Formative Research Guidance

Introducing Multiple Micronutrient Supplements (MMS)

unicef

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Contents

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Introduction

This formative research guidance contains simplified guidance to assist countries to introduce multiple micronutrient supplement (MMS) for pregnant women. MMS is a unique formulation of vitamins and minerals for pregnant women and has been demonstrated to be safe, cost-effective, and improves maternal and child nutrition and health outcomes, including reducing the incidence of low birthweight (LBW) and small-for-gestational age (SGA) when compared to iron folic acid (IFA) supplementation (Bourassa et al., 2019).

The 2020 update to the WHO Antenatal Care Recommendations for a Positive Pregnancy Experience recommends the use of MMS containing iron and folic acid in the context of, "implementation research to establish the impact of switching from IFA supplements to MMS, including evaluation of acceptability, feasibility, sustainability, equity, and cost-effectiveness" in each setting, before introduction of MMS (World Health Organization 2020). WHO also included the International Multiple Micronutrient Antenatal Preparation (UNIMMAP) MMS formulation in the 2021 update of their Model List of Essential Medicines (known as EML), recommending its inclusion based on the strong evidence that MMS reduces LBW, SGA and preterm births, and potential reduction of stillbirths and neonatal deaths, compared to IFA alone.

This guidance provides an overview of the steps and methods used to conduct formative research for improved MMS acceptability and utilization among pregnant women. The guidance manual contents were developed, in part, based on formative research conducted in Bangladesh, Burkina Faso, Madagascar, and Tanzania. Lessons learned from conducting those formative studies were synthesized using a combination of stakeholder feedback and evidence-based research methods. This guidance provides specific information to help support the development and design of a formative research process for introducing MMS or other nutrition interventions, may be used by implementing agencies and field practitioners when introducing MMS in country programs. The guidance offered in this manual may be adapted to each context, population, and country program based on available resources, capacities, and needs.

What is formative research?

Formative research is the process by which researchers or public health practitioners aim to understand the characteristics (e.g., current behaviors, perceptions, needs) of target populations that influence their decisions and actions. Formative research may be conducted prior to the design of a behavioral intervention but also may be conducted during implementation, as a type of process evaluation, for improving delivery or course correction as needed (Evans, Scourfield, and Murphy, 2015; Kodish et al., 2015). Typically, formative research approaches utilize multiple mixed methods (quantitative and qualitative) to triangulate findings across different participant types and data sources (Bentley et al., 2014).

Why is formative research important?

Formative research examines the prospective target audience, their behaviors and perceptions, and the factors which influence those behaviors. Formative research is particularly important for enabling researchers and public health practitioners to identify potential obstacles to future programming, such as participation barriers, and develop solutions to minimize or eliminate these obstacles. Programming where MMS will be delivered would benefit from formative research, given the global surveillance and monitoring data that have forecasted both upstream and downstream challenges to delivering and scaling-up MMS at the country level. Some of those factors include weak supply chains, low access to ANC services, and low-quality behavior change interventions to support and motivate pregnant women. Despite abundant evidence of the efficacy of MMS, there is still the need to address evidence gaps and develop key insights on how to deliver MMS effectively across different contexts. Doing so may help ensure that MMS does not face the same fate as IFA of low program coverage globally (Berti el al., 2018). Well-designed formative research may yield socio-cultural and context specific findings as a first stage of program planning to improve understanding of those social, behavioral, and systems-level elements important for MMS acceptance and utilization of MMS.

STEP 1 | UNDERSTANDING THE CONTEXT

Prior to implementing formative research, understanding what is already known about a specific context is important. Fieldwork can be time consuming and resource intensive; thus, documenting the existing information available in a given country/area using a literature review of ethnographic analyses, peer-reviewed and grey literature is important. For example, a literature review can help to identify the gaps in understanding what information needed to tailor programming is still missing and should be investigated, avoiding losing time in collecting the same data twice. As much as possible, search for documents that focus on the specific area where the project will be carried out.

Multiple sources of country-level information are available for gathering this information such as: sociocultural assessments, anthropological studies, Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) and Standardized Monitoring and Assessment of Relief and Transitions (SMART) surveys, Knowledge, Attitudes and Practices (KAP) surveys, Demographic and Health Surveys (DHS), Multiple Indicator Cluster Surveys (MICS), and health facility surveys. All of these materials can provide rich information on context-specific causes of undernutrition, organization of stakeholders, health services coverage, and determinants of key behaviors of interest.

To summarize literature review findings, compile the information in one document to first classify the existing information into different sections/themes as well as to identify data gaps that need to be filled using formative research methods. Doing so will help to clarify what information is already known, or not known, about the factors influencing maternal care-seeking behaviors and prenatal supplement usage. Example search terms are provided in Box 1.

Box 1: Examples of literature review search terms

Examples of relevant search terms that may be used to begin a literature review using Google Scholar:

- Multiple micronutrient supplementation (MMS) among pregnant women in [insert country name]
- Factors influencing iron folic acid (IFA) uptake and compliance in [insert country name]
- Barriers and facilitating factors of prenatal supplement usage in [insert country name]
- Determinants of antenatal care-seeking behaviors in [insert country name]

STEP 2 | DEFINING FORMATIVE RESEARCH OBJECTIVES, METHODS, & TOOLS

Formulating research questions

1. Start with clear research objectives to focus the study on the most critical information needed to inform decisions and program design. Formative research can have more than one objective, but each must be a clear statement about what the learning objectives are. Good research objectives include a general objective and specific objectives; use action verbs such as "to determine," "to compare," "to verify," "to describe," and "to assess." Avoiding vague terms such as "to study" will help your objectives be more precise. For example:

- **Describe** how and where women access prenatal supplements.
- **Assess** the perspectives toward maternal and child nutrition and health.
- **Determine** the process women follow to decide whether or not to use a prenatal supplement (facilitators).
- **Identify** reasons why women do not take prenatal supplements (barriers).

2. Next, formulate research questions:
Using the information gathered, develop research questions that facilitate identification of knowledge gaps and match the research objectives.
Narrow the list of questions to the ones that are most relevant and important for the research (considering budget, time, and personnel constraints).

Examples of research questions related to maternal nutrition and MMS are included in Table 1 below.

TABLE 1: Example formative research questions related to maternal nutrition and MMS

Area	*Research Question*
Access/availability	What prenatal supplements are currently available to pregnant women? How does availability impact pregnant women's ability to improve their micronutrient status?
Product attributes	Which prenatal supplement product features /benefits do pregnant women most desire?
Social Support	To what extent are women encouraged to take prenatal supplements? By whom?
Knowledge	What are the prevailing knowledge, attitudes, and practices towards maternal nutrition and prenatal supplements?
Affordability	Who purchases prenatal supplements in the household and at what price? What can women afford to pay for prenatal supplements?

Finally, identify the appropriate combination of data collection methods that will most effectively generate data to answer the established research questions:

- Formative research methods involve a variety of qualitative and quantitative methods to help inform the eventual design of a project, and the approaches and methods used need careful consideration.
- For example, the use of an ethnographic analysis (qualitative method) might be useful for observing and/or interacting with study participants in their real-life environment.
- Free listing and pile sorting are other methods that help generate data to understand how community members conceptualize foods and illnesses common to pregnancy. These methods are implemented with the help of an interview guide.
- Below is an overview of a few common methods, along with sample results from the four countries (Bangladesh, Burkina Faso, Madagascar, Tanzania) in which this kind of formative research was conducted.

Ethnographic analysis: Semi-structured interviews

Understanding the lived experiences & perceptions of pregnant women in the community

Overview

Semi-structured interviews are best conducted using open-ended questions covering a specific list of topics. They are useful to gain a general understanding of the reported practices, individual perspectives, and personal experiences of community members/pregnant women.

Typical objectives of interviews during MMS formative research

1. To understand the typical experiences of women during pregnancy and lactation, including challenges they face, cultural considerations, and practices they engage in for optimal health and nutrition of mom and baby.

2. To describe the specific barriers and facilitating factors important for optimal maternal nutrition and birth outcomes in this cultural context.

3. To generate social marketing-related recommendations (product, price, promotion, placement) to inform culturally appropriate MMS programming for optimal acceptability and compliance.

Develop interview guides

Semi-structured interviews are typically conducted by a trained data collector who uses a guide that allows for open-ended questions as well as leaves room for specific probing on key areas of interest (see Annex 1 for an example interview guide). Furthermore, if interviews are conducted in a language other than English/the language of the formative research team, it is important to ensure that translations reflect the open-ended nature of good interview questions, with phrases such as “could you tell me about...” and “describe for me...”, and include specific probes to accompany each open-ended question to elicit richer information on any given topic. Another good approach is to create a unique interview guide for each participant type – pregnant women, health workers, etc.

Sampling interview participants

- In interviews to inform MMS programming, examples of key informants to consider include pregnant women, health workers, and important influencers (e.g., fathers, grandmothers, community leaders, etc.).
- Purposively sample interview participants based on pre-defined criteria that are important to consider in a given context. For instance, sampling women who have had previous pregnancies and experience with IFA supplementation and/or women who will be first time mothers.
- Community leaders and health workers may be helpful for recruiting participants, but interviews are one-on-one and should only include the interviewer and the participant.

Additional resources for qualitative interviewing
This *Handbook of Methods in Cultural Anthropology* by Bernard and Gravlee (2014) is a great resource for people wishing to learn more about qualitative and ethnographic methods.

Data Analysis

Data analysis of interview transcripts is important for answering the guiding research questions and informing MMS programming. Like the secondary data collection/literature review phase, it is useful to summarize the information collected in a document by theme, as well as compare it to the literature review.

Transcribe the recording verbatim from digital file to text file:

- Translation and transcription can be completed by the data collection team but can also be completed by another person on the research team with language and computer proficiencies.
- While translating/transcribing, local terms for illnesses, foods, and other important words/ phrases should be kept in local languages where translation may not be possible.

Develop an analytic template for summarizing key themes relevant to research aims:

- An analytic template is a table organized by research question for compiling themes found during review of the transcripts.

Review the transcripts and identify key themes:

- Using the analytic template, organize key themes found across transcripts for a summary of findings.
- A key theme can be thought of as a repeating idea found in text across interviews or a repeating idea mentioned by multiple individuals.

How many semi-structured interviews & focus group discussions (FGDs) should be conducted?

There is not a universal formula for determining interview or focus group discussion sample sizes. Typically, data should be collected until 'saturation' is reached. Saturation refers to the point in the research process when no new relevant information about key topics emerges from additional data collection. Sample sizes should also consider the lowest unit of analysis. In other words, if interviews are being conducted among pregnant women, community leaders, and health workers to understand their unique perspectives, then an adequate number of interviews for each group/stratum is necessary. For each participant type, you might consider conducting no fewer than 8 – 12 interviews and 3 – 5 focus group discussions. Additional data collection may be necessary if your research questions are not fully answered after reaching sample size targets.

Sample findings

Sample findings from interviews with health workers and pregnant women in Tanzania are given in the section below. These findings primarily focus on the attitudes and perceptions of both participant types towards MMS. Additionally, an example of application of interview findings to develop a consumer archetype is provided.

TABLE 2: Findings on lived experiences of pregnant women based on semi-structured interviews in Tanzania

Theme	*Key Quotes*
Suggestions to Improve MMS Uptake - Financial	*"In my opinion .. if it is health that we prioritize, it [MMS] must be distributed for free in hospitals, like the iron pill maybe it has to be all the time available and that people are not asked to buy it".* *-Itasy, interview, pregnant woman* *"There is also the price, if it is to help it [MMS] must be free. Because pregnant women cannot work. There are those who have a lot of financial difficulty, victim of unwanted pregnancy, they have no one to rely on when they cannot work. It would be nice if we gave it to them for free."*
Perceptions of MMS/ IFA	*"A pregnant woman has just given birth with a huge hemorrhage, that's why all pregnant women must take the iron battery to fight against this hemorrhage, to give energy to the mother during her pregnancy, and not to lose a lot of blood during the delivery."* *"But if we say you will be strong and your baby will develop well if you take it [supplement], they are motivated to take it even if it is exhausted, they will look everywhere."*
Suggestions to improve MMS uptake – Key influencers	*"What motivates them is what the midwife said they have to take it [supplement], she said it prevents bleeding, that's why they took it."* *"It is these community workers who need to be motivated for this. Because they are at the level of the target community, they see and know the people there, they see their habits on the daily level and it would be easier for them to convince them about this product and people accept it easily."* *"Because when we have our prenatal consultations, the doctor first gives us this medicine [supplements], and then he saves our life."*

Using interview findings to create an archetype

Formative research findings can be used for developing tailored communication approaches. Interview data may be used to determine key attributes of the primary audience segment in each setting. In this study, the primary audience is pregnant women. An archetype can present information related to demographics, typical diets, care seeking practices, experiences with prenatal supplements, expected barriers/facilitators to MMS uptake, communication channels, and emic (local) words and phrases that can be used to promote MMS more effectively.

FIGURE 1: An archetype of the typical pregnant woman created from formative research findings in Bangladesh

Archetypical pregnant woman in Bhola and Kurigram

Age range: 18 30 years old | Livelihood: Housewife, mother | Family: Husband, 2 3 children, mother in law | Location: Bangladesh (Bhola and Kurigram) | Language: Bengali/Bangla

Typical diets during pregnancy

- Typical diets rely primarily on rice as the staple food in every meal
- Animal sources are consumed to a much lesser extent, even during pregnancy
- Supplementation during pregnancy is common in this setting; most women have previous experiences with it
- Generally good knowledge of nutritious diets during pregnancy, but limited finances remain a challenge to consuming them
- Some food prescriptions and food proscriptions exist in this setting and may influence dietary intake

Current care seeking practices

- Community clinics are the most accessed type of facilities utilized for pregnancy services because of their location and affordability
- Private clinics access is much more limited in Bhola and Kurigram
- Hospitals are only visited for medical complications
- BRAC community health workers provide home visits and are trusted members of the health system

Previous experiences with prenatal supplements

- Likely has previous experiences taking iron folic acid or calcium tablets
- Supplements are sometimes purchased but mostly gotten for free at clinics
- Current placement of prenatal supplements is at pharmacies and community clinics, but stock outs are frequent
- Primary purchasers of prenatal supplements are husbands

Likely barriers to MMS acceptability & compliance

- Limited finances to access services where MMS may be provided is a likely barrier
- Pregnant women's health and nutrition decisions are influenced by family members, including in laws who may not support supplementation approaches
- Frequent stock outs of prenatal supplement at community clinics
- Persistent perceptions that prenatal supplements yield large babies and result in Cesarean sections
- Low risk perception toward illnesses during pregnancy may hamper MMS compliance

Trusted communication channels to reach pregnant women

- Interpersonal channels: Community clinic health staff (CHCP, FWA, HA), BRAC community workers, Doctors
- Social mobilization: Community meetings
- Media: Billboards, Radio, Print (brochures, job aides), Television advertisements

Examples of salient Bangla phrases to use in MMS promotions

- "Ma k pusti khaoai , ma o sishu k sustho rakhi "(feed mother nutrients, keep mother child well)
- "Ma khele vitamin, Baccha thakbe sutho protidin " (If the mother takes vitamins, the child will stay healthy every day)
- "Ma jodi khai vitamin, baccha sustho thakbe protidin " (If the mother takes vitamins, her body will remain healthy every day)

Ethnographic analysis: Free listing

Understanding the most important items within a cultural domain

Overview

Free listing is a simple exercise where participants are asked to list items related to a specific topic; and aid in the understanding of a cultural domain, such as "illnesses" which includes a list of individual terms that vary from one cultural context to the next.

Prior to conducting free listing, develop the free list guide (See an example in Annex 4) with the data collection team, as well as recruit free listing participants with the help of community leaders, including health workers, village headmen, and others that belong to the same cultural group or conduct multiple free list exercises with different groups.

Example objectives

1. To identify local illness and food terms to use in tailored messaging to promote MMS during programming
2. To elucidate food prescriptions and food proscriptions (i.e. taboos) that may exist during pregnancy in the cultural setting where MMS will be introduced
3. To understand the perceived importance of maternal nutrition (diet or supplementation) for pregnancy-related health and birth outcomes

Box 2: Resources for Free listing

This book Systematic Data Collection by Weller and Romney (1988) by Sage Publications is available online and provides guidance for free listing and pile sorting as part of cultural domain analysis.

Data Analysis

At the end of each free listing exercise, the data collection forms should look similar to the table below (Table 3).

TABLE 3: Example of an abbreviated free list data collection form MMS formative research in Madagascar

Free List Questions #1	***Comments to guide field notes***
List all of the different illnesses, signs, or symptoms that you suffer from as a pregnant woman in this community.	After listing, probe on the top 5 illnesses to get local explanations. Probe on any nutrition-related illnesses (e.g., anemia). Probe on any illnesses that seem confusing, new, or contradictory to you.
1. Nausea	*"Usually I feel nauseous the first few months while pregnant. Also, when taking iron-folic acid tablets I have felt sick previously."*
2. Vomiting	*"This just happens when you are pregnant after eating certain foods such as tilapia (fish) or papaya."*
3. Dizziness	*"This happens when blood pressure is too high. We take herbal remedies from the traditional healer for dizziness."*
4. Bleeding	*"I don't know why this happens. If it is serious, then we go to the clinic."*
5. Baby too small	*"The midwife tells us that our diet affects the size of the baby but my grandmother does not agree."*
6. Anemia	*"Anemia is common here but not so serious. Some people get transfusions when it is a serious case."*

Sample findings

Results of free listing exercises conducted in Burkina Faso are provided in the table below. Free list terms are shown in the local language along with a description of the term, the English equivalent, and the salience (how important the illness or food is to the community and is calculated based on frequency of mention.

Salient illnesses during pregnancy

Looking at the table, the top diseases that affect pregnant women are malaria, vomiting and headache. The only nutritional disease on the table is anemia, which has a low salience, indicating that few participants mentioned it relative to the other diseases on the list. Because nutritional illnesses are less salient in this context and anemia may be attributed to iron deficiency, using MMS as a solution not fit within the cultural domain of illnesses for pregnant women. Identification of emic (local) terms can help tailor messaging.

TABLE 4: Salient illnesses list – example from Burkina Faso

	Local illness term	*Brief emic (local) description of the term, from participant description perspective*	*Approximate English equivalent*	*Salience*
1.	weogo	*Caused by mosquitoes and dirt. Can be treated with pills or injections or traditional medicines including (leaves of acacia and eucalyptus tree)*	malaria	0.813
2.	woukré	*Symptoms related to pregnancy. Treatment at the health center*	vomiting	0.269
3.	zou zabré	*Caused by exposition to the sun or symptom of malaria. Treatment at the health center*	headache	0.262
4.	nao fidme	*Illness related to pregnancy because you get it only during pregnancy. It can be also due to excessive consumption of salt during pregnancy or long sitting position. Treatment at the health center*	edema	0.178
5.	pou zabré	*Symptoms related to pregnancy. Treatment at the health center*	stomachache	0.165
6.	yamsé	*Symptoms related to pregnancy because you get it only during pregnancy. Treatment at the health center*	fatigue	0.160
7.	po zabré	*Caused by heavy workload or the bad conditions of the beds after delivery. Treatment at the health center or at home with ointment "Vitago"*	Back pain	0.149

Ethnographic analysis: Pile sorting

Understanding the ways that people typically classify items within a given cultural context.

Overview

Pile sorting builds off free list data to understand the ways that people classify items in each cultural context, which is important for informing context-specific social marketing promotions. For example, if free listing 'nutritious foods to eat during pregnancy' resulted in 15 food items, then pile sorting would present participants with 15 cards that each have a unique food item written.

Example objectives

1. To define local food and illness classification systems within a cultural context
2. To assess maternal risk perception toward pregnancy-related illnesses and birth outcomes
3. To understand how MMS fits into local understandings/descriptions of nutrition-related illness

Data Analysis

The results of the pile sorts should be analyzed using specific forms (provided in the appendix). Additional resources for data analysis are displayed in Box 3 below.

Box 3: Additional Pile Sort Analysis Resources

This book Systematic Data Collection by Weller and Romney (1988) by Sage Publications is available online and provides guidance for free listing and pile sorting as part of cultural domain analysis.

TABLE 5: Pregnancy-related illnesses classifications from pile sorting in Burkina Faso

Local (Moore) Illness Terms*	*English Illness Equivalents*	*Exemplar Description of cluster*
Most serious illnesses		
1. ziimzoesse 2. zimkalum 3. tension 4. faible poids 5. pouzabre 6. pezabre 7. toorezongogo	1. Bleeding 2. Anemia 3. Hypertension 4. Low birth weight 5. Stomachache 6. Pelvic pain 7. Vaginal itching	*"These are serious illnesses. If they are not treated, they can cause death."* *-Pregnant woman, age 20*
Moderately serious illnesses		
1. po zabre 2. nao fidme 3. zou zabre 4. yaamse 5. nin yilnga	1. Back pain 2. Edema 3. Headache 4. Fatigue 5. Diziness	*"These illnesses can rarely cause death and they are easy to treat."* *-Pregnant woman, age 35*
Least serious illnesses		
1. konsgo 2. yin wingre 3. woukre	1. Cough 2. Fever 3. Vomiting	*"These are also frequent among pregnant women and can be endured easily. They can disappear without any treatments".* *-Pregnant woman, age 35*

**Moore is a local language spoken in Burkina Faso*

Examples of quotations from participants are presented below to explain participants' reasoning behind the pile sort categorizations.

> *"These are the most serious illness weogo (malaria), woukre (vomiting), zou zabre (headache), po zabre (back pain), ziim kalum (anemia), yin winger (fever), tension (hypertension), faible poids de naissance (low birth weight) because they can lead to death and miscarriages."*
> *(Pregnant woman, Yako, Burkina Faso)*

> *"These are moderately serious illnesses (yamse (fatigue), pe zabre(pelvic pain), tore zogongo (vaginal itching) and konsgo (cough)) because they are easy to treat and do not last longer."*
> *(Pregnant woman, Yako, Burkina Faso)*

The quotes add additional context to the pile sorts. The most severe illnesses are considered to cause death or miscarriage, while the more treatable diseases are seen as moderately severe. Additionally, diseases that allow a woman to continue working are seen as least serious. Knowing that nutritional diseases are considered most serious in this context is a facilitating factor for improved acceptability and uptake of MMS as a solution. In many settings globally, risk perception toward nutrition-related illnesses is lower than it is for other common illnesses, thus presenting a behavioral barrier even before programming begins.

Focus group discussions

Collecting community inputs for tailoring program design and implementation

Overview

Focused discussions with a small group (usually 6 to 12 people) of participants are key to better understand the attitudes, perceptions, and beliefs pertinent to the issues being examined. These discussions will provide multiple perspectives and build consensus around topics, and pick up on social norms, group dynamics, and concrete experiences linked to a particular behavior. Participants of a focus group should have a similar profile and level of power for everyone to feel comfortable expressing their views.

In addition to open-ended questions, key tools for eliciting informative perspectives in focus groups include participatory activities. A moderator introduces the topic and uses a prepared interview guide with mostly open-ended questions to lead the discussion and elicit discussion. Remember that focus group questions should be aimed toward the entire group rather than to specific individuals (See Annex 2 for an example of a FGD guide, and tailor questions as needed).

Example objectives

1. To understand social norms around health- and nutrition-seeking behavior during pregnancy and lactation
2. To solicit feedback on social marketing materials for promoting MMS with a focus on appropriate promotions, placement/delivery mechanisms, and product characteristics
3. To build consensus around more preferred strategies for appropriately introducing MMS for optimal acceptability and utilization

Developing an focus group discussion guide

- Develop a focus group guide which is a discussion or conversation guide that is used to conduct the group.
- Compose questions that contain mostly open-ended questions.
- Remember that focus group questions should be aimed toward the entire group rather than to specific individuals.
- A sample guide provided in the Annex 2

Sampling/identifying prospective participants and a venue

- No fewer than 2 focus groups should be conducted per site, and 3 – 5 focus groups per site is recommended.
- Recruit participants who have similar characteristics to one another – for instance, of similar age, social status, cultural group etc.
- Community leaders and health workers may be helpful to recruit participants
- Work with community leaders to identify appropriate venues to facilitate focus group discussions.
- Appropriate venues may include community-level structures where everyone feels comfortable to openly speak.

Data analysis

Refer to the Semi-Structured Interview Data Analysis section for textual analysis guidance.

Sample findings

Sample findings from Tanzania are provided below and summarizes a few themes regarding the lived experiences of pregnant women. Column 1 summarizes pertinent themes identified through analysis of the focus group data and column 2 outlines key quotes that further explain each theme. Column 3 summarizes findings from focus groups in a narrative format. Important themes were developed first using the three aims described above. Transcripts were analyzed for quotes that fit under each theme established from the aims. If there was evidence of another important theme not specifically addressed in the aims in the transcripts, this theme was added. After matching quotes to themes, a narrative was written to summarize the transcript data. Key quotes that supported the narrative and clearly illustrated the point of view of the participants are summarized in Table 6.

TABLE 6: Findings on lived experiences of pregnant women based on focus group discussions in Tanzania

Theme	Key Quotes
Challenges and experiences during pregnancy	*"When I was pregnant, I had many challenges including vaginal bleeding for the entire period of pregnancy. I was also feeling dizzy and nausea to the extent that I could not eat properly"*
	"Most of the time I was feeling dizzy and had anemia"
Perceptions of IFA	*"IFAS increases blood in our body and should be taken daily"*
	"The tablets increase blood besides vegetables that also contributes to an increase in blood. These tables also strengthen child's body parts in-utero and after birth"
Challenges with IFA	*"I don't like them at all. The challenges start when putting these tablets in the mouth, they smell bad and makes me feel nausea and sometimes I vomit"*
	"I experienced nausea however, the challenges on the use of the IFAS differs from one person and another. Other times I experienced body weakness, tiredness and sweating after using the IFAS. Also, the odor is not impressive"

The findings above summarize experiences with pregnancy, perceptions of iron folic acid supplements and the challenges associated with their use. These findings can be used to develop an understanding of what it means to be pregnant in this community and how this experience affects uptake and perception of MMS products.

Social marketing inputs

Focus group findings can also be directly applied to the marketing of MMS. Consider developing materials such as packaging design based on the workshop findings and then asking for participant thoughts on these materials. Additionally, focus group findings on communication channels and target audiences can help guide development of a marketing strategy by directly applying these suggestions. The following are quotes that summarizes some suggestions for MMS marketing and promotion in Tanzania:

"We normally get all necessary information from the health facilities" as said: P9: From health facilities and sometimes other sources. For example, here in Kibole we have women groups created specifically to discuss maternal issues including supplements"

"We do get some information from mobile phone networks. When you have a mobile number and a handle, you may register to get information about health and other things you want to learn. You just need to write what you want"

From the selected quotes, health centers and mobile phone networks were identified as mechanism for promotion of MMS. Additionally, placing information at health centers and educating healthcare workers on MMS could be another effective promotion strategy.

Participatory Workshops

Collecting community inputs for tailoring program design and implementation

Overview

Participatory workshops with diverse groups of community members allow them to brainstorm ideas and identify common barriers to maternal care seeking and prenatal supplement usage. They will also allow for brainstorming and ranking of preferred strategies (such as promotional channels, logo/ slogan/ brand name preference etc.) to help overcome those identified barriers. A guide should also be developed that contains specific questions that can generate one word or phrase responses. Questions on the guide should also reflect the three aims outlined above. An example guide is provided in the Annex 3.

Example objectives

1. To identify anticipated barriers to and preferred solutions to help ensure optimal MMS acceptability and utilization in this setting
2. To gain consumer insights on MMS product characteristics including colors, logo, slogan, and brand name to be used locally
3. To build community consensus around preferred promotional strategies for introducing MMS including inputs for culturally appropriate programming

Sampling/recruiting participants

- Follow appropriate channels, such as working with community leaders and health workers, to recruit participants.
- Participants should be representative of community demographics and include community members who are stakeholders in MMS programming. This includes pregnant women, lactating women, grandmothers or in-laws, as well as husbands.
- It may be necessary to conduct separate workshops for different d target groups/demographics.
- Although community leaders can help to organize the workshop, they should not join in the activity due to their potential influence over community member participation.

Select a venue

- Ideally, the location should be neutral such as a community center or common meeting space, rather than a headquarters or office of an implementing agency.
- Workshops can be held in open outdoor spaces; however, ensure that the participants feel comfortable and have some level of privacy from the rest of the community.

Data analysis

A participatory community workshop will generate two types of data:

1. Numerical data in the form of vote tallies for each question posed.
2. Textual data in the form of field notes written by the recorder. Field notes will help to contextualize the voting data by explaining 'why' the top votes were cast for each workshop question. Field notes can also help explain disparate findings from different workshops.

There is not one single approach to interpreting and reporting workshop findings. Creating a summary report for workshop findings is an effective way to summarize key results for further application.

Sample findings

Sample community workshop findings from the pilot study in Tanzania are provided below to give examples to guide data collection. Additional suggestions are provided on how to best apply findings to development of MMS marketing strategies. The summary tables are displayed for each question with the local language and English translations. Both the numerical data (table with top voted suggestions) and the textual data (qualitative quotes explaining top choices) are provided for each question.

Consumer insights on MMS product characteristics

The results from the participatory workshops in Tanzania are provided in the section below. First, participants were asked to suggest names for the supplement that would both draw the attention of users (pregnant women) and encourage other women to use the supplement. Multiple names in total were suggested however one became more popular than others, "virtubisho vya mama mjamzito" (Table 7).

In addition to suggesting names, participants were also asked to vote on a preferred color scheme of MMS packaging. Most participants favored green, red, or white MMS design. Participants had varying reasons for choosing each color. Some participants voted red because that is the color that people are familiar with.

"I suggest the color to remain red because people are used to it, changing the color might make them think it is not MMS tablet anymore" (Father, Tanzania)

Some suggested green because of its similarity to vegetables and plant-based medicine.

"I'm suggesting green color because even the vegetables we are eating are green. This will make us remember their importance" (Mother, Tanzania)

While others suggested white because of its resemblance to other drugs in stores.

"I'm also proposing white color because, people are used to white colour tablets and reflect cleanness. Also, most tablets that are white color has no smell" (Mother, Tanzania)

Participants also acknowledged the importance of slogans for long-term impact of an MMS program. Seventeen slogans were suggested, the top voted slogan was "vitamini bora sana" (super vitamin) followed by "okoa mama okoa mtoto" (save mom save child) (Table 8).

Lastly, participants were asked to vote on a logo for the MMS tablets with the aim of making them easily identifiable. The majority of participants had suggested a picture of a pregnant woman swallowing the tablet.

"I would like if a pregnant mother appears there, she should be shown swallowing these tablets because they are made for pregnant mothers." (Mother, Tanzania)

TABLE 7: Suggested names for MMS based on community workshop data from Tanzania

Suggested Swahili name	*English translation*
1. Kitulo	A name of Tanzania national park located at southern highland
2. Mama mjamzito	Pregnant mother
3. Tusaidie Mungu	God help us
4. Damu	Blood
5. Umoja	Unity
6. Kiongeza damu	Blood enhancer
7. Virutubisho vya mama mjamzito	Supplements for pregnant mothers
8. Mama na mtoto	Mother and infant
9. Mkombozi wa akina mama	Mother's saviour

Taking into consideration all suggestions by caregivers in workshops, eleven printed samples of packaging were created. Participants were then asked to vote on which packaging they liked the most. Package numbers 1 and 3 were the most popular. Participants proposed minimal changes to each packaging and overall, package number 3 was the favorite package.

Using the information gathered from the participatory workshops, the optimal packaging to increase acceptability of an MMS product was generated for the Tanzania context. Package number three was altered to include a bolded title, be written in Kwahili, and use a more realistic image such as the one from package number one to create the optimal MMS packaging for Tanzania.

TABLE 8: Suggested slogans to promote MMS based on community workshop data in Tanzania

Suggested slogan in Swahili words	*English translation*
1. Boresha afya ya mama na mtoto	Improve maternal and child health
2. Boresha afya ya mama mjamzito	Improve the health of a pregnant woman
3. Meza dawa ikusaidie	Take medication for self-help
4. Jipe moyo	Give yourself hope
5. Karibu mama mjamzito	Welcome pregnant mother
6. Virutubisho bora kwa akina mama	Best supplements for mothers
7. Dawa tosha kwa mama mjamzito	Sufficient tablet for pregnant mother
8. Dawa salama kwa wazazi	Safe tablet for mothers
9. Sisi tunaweza	We can

PACKAGE 1

PACKAGE 3

Barriers to MMS uptake

Another key question in the workshop guide asks participants to identify challenges for MMS uptake. The challenges identified in Bangladesh are summarized in Table 9 below.

Understanding possible barriers to MMS consumption is important to improving acceptability and adherence. At the community level, caregivers reported poor road conditions and limited supplies as a top barrier to MMS consumption. However, most barriers were identified at the individual level including adverse side effects, unpleasant odor/smell, personal beliefs, and high cost limiting availability. Recognizing barriers can help in identifying modifiable factors, which can be targeted to increase MMS consumption during programming.

TABLE 9: Reported barriers to prenatal supplementation in Bhola and Kurigram, Bangladesh

Reported barriers of supplementation during pregnancy	*Supporting quotations*
High cost of supplements	*"Of course, vitamins are required but we can't afford the vitamins."* *Bhola, interview, pregnant woman*
Supplement odor/smell	*"Many people do not like the vitamins that are available in the clinic; the medicine has a mild odor, which is why many people do not want to eat [them]."* *Bhola, interview, pregnant woman* *"Yes, it's smelly (iron). Iron and calcium cannot be taken due to their smell."* *Bhola, focus group, PLW*
Physiological side effects of supplements	*"Many [women] say that they cannot take iron because it causes constipation. Though their body needs vitamins, they [pregnant women] cannot take such vitamins due to these problems."* *Bhola, interview, health worker*
Perception that supplements can cause delivery complications	*"Vitamin supplements make the baby large, for which babies cannot be delivered normally and require a C- section."* *Bhola, focus group, PLW*
Limited access to supplements due to poor road conditions and stock outs	*"The road to the clinic is not good and gets flooded during high tide."* *Bhola, focus group, PLW* *"Medicines are not available in the clinics most of the time."* *Kurigram, focus group, PLW*

Direct observations

Collecting quantitative data to corroborate and further contextualize qualitative findings

Overview

Direct observations are useful in to gather quantitative data that can be used to corroborate or expand on qualitative findings. For example, direct observations may help to inform MMS marketing materials by providing information about those locally-available supplements currently preferred and utilized by the majority of women in each setting by directly observing markets in target communities to assess the types of prenatal supplements being sold and cost of supplements in addition to the places where supplements are sold. The instrument that should be developed to assist with direct observations is a checklist that includes observation-based questions. For example, in the case of MMS questions should be focused on price, product placement, and promotional strategies (a sample tool is provided in Annex 5).

Example objectives

1. To understand the range of options where pre-natal supplements are currently being sold/distributed to pregnant women in this setting
2. To describe the range of existing pre-natal supplements and their preferred characteristics available in the current market
3. To inform social marketing inputs related to optimal MMS product, price, placement, and promotions

Data analysis

Simple descriptive statistics should be used to analyze the results from direct observations. Analysis will vary based on the questions in the data collection tool, however, a few examples of key data points are provided below:

- The percentage of markets that sell supple mentation could be calculated.
- Average cost of supplements in the community should also be calculated.
- Purchasing patterns could be represented by percentage of shop owners who report that women primarily purchase supplements

Sample findings

Sample findings from the pilot study market observations are displayed below along with some ideas for interpretation of results. The market observations will provide data on the price of supplements, the range of products on the market, purchasing patterns, locations where MMS is sold and promotional strategies. These findings can inform optimal pricing for an MMS product, modes of distribution, and promotion strategies. Findings from the market observations are combined with data from interviews and focus groups to illustrate how data from different methods can be used to complement each other.

Range of products

Understanding the types of products currently available to consumers can help with deciding packaging design, unit type (ex: blister pack, pill bottle) and unit number. An example overview of the products found during market observation in Burkina Faso (Table 10).

Purchasing patterns – Who is the decision maker, the buyer?

Understanding who buys MMS can help in determine who should be targets of advertising. While pregnant women are the target users, they may not be the primary purchasers. For example, in Bangladesh, two thirds of interviews with shop keepers and pharmacists during market observations explained that husbands are the primary purchasers of prenatal supplements intended for pregnant women. From this finding, it may be helpful to target male family members with MMS advertising. Interview data corroborates this finding by providing additional context as to why husbands are a good target for advertising.

It would be better to bring the husband to the [community-level] meetings. Since they buy vitamins from the market they need to know about them." (Pregnant Woman, Bhola)

"If there is such a big billboard in front of the clinic or in front of a shop, then the husbands of pregnant mothers may read the billboard and go home and share it [MMS information] with their wives." (Pregnant woman, Bhola)

Pregnant women in both study sites explained husbands often work long hours and are primarily involved in making household decisions related to finances. Pregnant mothers emphasized the importance of including husbands in MMS promotion.

TABLE 10: Prenatal supplements available in the current market in Burkina Faso

Prenatal Supplements	*Point of sale/ Distribution*	*Galenical Form*	*Presentation in which Supplements being sold/ Distributed*	*Supplement Contents*	
Denk Prenatal	PP	Tablet	Box of 30	Vitamins B1, B2, B6 and B12, niacin, folic acid, vitamin C and E	
Gestarelle	PP	Tablet	Box of 30	Vitamin B9, vitamin D, Iodine, iron, Omega 3, 8 vitamins and 2 minerals	
Alvityl Comprimé	PP	Tablet	Box of 40	Vitamins, Minerals	
Astymin Forte	PP	Tablet	Box of 20	Multivitamins, Essential amino acid	

STEP 3 | USING FORMATIVE RESEARCH TO INFORM THE DESIGN OF AN MMS PROGRAM/INTERVENTION

Step 3 is used to test intervention strategies developed using findings from Steps 1 and 2 in an iterative design. Ethnographic findings from Step 1 may be used to generate local terms and phrases for tailored messaging promoting MMS, while participatory findings from Step 2 may be used to inform choice of intervention strategies that may assist pregnant women in overcoming key barriers to antenatal care and MMS usage. A few such strategies include:

Using formative research findings to design a social and behavior change communication (SBCC) approach

Behavior change is an inherent part of most health and nutrition interventions, and in order to sustainably contribute to nutrition outcomes, it is necessary to influence people's behaviors. It is generally complementary to providing access to goods or services as it helps maximize their use and benefit. Findings from the literature review and primary data collection collected during formative research can be organized organize and distilled into an evidence-based SBCC strategy. For example, the research findings from Tanzania above noted sociocultural barriers to MMS uptake and adherence such as adverse side effects, unpleasant odor/smell, and personal beliefs, that could be modified using a strong SBCC approach to increase MMS consumption during programming.

Using formative research findings to design a gender-responsive program design

Gender responsive programming refers to program where gender norms, roles and inequalities have been considered, and measures have been taken to actively address them by narrowing and/or removing gender inequalities. Formative research can be used to inform gender-responsive programming (in health interventions) by identifying barriers and enablers to accessing and using health services and incorporating qualitative inquiry and engagement approaches into formative research in a way that generates evidence to develop the program.

STEP 4 | PLANNING FOR FORMATIVE RESEARCH

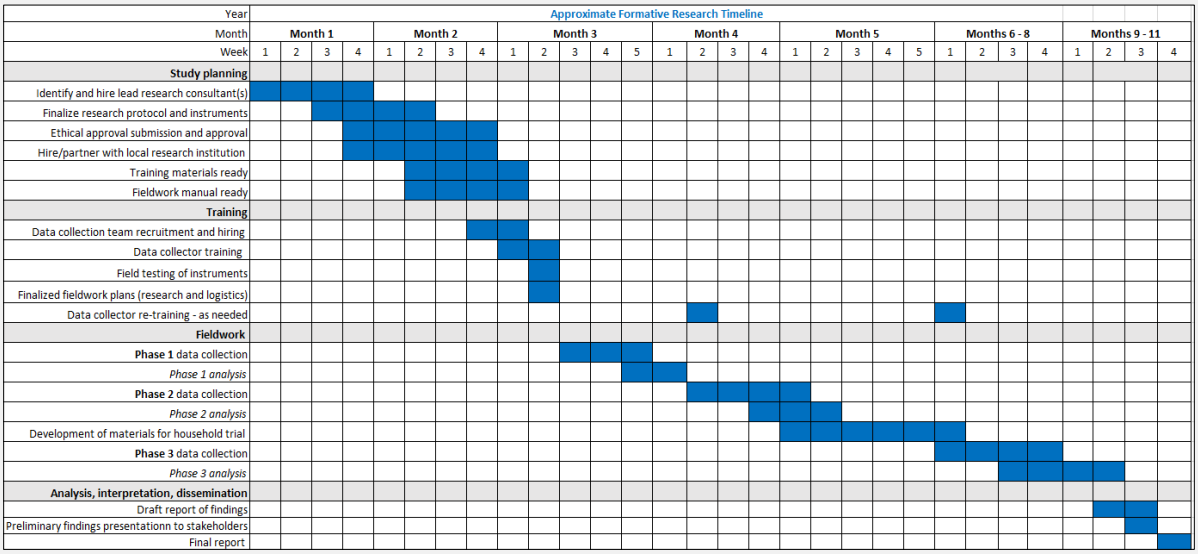
Developing a timeline and budget

How long does it take to carry out formative research? The time required depends on many factors, including, but not limited to: availability of personnel, funding, logistics, sample size, size of the intervention zone, training needs, the timeframe before implementation of a program, and the scope and depth of the assessment. Literature reviews can take two to five days, depending on the scope of the research. The primary data collection will take longer, as to allow time to talk to members of the community, and plan focus group discussions and interviews. An example timeline of activities is provided below in Figure 3. It is important to note that there should be at least a week in between each step to complete preliminary data analysis and check data quality before moving on to the next step. Timelines will vary across country programs with some steps moving more quickly than others based on local factors.

Attaining ethical approvals

Typically, ethical approval should be attained, at minimum, through the national ethics committee in the country where the work is being conducted. Sometimes, if an international university is involved, then a second ethics approval will also be needed from that supporting institution. In some cases, sub-national approvals (e.g., regional, district) are also required. Ethical approvals often require a detailed research protocol, finalized data collection instruments and consent forms in both a national language and all local languages, letters of support, and study personnel details, among other items.

FIGURE 3: Example of a 12-month formative research timeline of activities from planning through final report submission



Preparing all necessary materials for ethical approval submissions and waiting for institutional boards to grant approvals at all required levels may take between 2 – 6 months in most cases. Once institutional research boards grant the necessary approvals to proceed with human subject research, then informed consent must be obtained from each study participant prior to data collection. Planning ethics approvals into a program timeline will be an important consideration.

Box 4: Research Ethics E-learning Training Resources

- *The Collaborative Institutional Training Initiative (CITI) provides no-cost training modules for study personnel to complete for research ethics certificates that are needed for most institutional research board submissions. The suite of training modules can be completed in multiple languages and is widely accepted.*
- *FHI360 offers a Research Ethics Training Curriculum that can be utilized for training study personnel, including data collection team members, prior to fieldwork activities.*
- *The Global Health Training Center has developed a Research Ethics Online Training which has been adapted from an e-learning course that was produced by the World Health Organization.*

CONCLUSION

Collecting ethnographic, qualitative, and participatory forms of data through multiple methods and among important participant types may aid in programming design choices where MMS will be introduced. Behaviorally, MMS offers similar challenges to those of iron-folic acid which has seen variable coverage, acceptability, and uptake across settings (Siekmans et al., 2018). Given the potential of MMS for improving pregnancy related health and birth outcomes, investing time and resources in well-designed, systematic formative research such as that provided in this guidance manual may help to improve the likelihood that MMS will be accepted and utilized by pregnant women across cultural contexts.

This qualitative formative research process and the resulting report will allow partners and key stakeholders to gain a better understanding of the target population, especially with regards to the health topic of interest. Once the formative research is complete, it is time to start considering the type of intervention the target population needs as well as what monitoring and evaluation system should be put in place in order to assess whether or not the population's needs and interests are being met and to ensure that the program is on track.

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ANNEX 1: SEMI-STRUCTURED INTERVIEW GUIDE

Semi-Structured Interview Guide (pregnant women)

Demographic Information

Data Collector Name: _____ Date: _____

Location: _____

Introduction

Thank you for taking the time to speak with me. To start, can you please tell me about your family? Could you please tell me about a typical day for you? Now can you tell me about the resources available for pregnant women in this community?

Antenatal Care:

- Now I would like to know more about health during pregnancy in this community.
- Can you please describe what a healthy pregnancy should look like?
- Can you please describe any changes to your diet after you became pregnant?
    - Probe on any advice regarding diet during pregnancy received
    - Probe on who gave her the advice
    - Probe on foods that are good for pregnant women
    - Probe on foods that pregnant women should avoid
    - Probe on how easy or difficult it is to maintain a healthy diet during pregnancy
- Can you please describe the illnesses that pregnant women in this community suffer from?
    - Probe on seriousness of illnesses
    - Probe on diseases she is most concerned about
    - Probe on consequences of untreated illness
    - Probe on the cause of each illness
    - Probe on prevention of each illness
    - Probe on treatment
- Can you describe any health care you have received from the time you knew you were pregnant to now?
    - Probe on healthcare seeking practices
    - Probe on how receiving this care is prioritized
    - Probe on knowledge of when to seek care
- What barriers do women in this community face in staying healthy during pregnancy?
    - Probe on community support
    - Probe on family support
    - Probe on access to care

Micronutrient Supplement

This is great information. Now I would like to hear your thoughts on micronutrient supplements.

- Can you describe how a micronutrient supplement could help you stay healthy during your pregnancy?
    - Probe on illness prevention

- Can you describe any similar products that you or other pregnant women in your community use?
    - Probe on source of supplements
    - Probe on availability
    - Probe on affordability
    - Probe on sharing
    - Probe on what makes them desirable
    - Probe on products that are not desirable
    - Probe on perception of product
    - Probe on other medications used during pregnancy
- Can you describe how these products were explained to you?
    - Probe on who told her about these products
    - Probe on how effective this explanation was
    - Probe on how it could be improved
- Can you please tell me how to best market a micronutrient supplement to pregnant women in this community?

Thank you for your time. Is there anything else you would like to discuss that was not brought up?

Semi-Structured Interview Guide (health workers)

Demographic Information

Data Collector Name: _____ Date: _____

Location: _____

Introduction

Thank you for taking the time to speak with me. Could you please tell me about your role in the community? Tell me about a typical day as a health worker?

Can you please describe what health care resources there are for pregnant women in this community?

Antenatal Care:

- Now I would like to know more about health during pregnancy in this community.
- Can you please describe what a healthy pregnancy should look like?
- Can you please describe the illnesses that pregnant women in this community suffer from?
    - Probe on seriousness of illnesses
    - Probe on consequences of untreated illness
    - Probe on the cause of each illness
    - Probe on prevention of each illness
    - Probe on treatment
- Can you tell me about illnesses that you are most concerned with?
    - Probe on seriousness of illnesses

- Tell me about the care that a pregnant woman receives over the course of her pregnancy.
    - Probe on any nutritional advice given to pregnant women
    - Probe on any resources provided to women
    - Probe on if advice is followed
    - Probe on if resources align with advice
    - Probe on reasons why women may or may not follow advice
    - Probe on healthcare seeking practices

- What barriers do women in this community face in staying healthy during pregnancy?
    - Probe on community/family support
    - Probe on access to care

Micronutrient Supplement

This is great information. Now I would like to hear your suggestions about developing a program that will introduce a micronutrient food supplement

- Can you describe how a micronutrient supplement would help a woman stay healthy during her pregnancy?
    - Probe on illness prevention

- Please describe how you distribute supplements to pregnant women
    - Probe on availability of supplements
    - Probe on supply of supplements
    - Probe on any changes to supply of supplements

- Can you describe similar products that pregnant women in this community use?
    - Probe on source of medications/ supplements
    - Probe on affordability
    - Probe on sharing
    - Probe on what makes them desirable
    - Probe on products that are not desirable
    - Probe on acceptability of micronutrient supplement
    - Probe on perception of product

- Please describe the most effective way to market a micronutrient supplement in this community?
    - Probe on availability of supplements
    - Probe on supply of supplements
    - Probe on any changes to supply of supplements

Thank you for your time. Is there anything else you would like to discuss that was not brought up?

ANNEX 2: FOCUS GROUPS DISCUSSION GUIDE

Demographic Information:

Data Collector Name: _____ Date: _____
Location: _____ Number of participants: ___

Introduction:

Thank you for taking the time to speak with us today. We would like to hear your thoughts on micronutrient supplement s and supplementation during pregnancy.

- To start, can everyone tell us a little about their family?

Antenatal Care:

- Please describe any medical care you receive from the beginning of your pregnancy to the end of it.
    - Probe on where healthcare is received
    - Probe on access to care
    - Probe on changes in access to care

- What are some common challenges that women face during pregnancy? Can you tell us about your experience with these?
    - Probe on challenges related to nutrition
    - Probe on social support

MMS Products:

- Now let's discuss your experience with supplements during pregnancy. We have heard that many pregnant women in this community use X (country specific). Can you tell me why that is?
    - Probe on what makes these products desirable
    - Probe on products disliked by the community and reasons why
    - Probe on how these products are used
    - Probe on how easy or difficult it is to use the supplements
    - Probe on how important the use of these products are to pregnant women
- Can you describe any barriers in getting or using these supplements?
    - Probe on availability
    - Probe on affordability
    - Probe on where supplements are sold
- Can you describe how these supplements might help you during pregnancy? Can you please explain why that is?

MMS Promotion:

- Now we would like to hear your thoughts on how these products should be promoted in this community.
- Can you describe what a product should look like to make it attractive to pregnant women?
    - Probe on colors
    - Probe on logo
    - Probe on names
    - Probe on colors, names and logos that should not be used
- Can you tell us where this product should be promoted?
    - Probe on where pregnant women often get health advice
    - Probe on health advertisements in the community
- Can you tell us who this product should be marketed to?
    - Probe on advertising to fathers
    - Probe on differences in messaging depending on audience

ANNEX 3: PARTICIPATORY WORKSHOP GUIDE

Demographic Information

Data Collector Name: _____ Date: _____
Location: _____ Number of participants: ___

Introduction

We would like to hear your suggestions on developing a brand for a micronutrient supplement specifically for pregnant women. Please express your ideas freely; there are no right or wrong answers. We will be asking you a series of questions and will vote on your responses.

Section 1: Challenges and solutions

- What are the challenges women in this community face in taking prenatal supplements?
    - Let's vote on the top 5 challenges. You have 5 votes and can use all 5 on one idea or split them up.
- What are some solutions to these challenges? What could make it easier for women to regularly take a prenatal supplement?
    - Let's vote on the top 5 solutions.

Section 2: Branding

Discuss common brands in the community focusing on colors, names, logos and slogans. Use brands like sports teams as examples.

- Now, we would like to discuss how a micronutrient supplement should look to make it attractive to pregnant women in this community. We will be asking for your ideas for the color, name, logo and slogan for this product. Let's start with color. Please brainstorm a color scheme that you think would suit a product like this.
    - Let's vote on the color schemes. You have 5 votes and can use all 5 on one idea or split them up.

- Next, we would like you to think about a good name for a product like this. The name can be one, two or three words.
    - Let's vote on the names. You have 5 votes and can use all 5 on one idea or split them up.

- Now, let's think about a good slogan to represent this product. The slogan could be a short phrase that is memorable.
    - Let's vote on the slogans. You have 5 votes and can use all 5 on one idea or split them up.

- Now, let's discuss what a good logo would look like. The logo could be a simple picture that represents the name and the slogan of the product.
    - Let's vote on the logo ideas. You have 5 votes and can use all 5 on one idea or split them up.

Thank you for your participation. Does anyone have any additional questions or comments?

ANNEX 4: PILE SORTING GUIDE

Demographic Information

Data Collector Name: _____

Date: _____ Location: _____

Respondent characteristics: Age:____ Number of Children: _

Q1 | Maternal Illness: In order to help me understand more about illnesses pregnant women experience in this community, I'd like to ask you to tell me which illnesses go with each other. I've made a list of some illnesses that are commonly experienced here. Please sort these illnesses into piles, in whatever way you think is best, in as many piles as you wish. There is no right or wrong way. (Rules: respondents may not put all illnesses into one pile or separate them into each into its own pile.)

Pile	Card Number										
1											
Explanation for Pile 1:											
2											
Explanation for Pile 2:											
3											
Explanation for Pile 3:											
4											
Explanation for Pile 4:											
5											
Explanation for Pile 5:											
6											
Explanation for Pile 6:											

Q2 | Illness Severity: Now I want you to re-sort these cards. In order to help me understand more about illness in this community, I'd like to ask you to put these illnesses into 3 piles based on how severe they are: 1) most severe, 2) moderately severe, 3) less severe. There is no right or wrong way; it is just your perception.

Pile	Card Number										
1											
Explanation for Pile 1:											
2											
Explanation for Pile 2:											
3											
Explanation for Pile 3:											

Q2 | Pregnant Women Foods: In order to help me understand more about food in this community, I'd like to ask you to tell me which foods go with each other. I've made a list of some foods that are commonly eaten here among pregnant women. Here they are. Please sort these foods into piles, in whatever way you think is best, in as many piles as you wish. There is no right or wrong way to do this.

Pile	Card Number										
1											
Explanation for Pile 1:											
2											
Explanation for Pile 2:											
3											
Explanation for Pile 3:											

Potential follow-up questions for explanations of each pile

- Tell me about pile X, Y, Z, etc. and how these cards are similar
- I notice that these cards are in different piles. Could you explain that for me?
- If you could name each of these piles, how would you do so?

Pile Sorting Analytic Framework

Topic: _____ Community: _____

Instructions: For ease of reference, record each food used for the pile stored in the appropriate space below:

1		2		3	
4		5		6	
7		8		9	
10		11		12	
13		14		15	

Instructions: Examine the pile sort data in form 3.1.1. Each time foods are in the same pile, put a tick mark in the appropriate intersection box in the matrix below. Use only the un-shaded boxes.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	X													
2		X												
3			X											
4				X										
5					X									
6						X								
7							X							
8								X						
9									X					
10										X				
11											X			
12												X		
13													X	
14														X

FORM 4: Tabulation Sheet For Pile Sorts

Instructions:
Most close: From form 8, find 8 to 10 items that were most often placed in the same pile. Write the names of the two items and the percent of times they were put together in the same pile in descending order of frequency. On the right-hand side, write the most common explanations for why these items were seen as similar to each other.

Item 1	Item 2	%	Explanation for closeness

Most Distant (top 5-6)

Item 1	Item 2	%	Explanation for closeness

ANNEX 5: FREE LISTING GUIDE

Demographic Information

Data Collector Name: _____

Date: _____ Location: _____

Respondent characteristics: Age:____ Gender:_____ Number of Children: _

No.	Free List Question	Comments to guide field notes
	List all of the different foods you consume in this community.	• Probe on the top 5 foods mentioned to determine well as a description of that food in general. • You might probe about their availability by season. Probe on any foods that seem confusing, new, or unclear to you for further clarification.
1.		
2.		
3.		
4.		
5.		

No.	Free List Question	Comments
	List for me all of the illnesses that you suffer from as a pregnant woman in this community.	• **After listing, probe on the top 5 illnesses to get local explanations.** • **Probe on any nutrition-related illnesses (e.g., anemia). Probe on any illnesses that seem confusing, new, or contradictory to you.**
1.		
2.		
3.		
4.		
5.		

ANNEX 6: DIRECT (MARKET) OBSERVATION GUIDE

Walk through each market looking for prenatal supplements. Fill out sections 1 and 2 based on what you observe. Pick one selling location and ask the owner of that shop or pharmacy the questions listed in section 3.

Section 1: Supplements:

Fill out the following table for the prenatal (both MMS and IFA) supplements identified while walking through each market. It is helpful to take photos of interesting displays or packaging.

Supplement Name	Supplement Type	Location (Store/Pharmacy, Market stand)	Price	Number of pills sold in one package	Type of package	Colors used on package

Total number of selling locations for prenatal supplements: _____
Total number of supplements identified: _____

Section 2: Advertising

Use the table below to document advertising for any prenatal supplements. Advertising could be in the form of posters, displays in stores, etc.

Supplement name	Type of advertisement	Location of advertisement	Photo or description

Total amount of advertisements observed: _____

Section 3: Survey with shop or pharmacy owner

Find a selling location that sells at least one of the supplements listed in Section 1. Fill out the demographic information and ask the questions listed below to the shop owner. You can either write the responses on the tool or record the interview on a recording device.

Demographic Information

- Type of selling location: _____
- Number of supplements sold: _____
- Names of prenatal supplements sold: _____
- Price of supplements at selling location: _____

Supply Questions

- How many supplement types do you usually sell?
- How often do you receive shipments of these products?
- Describe any changes in prenatal supplement supply quantity over the year.
- What are some reasons why supply amounts change?

Demand Questions

- Who usually buys these products?
- Are there ever times where people are looking to buy prenatal vitamins, but you are out of stock? How often did this happen in the past month?

Product based Questions

- Which supplements sell the most? The least?
- Why do you think people prefer the supplement that sells the most?