is currently being revised and will likely include use of MMS.
Service delivery	
1. Coverage of MMS and ANC is low. 2. Aggressive advertisement and availability of unregulated multivitamin and mineral syrup sold in drug stores. 3. Confusion over the distinction and different uses of MMS vs IFA as well as some stated challenges around supporting health workers to understand when to give which tablet.	· Mobilise more women with messages around the benefits and availability of ANC services and MMS to increase uptake in Somalia. · Including MMS in the ANC package provided at facility level can encourage women to access health facilities, where they will receive other benefits. · Fewer side effects linked to MMS vs IFA can support improved adherence. · Increase focus on outreach to enable CHW teams to sensitise on availability/benefits of ANC and MMS and, where possible, deliver MMS programming. · Develop improved, shorter and more focused guidance and SBC materials for health workers on the delivery of micronutrient interventions for women and children.
Financing	
1. Resources to support all aspects of MMS delivery through ANC is donor dependent. 2. Donor funding comes with some restrictions and often prioritises treatment (particularly during emergencies) over prevention.	· Leveraging the recent increased focus and understanding around the need for prevention, as well as the strengthened evidence base for MMS, may help to improve the level of funding available for MMS and for outreach and mobilisation.
Health workforce	
1. Nutrition is not understood to fall under health services by some staff. 2. Focus/priority has traditionally been on treatment of acute malnutrition rather than any action linked to prevention.	· Strengthen focus on training of health workers in nutrition, as well as nutrition priorities reflected in their job descriptions. · Leverage recent increased focus on prevention in national nutrition programmes and donor assistance.
Supplies and technology	
1. Challenges with health facility reporting and estimating need can lead to breaks in supply at this level. 2. Decanting tablets from bottles into plastic bags can be fiddly and time-consuming for health workers.	· A buffer stock of MMS, held at facility/pharmacy level, may help to alleviate supply issues due to unforeseen increases in demand. · Blister packs in strips of 30 could ease this challenge but are considerably more expensive.
Information systems	
1. There are gaps in understanding of MMS coverage nationally and in adherence to the MMS regimen by PBWs.	· Strengthen DHIS-2 and ONA reporting as well as leverage national surveys to collect more data on MMS coverage and uptake.

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Conclusion

MMS delivery has been supported as part of ANC services in Somalia since the launch of the 2014 strategy on micronutrient deficiency control and there are several factors that have been successful in its programming. Inclusion in the national MIYCAN programme has led to good geographic coverage of MMS programming and this is helping increase uptake of ANC services. The supply chain has been reasonably stable under UNICEF's management and the distribution system established both through facilities and community platforms, where staff and resources allow, works well. There were, however, some MMS supply breaks through 2023 due to funding challenges, with UNICEF working with government on resource mobilisation to help address these.

It is unclear why MMS programming was not written into the updated (2020) national nutrition and linked strategies, but this does not appear to have affected its inclusion in ANC components of the national nutrition programme. That said, this omission is likely to have limited the development of clear programme guidance and protocols for MMS use, both of which need considerable improvement. There is now work ongoing that will help with this, including an update to the RMNCAH Strategy by the MoH and the development of updated guidance for the current MIYCAN programme.

While geographic coverage of MMS through the national MIYCAN programme in accessible districts is good, actual population coverage remains low. The primary barrier for this currently appears to be the need for resources and community-based staff that can access and mobilise women to increase demand for, and access to, ANC services. If demand were to increase, however, partners feel that ensuring supply can meet it may be a challenge, particularly as current stocks are entirely donor/UNICEF dependent and there are already periodic problems linked to this.

In summary, the key issues to address for scaling up MMS programming in Somalia include: the revision of national strategy and improving programme guidance to clarify the protocols for MMS within ANC provision; improving health worker motivation and understanding to prioritise nutrition and MMS delivery within services for PBWs; increasing demand among women through more community mobilisation and improved access to ANC services; stabilisation of supply issues through support for buffer stocks of MMS at facility level; and more reliable and flexible funding support from donors for prevention of micronutrient deficiencies and poor pregnancy and birth outcomes.

References

1. World Health Organization. Everybody's business: strengthening health systems to improve health outcomes: WHO's framework for action. Geneva: World Health Organization; 2007.
2. Keats EC, Das JK, Salam RA, Lassi ZS, Imdad A, Black RE, et al. Effective interventions to address maternal and child malnutrition: An update of the evidence. Lancet Child Adolesc Health. 2021;5(5):367-84.
3. Gomes F, Agustina R, Black RE, Christian P, Dewey KG, Kraemer K, et al. Multiple micronutrient supplements versus iron-folic acid supplements and maternal anemia outcomes: An iron dose analysis. Ann N Y Acad Sci. 2022;1512(1):114-25.
4. Hoddinott, J, Larsen, B, Razvi, S. Nutrition Halftime: Best investments for the SDGs. [Internet]. Copenhagen Consensus Center; 2023 [accessed 9 January 2024]. Available from: https://copenhagenconsensus.com/sites/default/files/2023-03/Nutrition%20Best%20Investment%20Manuscript%20230211.pdf
5. WHO, WFP, UNICEF. Preventing and controlling micronutrient deficiencies in populations affected by an emergency: Multiple vitamin and mineral supplements for pregnant and lactating women, and for children aged 6 to 59 months [Internet]. Geneva: WHO; 2007 [accessed 12 December 2023]. Available from: https://www.who.int/publications/m/item/WHO-WFP-UNICEF-statement-micronutrients-deficiencies-emergency
6. World Food Programme. Fill the Nutrient Gap and Cost of the Diet Assessment – Somalia | World Food Programme [Internet]. Mogadishu: WFP; 2020 [accessed 16 June 2023]. Available from: https://www.wfp.org/publications/fill-nutrient-gap-and-cost-diet-assessment-somalia
7. Somalia micronutrient survey 2019 | UNICEF Somalia [Internet]. 2020 [accessed 16 June 2023]. Available from: https://www.unicef.org/somalia/reports/somalia-micronutrient-survey-2019
8. DHS. Somalia Health and Demographic Survey 2018-2019 | GHDx [Internet]. 2020 [accessed 21 November 2023]. Available from: https://ghdx.healthdata.org/record/somalia-health-and-demographic-survey-2018-2019
9. Ministry of Health and Human Services. Somalia Nutrition Strategy 2020-2025. Mogadishu: Federal Republic of Somalia; 2020.
10. MoH, Government of Somalia. Reproductive, Maternal, Neonatal, Child and Adolescent Health Strategy 2020-2024 [Internet]. Somalia; 2020 [accessed 16 June 2023]. Available from: https://www.somalimedicalarchives.org/archive/publications/422-reproductive-maternal-neonatal-child-and-adolescent-health-strategy-2020-2024
11. Policy – Somali National Micronutrient Deficiency Control Strategy | Global database on the Implementation of Nutrition Action (GINA) [Internet]. [accessed 16 June 2023]. Available from: https://extranet.who.int/nutrition/gina/en/node/24466
12. WHO, UNICEF, WFP. Joint statement on Preventing and controlling micronutrient deficiencies in populations affected by an emergency [Internet]. Geneva, Switzerland: WHO, UNICEF and WFP; 2007. Available from: https://www.who.int/publications/m/item/WHO-WFP-UNICEF-statement-micronutrients-deficiencies-emergency
13. Ministry of Health & Human Services. Harmonised community health workers' training manual [Internet]. Somalia: MoH, Federal Government of Somalia; 2020 Oct [accessed 16 June 2023]. Available from: https://www.unicef.org/somalia/reports/harmonised-community-health-workers-training-manual
14. Miikkulainen A, Abdirahman Mohamud I, Aqazouz M, Abdullahi Suleiman B, Sheikh Mohamud O, Ahmed Mohamed A, et al. Antenatal care utilization and its associated factors in Somalia: A cross-sectional study. BMC Pregnancy Childbirth. 2023 Aug 12;23:581.
15. UNICEF, Somalia. Maternal Nutrition Somalia: Qualitative research on key barriers to and enablers of maternal nutrition in Gedo and Benadir regions. 2020.
16. The Multiple Micronutrient Supplement Technical Advisory Group (MMS-TAG), The Micronutrient Forum (MNF). Expert consensus on an open-access United Nations International Multiple Micronutrient Antenatal Preparation – multiple micronutrient supplement product specification. Ann N Y Acad Sci. 2020 Jun;1470(1):3-13.
17. Sight and Life Foundation. Focusing on Multiple Micronutrient Supplements in Pregnancy [Internet]. Basel. Switzerland: Sight and Life; 2023 [accessed 23 May 2023]. Sight and Life Special Report. Available from: https://sightandlife.org/resource-hub/magazine/mms-second-edition

Annex 1: Case study interview guides

The following questions are asked in the context of humanitarian programming.

1. What do you know about the benefits of MMS for pregnant women and adolescent girls and their infants?
2. Delivery of programmes:
    a. Does your agency support the delivery of MMS in programmes in [country]? What is your agency's role in these programmes?
    b. Can you describe the main components of delivery of MMS through the programmes you support.
3. Who are the main partners that you work with in MMS programmes – for example, government, other UN agencies, implementing partners? What roles are they expected to play?
4. Do you know about any other agency that supports the delivery of MMS in programmes in [country]? What is their role in these programmes? Where are these programmes and how/to whom (through what platforms) is MMS delivered?
5. How widely is MMS distributed by healthcare providers in your country?
    i. Are healthcare providers trained on the importance of MMS?
    ii. Are they promoting MMS to their patients?
    iii. Is the uptake of MMS among pregnant and lactating women high? And for pregnant adolescent girls?
    iv. Are other interventions are being included alongside MMS?
6. What kind of monitoring and evaluation system is in place for MMS in your country?
    i. What is the routine data collection process on MMS (probe: any indicator to capture MMS consumption data to DHIS or under routine CMAM/nutrition programming)
    ii. Are there monitoring and evaluation mechanisms to measure the impact of MMS on maternal and child health outcomes?
7. Can you give some examples of some successful practice in programming (or support for programming) of MMS in [country]?
8. What do you know about country policy and strategy for maternal nutrition and particularly for the provision of micronutrients to women? Do you know if any of these policies/strategies includes the use of MMS and who is the intended audience?
9. What are the main challenges and barriers to scaling up MMS programming in [country]?
10. Do you have any thoughts on how some of the key challenges/barriers you have mentioned might be addressed?
11. What are the potential opportunities for scaling up MMS interventions in the country, and what strategies can be employed to maximise these opportunities?
12. Anything else to share? If you have any documentation that includes reference to MMS (programme reports, monitoring data, organisational strategy/plans) would you be willing to share them with us?

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