STRENGTHENING MATERNAL NUTRITION in Health Programs

A Guide for Practitioners
About USAID Advancing Nutrition
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Acronyms

ANC  antenatal care
BMI  body mass index
BRAC Building Resources across Communities
CLA collaborating, learning, and adapting
COVID-19 novel coronavirus
DHS Demographic and Health Survey
FAO Food and Agriculture Organization
HMIS health management information systems
IFA iron-folic acid
IVR interactive voice response
LBW low birthweight
MCHN Maternal and Child Health and Nutrition
MICS Multiple Indicator Cluster Survey
MIYCAN maternal, infant, young child and adolescent nutrition
PNC postnatal care
QI quality improvement
TWG technical working group
UNAP Uganda Nutrition Action Plan
USAID U.S. Agency for International Development
WASH water, sanitation, and hygiene
WHO World Health Organization
WRA women of reproductive age
CHECKLIST: STEP-BY-STEP GUIDANCE ON ADDING/ADAPTING MATERNAL NUTRITION INTERVENTIONS

1. Complete a situation analysis by collecting, reviewing, and synthesizing quantitative and qualitative data

- Determine what information and data are available on maternal nutrition for your context
- Collect additional data needed for program or activity design
- Review existing programming, country guidance, and government strategies
- Synthesize the data collected and develop a situation analysis

2. Identify maternal nutrition health sector priorities to develop an implementation plan

- Identify potential collaborators and/or partners, including relevant technical working groups
- Work with a multi-stakeholder team to identify maternal nutrition implementation priorities, and roles and responsibilities of key stakeholders
- Create a theory of change and/or logical framework
- Develop or adapt your program or activity’s implementation plan

3. Implement, monitor, reflect on and adjust maternal nutrition programming

- Implement the program, monitor progress, and regularly collect and analyze data on indicators
- Using monitoring data, reflect on progress and adjust interventions accordingly
INTRODUCTION

Optimal maternal nutrition during the first 1,000 days (the period from conception to a child’s second birthday) is critically important to improve nutritional status and health outcomes for women and their infants and also to reduce the risk of adverse birth outcomes, such as low birthweight (LBW) and preterm birth (Black et al. 2008). Yet many women of reproductive age (WRA) in low- to middle-income countries, especially girls entering adolescence, suffer from micronutrient deficiencies and infections that make them thin, stunted, or anemic. Data from 62 studies in low- and middle-income countries in Africa, Asia, and Latin America and the Caribbean found inadequate micronutrient intakes and low dietary diversity among pregnant and lactating women (Lee et al. 2013).

Maternal stunting (height <145 centimeters) and underweight (low body mass index [BMI]) during early pregnancy are associated with increased risk of poor fetal growth. Deficiencies in calcium and zinc during pregnancy are associated with preterm birth, while iron deficiency anemia during pregnancy is associated with LBW (Black et al. 2013). The 2007 and 2011 Lancet series found that LBW infants with intrauterine growth restriction are at significant developmental risk—including lower cognitive scores, poorer problem-solving skills, and behavioral issues (Walker et al. 2007; Walker et al. 2011). Children who are malnourished are more likely to become adolescents and adults who are malnourished, contributing to a vicious cycle.

Moreover, many girls begin childbearing before they reach full height and weight (Thurnham 2013). Adolescent pregnancy is associated with a 50 percent increased risk of stillbirths and neonatal deaths, and an increased risk of low birth weight, premature birth, asphyxia, and maternal mortality (Bhutta et al. 2013; World Health Organization [WHO] 2007). In addition, the risk of stunting is 36 percent higher among first-born children of girls under 18 years in South Asia and 33 percent higher in sub-Saharan Africa—indicating that early motherhood is a key driver of malnutrition and suboptimal well-being (Fink et al. 2014). A life cycle approach to program planning includes improving nutrition among pre-pregnant adolescents, and promoting delayed marriage and childbearing until after the adolescent years. Box 1 provides more information about what is unique about adolescent nutrition.

While many programs targeting the first 1,000 days focus efforts on infant and child health benefits and outcomes of nutrition interventions, maternal diet during pregnancy and lactation, weight gain during pregnancy, and iron-folic acid and calcium supplementation have received less attention. The lack of program implementation experience and data regarding maternal nutrition interventions created a gap in understanding how to integrate maternal nutrition interventions in the planning and design of health programs and projects.

This guidance document focuses primarily on health sector actions, but a multi-sectoral approach involving nutrition-sensitive sectors such as agriculture, education, and others is essential to achieve sustainable progress in maternal nutrition outcomes.

BACKGROUND

In 2019, the Maternal and Child Survival Program, funded by the U.S. Agency for International Development (USAID), produced the publication, Maternal Nutrition Operational Guidance: Program Considerations for Low- and Middle-Income Countries (Kavle, Picolo, and Dillaway 2019). This document describes how to design, implement, and strengthen the delivery of maternal nutrition interventions in the health system. In 2020, USAID Advancing Nutrition tested the operational guidance and its corresponding checklist in collaboration with the USAID Maternal Child Health and Nutrition Activity in Uganda. Based on this experience, and input and feedback provided during an external consultation, USAID Advancing Nutrition developed this updated guidance. This version incorporates a program planning process, as well as additional information on collecting...
and synthesizing data—and developing or adapting an implementation plan. Throughout this document, maternal nutrition refers to key actions leading to positive maternal nutrition outcomes during pregnancy and lactation.

HOW CAN THIS GUIDANCE HELP YOU?
This updated guidance provides step-by-step recommendations to add or strengthen maternal nutrition components in programs or services delivered by the health system, including actions to strengthen the overall health system and the enabling environment. After using this document, you will have developed or adapted your program or activity’s implementation plan based on maternal nutrition priorities identified.

FOR WHOM IS THIS GUIDANCE?
This guidance is for nongovernmental organizations working closely with government counterparts and other practitioners who seek to strengthen maternal nutrition services at the facility or community level, or to improve the enabling environment for maternal nutrition. You do not have to be an expert in nutrition to use this guidance, but you should include nutrition experts in the design process.

HOW SHOULD YOU USE THIS GUIDANCE?
We designed this guidance for use by a country-based team, with expertise in the following areas—

• program planning and implementation with health or nutrition interventions specific to the country or region of focus
• knowledge of and relationships with multi-sectoral nutrition stakeholders in the government, among donors, and among implementing partners in the country
• knowledge of and experience with data collection methods and synthesis.

Involve stakeholders throughout the process, including reaching agreement on maternal nutrition implementation priorities and roles and responsibilities.

This guidance uses a three-step process:

1. Complete a situation analysis by collecting, reviewing and synthesizing data.
2. Identify maternal nutrition health sector priorities to develop an implementation plan.
3. Implement, monitor, reflect on, and adjust maternal nutrition programming.

The details of these steps reflect common components of USAID-funded programs; however, the processes can be adapted to fit a government planning approach or that of another donor. To complement the steps, the annexes provide global guidance on maternal nutrition, illustrative approaches to improve maternal nutrition, key indicators to track, and additional tools and resources. Not all guidance will be applicable to every program, so tailor the steps to your program’s specific needs. After using this guidance intensively during program or activity planning, return to it again several months later to assess progress and adjust implementation as needed.

WHEN SHOULD YOU USE THIS GUIDANCE? HOW LONG IS THE PROCESS?
Ideally, review this guidance three to six months before planning your new program or activity. However, you can also apply relevant recommendations to your existing program design and adaptation processes. For example, conduct the process before the work plan cycle or during annual reviews.

The first two steps may take two to three weeks of effort—longer if substantial data collection is required. Step three requires sustained effort over the course of your project. The amount of time required for each step will depend on the availability of maternal nutrition data, new data collection needs and formative research efforts, and the availability of other stakeholders for joint planning.

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1 The enabling environment in this context refers to evidence-based national policies, financial investment, and nutrition governance.
1. COMPLETE A SITUATION ANALYSIS BY COLLECTING, REVIEWING, AND SYNTHESIZING QUANTITATIVE AND QUALITATIVE DATA

The first step to designing or adapting maternal nutrition components in your program or activity is to understand the prevalence of indicators of maternal malnutrition in your area, contributing factors, and opportunities to improve nutrition and health outcomes. This lays the foundation for developing a situation analysis describing trends in maternal nutrition for your geographic focus, the determinants of maternal nutrition (e.g., intrahousehold food allocation and gender/social norms), and the status and quality of available health and nutrition services. This involves gathering existing data, collecting additional data if information is not available, and synthesizing data. By the end of this step, you will be able to identify which intervention approaches could have the biggest impact on maternal nutrition. If you need additional information and should collect new data, it will take more time to complete this step.

Key steps:

- Determine what information and data are available on maternal nutrition for your context
- Collect additional data needed for program or activity design
- Review existing programming, country guidance, and government strategies
- Synthesize the data collected and develop a situation analysis
Determine What Information and Data are Available on Maternal Nutrition for Your Context

Before undertaking data collection, start by assessing what information—both quantitative and qualitative—is available on maternal nutrition for the audience in your context. Begin by discussing and coordinating data needs and availability with your program’s government counterparts, and creating a plan for collecting, reviewing and synthesizing the data in partnership with them. It is also important to understand the strength of existing government platforms and services your program will build upon, including existing quality improvement (QI) processes.

A wide variety of factors influence maternal nutrition, including actions that directly affect nutritional status and actions that indirectly affect nutrition outcomes (e.g., when nutrition outcomes are a secondary benefit) (Heidkamp et al. 2021). Examine several areas to understand the state of maternal nutrition in your context and how best to approach improving it (Box 2). Focus on a select number of priority areas given your program or activity’s scope and objectives and your country context.

The situation for adolescent girls and young mothers may be quite different from older women. For each of the priority areas in Box 2, disaggregate quantitative data for adolescents, if possible. Additionally, seek qualitative data on specific knowledge, attitudes, and practices for adolescent girls and mothers.

You will likely need to consult several different sources to find data and literature on the maternal nutrition priority areas. Potential data sources include—

- the most recent Demographic and Health Survey (DHS) and reports
- UNICEF’s Multiple Indicator Cluster Survey (MICS)
- national micronutrient surveys
- Malaria Indicators Surveys
- the Ministry of Health’s National Health Management Information System
- the District Health Information System
- maternal and community health registers

### BOX 2. MATERNAL NUTRITION PRIORITY AREAS FOR DATA COLLECTION

- Anemia prevalence and causes (e.g., micronutrient deficiency, infection, or genetic abnormalities)
- Antenatal care (ANC) and postnatal care (PNC) service coverage, use, and service quality
  - Content and quality of facility and community-based counseling on maternal nutrition
  - Multiple micronutrient supplementation including iron-folic acid (IFA)
  - Measurement of gestational weight gain
  - Quality assurance and quality improvement protocols and efforts in place
- Breastfeeding practices (e.g., early initiation of breastfeeding, mother-infant skin-to-skin contact)
- Family dynamics and social norms around the use and provision of services, gender-based violence, household division of labor during pregnancy, and shared decisionmaking about household resources and seeking health care treatment
- Maternal diet during pregnancy and lactation
  - Availability, affordability, and use of fortified, biofortified, and local nutrient-dense foods
  - Diet-related cultural or religious practices and/or food beliefs
- Prevalence of underweight, overweight, and short stature in pregnant women and women of reproductive age
- Prevalence of underlying disease burdens that have an impact on maternal nutrition (e.g., malaria, HIV, and poor maternal mental health)
- Safe motherhood
  - proportion of babies delivered at health facilities
  - proportion of babies delivered by a skilled birth attendant
  - proportion of babies delivered via cesarean section
  - proportion of babies delivered pre-term, proportion of babies that are small-for-gestational age
  - proportion of babies that are low birth weight
  - proportion of mothers with pre-eclampsia
- Supportive enabling environment (e.g., availability of policies, protocols supportive of maternal nutrition, sufficient training and capacity of the health workforce)
- Women’s empowerment (e.g., autonomy, decision-making power and intrahousehold food allocation, time allocation, access to and control over income, leadership)
GUIDANCE FOR STRENGTHENING MATERNAL NUTRITION IN HEALTH PROGRAMS

Potential data sources for dietary data include the Food and Agriculture Organization (FAO)/WHO Global Individual Food Consumption Data Tool, the Global Dietary Database, and the Food Systems Dashboard. Annex 1 contains examples of key indicators for maternal nutrition to track and potential data sources.

Although national data are often easier to access than subnational and disaggregated data, determine whether there are data specific to your geographic programming area and whether disaggregated data are available (e.g., by age, race or ethnicity, wealth quintile, rural vs. urban). Disparities often exist in intervention coverage by geography and place of residence. If reliable disaggregated data at the district or sub-district level do not exist, consider conducting new data collection or referring to reliable data sources at the national or provincial level.

Collect Additional Data Needed for Program or Activity Design

Gathering available data and information on maternal nutrition will likely reveal missing quantitative and/or qualitative data useful for designing or adapting maternal nutrition components in your program or activity. Given your timeline and resources, consider what data you can feasibly collect in a reliable and valid way. You can build the collection of additional data into the baseline study for a new program, or make it part of routine program monitoring or a special study in an ongoing program. Consider conducting formative research to understand the challenges, and identify feasible actions people are willing and able to take in support of maternal nutrition in your context, and the motivations for and barriers to action. Box 3 provides tips and considerations for conducting formative research.

It may not be possible to collect data in-person in some countries or regions because of health or safety considerations. However, rates of phone access in many low- and middle-income countries exceed 80 percent, making mobile technology a viable method for collecting survey data. Mobile surveys are automated, inexpensive, and fast. There are three main modes to consider:

- short message service (SMS) that uses text messaging
- interactive voice response (IVR) or automated voice surveys
- computer-assisted telephone interviewing, which uses a live interviewer.

BOX 3. FORMATIVE RESEARCH FOR MATERNAL NUTRITION

Conduct formative research to understand the context and behaviors leading to maternal nutrition outcomes, and the factors that prevent or support the behaviors. Formative research enables you to understand such factors as social and gender norms, food preferences and beliefs, influential people on maternal nutrition, trusted sources of information and services, and available support to mothers. What you learn will help tailor your activities and interventions to improve maternal nutrition.

Formative research should include mothers, and family members such as mothers-in-law, as well as other influential community members including health workers, traditional providers, farmers and vendors, and/or local leaders. Choose formative research participants who can give the greatest insight on maternal nutrition practices, and who need to lend their support or influence to change existing practices. Aim to speak with a diverse group of women in terms of age, nutritional status, sociodemographic profiles (education, employment, income level), ethnic, tribal, and religious groups, and urban versus rural residents.

Tailor your formative research methods based on your research questions. In-depth interviews and key informant interviews will allow for the greatest amount of privacy to learn about current practices and perceptions, but these methods are also more time and resource intensive. Group interview methods and focus group discussions are appropriate methods when asking about social norms, general beliefs, or potential solutions, but it is often challenging to have group discussions with participants of differing ages, socioeconomic status, or other factors. Trials of improved practices is a useful formative research approach to identify and test new practices and factors that prevent or support the behaviors with participant groups.

When analyzing the results of your formative research, separate the findings by gender, age, socioeconomic factors (e.g., religious or cultural group), location (urban versus rural), and respondent type. This will allow you to look for differences in the types of considerations respondents discuss, the challenges they describe, and the words they use. Word frequencies or word clouds can help summarize many responses. Use the results to develop strategies targeting family and community members who are influential in maternal nutrition, and mothers themselves. For more resources on formative research and qualitative data collection, consult Annex 3.
SMS and IVR are feasible on almost every device worldwide. (Refer to Annex 2, Resources on Programming in the Context of COVID-19 for additional resources on mobile surveys and alternatives to in-person data collection.)

QUALITY OF COUNSELING
You may encounter a lack of data on the quality of counseling, the availability and quality of job aids, or other maternal nutrition priority areas at the health facility level. Conducting a health facility observation or a review of health facility records will help capture activities typically not documented at the facility level, such as counseling and cooking demonstrations. Use a health facility assessment to gather data from patient records to assess the level and quality of counseling, the presence and use of social and behavior change materials and job aids, and the availability of commodities. Annex 3 provides links to tools and resources that can be adapted to your context.

DIETARY DIVERSITY
For more information on the quality of women’s diets, collect data on dietary intakes, food frequency, food availability, and/or seasonal variability using established indicators. (See Annex 3 for resources.) If applicable, use the Minimum Dietary Diversity for Women indicator as a population-level measure of the micronutrient adequacy of women’s diets (FAO 2021). Collecting data on women’s diets can be a resource-intensive process because it requires interviews or surveys to collect information on the different food groups consumed during a specific period. However, these data will allow you to understand an important dimension of women’s diet quality (FAO 2021).

OTHER FACTORS INFLUENCING MATERNAL NUTRITION
Consider collecting data on social and gender norms, and beliefs, knowledge, and perceptions about maternal diet and weight gain during pregnancy—especially dietary intake and dietary diversity. Knowledge and attitudes do not automatically translate to the uptake of behaviors due to factors such as time, availability and affordability of nutritious food, and social, gender, and religious norms. Understanding factors that prevent or support maternal nutrition behaviors is critical to program design, including providers’ behaviors and norms around service provision. Collect these data using quantitative (e.g., household surveys) or qualitative methods (e.g., focus group discussions, key informant interviews). Examine both supportive and potentially harmful values, norms, and knowledge about maternal nutrition. Annex 3 contains additional resources on collecting qualitative data.

GENDER ANALYSIS
Conduct a gender analysis to identify and understand gaps between men, women, boys, and girls, and the relevance of gender norms and power relations in your context. The Gender Analysis Toolkit for Health Systems can help you think through gender-related barriers and opportunities for improving maternal nutrition (Jhpiego 2020).
Review Existing Programming, Country Guidance, and Government Strategies

In addition to collecting missing data, it is important to have a full picture of national and subnational guidance and strategies, and of the existing/previous maternal nutrition programming. Review key government documents, including national health and nutrition policies and action plans (including multi-sectoral nutrition), ANC guidelines, nutrition and HIV guidelines, community health policies, the latest strategic plans, quality of care or quality improvement strategies or guidance, and national health priorities. Keep in mind key global guidance on maternal nutrition (listed in Annex 4) and look for any gaps.

Consider how maternal nutrition is addressed outside of the health sector, and whether it is addressed in strategies or guidance produced for other sectors, such as agriculture and livestock, water, sanitation, and hygiene (WASH), gender, family, social protection, education, and livelihoods strengthening sectors. Intervening in the health system is only one way to improve maternal nutrition, so it is critical to coordinate and design complementary efforts with other sectors. Sectoral actions indirectly targeting nutrition outcomes (e.g., WASH, education, agriculture, and poverty) have been associated with national reductions in stunting and maternal anemia (Heidkamp et al., 2021).

Box 4 presents an example from the USAID Maternal and Child Health and Nutrition (MCHN) Activity in Uganda, which reviewed several national strategies.

**Box 4. Case Study: USAID MCHN Activity in Uganda**

As part of the USAID MCHN activity’s baseline data collection and program planning, the team reviewed national guidance and government strategies covering maternal nutrition to understand existing maternal nutrition priorities and to identify gaps and areas for strengthening. The team reviewed documents such as the Government of Uganda’s Maternal, Infant, Young Child, and Adolescent Nutrition Guidelines, National Anemia Policy, Maternal Nutrition Guidelines for Uganda, and the Uganda Nutrition Action Plan II. The team also searched for program reports and peer-reviewed literature on the status of pregnant and lactating women in Uganda, including qualitative reports on knowledge, attitudes, and practices, and previous surveys conducted over the past five years. Although the team did not identify relevant multi-sectoral guidelines, other sectors were included through key informant interviews.

In addition to conducting a desk review, the MCHN Activity conducted key informant interviews with program planners and implementers, staff from the ministries of health, agriculture, and gender, and others. Questions included—

- What are the current maternal nutrition priorities in the district/department/project?
- Which maternal nutrition interventions/activities are you currently implementing in your department, district/division, or program/project?
- What challenges have you encountered in implementing maternal nutrition priorities in your district/department/project?

Resources and interviews provided an overall picture of national policies and strategies addressing maternal nutrition, and of existing nutrition activities carried out by the government and other agencies. By the end of this work, the MCHN Activity in Uganda had a clearer sense of the current policy and programming landscape, and could begin to understand how its activity could fill existing gaps and strengthen ongoing efforts. For more details on this MCHN Activity case study, consult USAID Advancing Nutrition’s report, Recommended Maternal Nutrition Implementation Priorities for Uganda.
and conducted key informant interviews as part of its baseline data collection and program planning efforts.

Collect information on existing maternal nutrition programming to ensure your activity or program builds on experiences to date and addresses any programmatic gaps. Consider requesting information from donor and government agencies, reviewing program evaluations, or arranging key informant interviews to understand available programs/services, who is implementing them, access, coverage, quality, demand, and strengths/weaknesses of existing programs/services (CORE Group Nutrition Working Group, Food and Nutrition Technical Assistance III Project, and Save the Children 2015).

Synthesize the Data Collected and Develop a Situation Analysis

Next, compile the data and information you gathered to see the complete picture of maternal nutrition in your area. Everyone who participated in previous data gathering, new data collection, formative research, and document review—including government counterparts—should reconvene to present their findings. Refer back to the list of suggested maternal nutrition priorities in Box 2 and discuss which are of greatest concern in your programming area. Discuss how to interpret the findings as a group. There is no “right answer,” so consider all data sources, especially the qualitative research findings.

Some questions to consider when synthesizing data are—

- Are there disparities in women’s nutritional status and access or use of services among certain groups? Are there differences in practices or beliefs among groups? What changes have occurred over time in nutritional status, service coverage, etc.?
- Which groups experience the greatest amount of risk for maternal nutrition challenges? Which groups are least likely to access services? Will we need specific strategies to reach them?
- How do other factors, such as seasonal variations, climate-related disasters, disease outbreaks, and conflict, affect maternal nutrition? How can we address these factors?
- Which maternal nutrition priority behaviors need to be improved? Among which groups? What are the barriers and enabling factors that prevent or support these priority behaviors? For example, how do community or household gender-related factors (including gender-based violence) and cultural or religious factors prevent or support women from using services?
- Who has influence and decision-making power in the household and community? Who needs to take action to reduce the barriers to maternal nutrition and increase support? For example, who needs to provide more resources or food to pregnant and lactating women and when?

Depending on your program or organization’s needs, you may choose to summarize your findings in a brief report. Annex 2 provides additional tools and resources on conducting a situation analysis.
2. IDENTIFY MATERNAL NUTRITION HEALTH SECTOR PRIORITIES TO DEVELOP AN IMPLEMENTATION PLAN

Equipped with a better understanding of maternal nutrition in your geographic programming area, you are ready to begin step two: identifying maternal nutrition priorities for the health sector based on the information collected and synthesized in the prior step. Understanding if maternal nutrition priorities exist at the national or sub-national level for your geographic area of interest will help you develop and align your implementation plan to existing efforts.

This highly participatory step will likely require a few meetings or workshops (in-person or virtual, given current health and safety considerations)—including a full-day workshop with representatives from potential collaborators/partners and government counterparts. A separate meeting with program or activity staff will help to develop or adapt your implementation plan.

During this step, you will create an implementation plan for maternal nutrition with agreed upon roles and responsibilities, indicators, program objectives and a timeline.

Key steps:

- Identify potential collaborators and/or partners, including relevant technical working groups
- Work with a multi-stakeholder team to identify maternal nutrition implementation priorities, and roles and responsibilities of key stakeholders
- Create a theory of change and/or logical framework
- Develop or adapt your program or activity’s implementation plan
Identify Potential Collaborators and/or Partners, Including Relevant Technical Working Groups (TWGs)

Your desk review and situation analysis identified other programs and agencies working on maternal nutrition. List these potential collaborators and partners, including government representatives and TWGs, and identify which ones to invite to your discussion about maternal nutrition implementation priorities. Also include representatives from the health sector implementing family planning and reproductive health activities and programs supporting infant and child health; these are opportunities to make contact with mothers regarding their own well-being. Consider other relevant multi-sectoral stakeholders to engage, including agriculture and livestock; WASH, gender, family, social protection, and education; and livelihoods strengthening programming. In addition, consider potential partners working in humanitarian assistance, development, government, the private sector, civil society, and academia.

Work with a Multi-Stakeholder Team to Identify Maternal Nutrition Implementation Priorities, and Roles and Responsibilities of Key Stakeholders

Host a full-day workshop that includes members of your own program or activity staff, and representatives of potential collaborators/partners such as government, donors, district health teams, health facilities, community health providers, non-governmental organizations, etc. The aim of the workshop will be to identify the maternal nutrition implementation priorities for your geographic programming area, the specific roles and responsibilities of each stakeholder, and a theory of change to identify the necessary conditions to meet to achieve the implementation priorities. Box 5 includes potential maternal nutrition implementation priorities within the health sector, identified by the USAID MCHN Activity in Uganda.

Start by presenting the results of your situation analysis, and the gaps and areas for strengthening identified in current strategies, policies, and programming. Develop prioritization criteria in advance of the workshop and agree on these criteria with workshop participants. Potential criteria could include—

- whether an activity meets an essential need, demand, sustainability, coverage, cost-effectiveness, and resources required/resources available to implement
- whether an intervention relates to or builds on existing efforts
- the comparative advantage of the agency or partner.

Bring the results of the comparison you did in Step 1 of global guidance and national guidelines/policies, if applicable. Discuss the gaps to fill to align with current best practices. Meeting participants may reach different conclusions about the maternal nutrition implementation priorities for your area, so leave sufficient time for a participatory, consensus-based discussion. Annex 5 provides sample agenda items for your workshop.
The USAID MCHN Activity aligned their priorities with the Government of Uganda’s existing priorities for maternal nutrition, outlined in two guidelines—the Maternal, Infant, Young Child and Adolescent Nutrition (MIYCAN) Guidelines and the Uganda Nutrition Action Plan (UNAP) II. These priorities included—

**UNAP II Maternal Nutrition Priority Actions**

Objective 1: Increase access to and utilization of nutrition-specific services by children under 5 years of age, adolescent girls, pregnant and lactating women and older persons

**Strategy 1.1: Promote optimal MIYCAN practices**

**Priority Actions—**

- Promote and support health and nutrition education to increase the level of awareness of good nutrition
- Promote integration of nutrition services in all routine and outreach health services and programs targeting children and mothers
- Manage nutrition for sick children, pregnant and lactating mothers, and other women of reproductive age
- Integrate the management of severe and moderate acute malnutrition into routine health services
- Promote utilization of antenatal and postnatal care services among all pregnant and lactating mothers to monitor child growth, and the health and nutrition status of both the mother and the child
- Promote and support breastfeeding policies, programs, and initiatives.

**Strategy 1.2: Promote micronutrient intake among children and women**

**Priority Actions—**

- Avail iron-folic acid supplementation for pregnant women
- Promote storage and consumption of iodized salt
- Promote the consumption iron-(bio)fortified staple foods
- Promote the consumption of home-based fortified foods.

**MIYCAN Maternal Nutrition Priority Actions**

- Educate and counsel women on adoption of healthy eating behaviors during pregnancy and the breastfeeding period
- Promote physical activity/exercise during pregnancy and the breastfeeding period
- Prevent and control common micronutrient deficiencies
- Prevent and control malaria and hookworm infestations among pregnant women and breastfeeding mothers.

By examining existing priorities and assessing gaps, the USAID MCHN Activity identified the following 12 initial priorities, which were refined and prioritized as follows:

- Increase advocacy for maternal nutrition
- Conduct costing for nutrition activities, including maternal nutrition
- Strengthen the use of nutrition data at facility and community levels
- Strengthen multi-sectoral coordination between government and implementing partners at national and district levels
- Strengthen capacity of health facilities and community health workers to provide maternal nutrition services.

The USAID MCHN Activity team organized a virtual workshop with key program staff to incorporate select priorities in its work plan for the next year. The team first discussed how the priorities corresponded with the Activity’s overall purpose—to strengthen government performance in implementing strategies to improve maternal and child health and nutrition outcomes.

The team agreed that priorities three and four corresponded with the project’s objectives to strengthen leadership and governance, roll out national strategies and programs, and ensure coordination and cooperation among stakeholders. By the end of this step, the MCHN Activity team added activities to its work plan that aligned with the maternal nutrition priorities, including—

- strengthening capacity in the use of data at facility/community levels of the health system
- facilitating coordination between technical working groups in the Ministry of Health
- supporting the Ministry of Health with a position paper to increase the supply of maternal nutrition commodities.

The USAID MCHN Activity and USAID Advancing Nutrition disseminated recommended maternal nutrition implementation priorities for Uganda via a webinar, which included representatives from organizations implementing maternal nutrition interventions across the country. Representation from the Ministry of Health participated in the panel discussion and emphasized that the country’s new MIYCAN Action Plan captures many of the identified priorities. For those recommendations not included in the MIYAN, there is opportunity to incorporate them into annual sub-national implementation plans.
By the end of the meeting, map out each stakeholder’s programming areas (including at the national/enabling environment level), interventions, timelines, and staffing, and discuss how to coordinate and align efforts, roles, and responsibilities. This will facilitate joint planning of interventions, phasing of approaches, and complementary—rather than duplicative—efforts.

**Create a Theory of Change and/or Logical Framework**

You may choose to use a theory of change methodology to map how you and other stakeholders will achieve the maternal nutrition implementation priorities. For more details on creating a theory of change, see Annex 6.

**Develop or Adapt your Program or Activity’s Implementation Plan**

Equipped with agreed-upon maternal nutrition implementation priorities, a theory of change pathway for maternal nutrition, and a clear picture of your program or activity’s role, you can develop or align your implementation plan to reflect your maternal nutrition priorities.

This includes costing the interventions and activities in your plan. Understanding the costs associated with conducting nutrition activities will enable you to determine which investments are most appropriate given the context and resources available. Allocating sufficient budget throughout your program and aligning your costing with the government cycle and budget can help ensure uptake, buy-in, and sustainable financing after your program is complete.

Another critical component of your implementation plan is your approach for monitoring and evaluation, for which you will need to identify—

- indicators to track progress
- how elements of adaptive management will be incorporated in your monitoring and evaluation design
- how often collaborating, learning, and adapting (CLA) reflections will take place, if applicable.

Refer to Annex 1 for examples of maternal nutrition indicators to track such as anemia prevalence, IFA consumption, prevalence of underweight in WRA, maternal diet, breastfeeding practices, and the underlying disease burden among WRA, among others. Monitoring costs during the life of your program—including staff salaries, trainings, meetings, consultants, supplies, etc. and linking these to specific outputs and outcomes (e.g., the number of people trained, the proportion that increased dietary diversity, etc.)—will provide you with stronger reporting and evaluation data. This helps you measure cost-efficiency or effectiveness of comparable interventions so the most appropriate intervention can be scaled up—and may foster greater support of your activities and results, and greater government ownership, particularly across multi-sectoral programming (R4D 2019).

You may need to convene your program or activity team, including team members with expertise in monitoring and evaluation, costing, program managers, technical team leads, and your finance and operations team. The aim of this meeting will be to agree on your program objectives, activities, timeframe, and the resources needed for implementation. (See Annex 7 for more information on what to include in your implementation plan.) Your objectives could range from advocacy for maternal nutrition at the national level, to improvement of existing maternal nutrition interventions at health facilities, to the introduction of community-level programming for maternal diet and/or maternal anemia. Box 7 lists illustrative key interventions to strengthen maternal nutrition through the health system. If your program or activity already has an implementation plan, consider revising and updating it based on your maternal nutrition implementation priorities.

Once finalized, organize a meeting to present and vet your implementation plan with key stakeholders at national or subnational levels, depending on your program’s geographic reach. Continue to meet with the partners and stakeholders identified previously, and discuss joint progress and opportunities for coordination.
## BOX 7. ILLUSTRATIVE APPROACHES TO IMPROVE MATERNAL NUTRITION THROUGH THE HEALTH SYSTEM

Intervening in the health system is only one way to improve maternal nutrition; some interventions like counseling on diet will only achieve so much without complementary efforts from other sectors. For example, providing access to safe, quality, and nutritious foods requires more than solely intervening at the levels described below, but helps women act on counseling they receive. Coordinate and engage with other sectors (i.e., agriculture and livestock, WASH, gender, family, social protection, education, and livelihoods strengthening programming), to ensure women have access to diverse, affordable foods and that the needs of women in humanitarian and fragile settings are met. For more examples of evidence-based interventions to improve maternal nutrition, consult the USAID Technical Guidance Brief on Maternal Nutrition for Girls and Women (2015).

### National/Regional and Enabling Environment Level:

Advocate and work with government counterparts to—

- Develop or update guidelines on maternal nutrition in key policy and strategic documents—including multi-sectoral strategies and action plans—to reflect global guidance.
- Include sessions on maternal nutrition in pre-service and in-service training curricula for health workers and community health volunteers.
- Plan for and finance maternal nutrition-related services and activities, and include maternal nutrition in national multi-year development plans and sectoral plans.
- Strengthen national and subnational capacity to collect, analyze, interpret, and use maternal nutrition data for planning and decision-making, especially in health management information systems (HMIS).
- Strengthen multi-sectoral coordination by linking nutrition and maternal health programs, as well as with the agriculture and livestock sector, WASH, gender, family, social protection, education, and livelihoods strengthening programming.
- Reinforce supply chains for maternal nutrition commodities to prevent stock-outs and ensure maternal nutrition commodities are on essential drug lists.
- Conduct costing for nutrition activities, including maternal nutrition.
- Develop policies that support women, such as family leave policies, availability of childcare, etc.

### Health Facility Level:

Advocate and work with government counterparts to—

- Strengthen the capacity of health facilities to provide maternal nutrition services during ANC, delivery care, PNC, and other contacts by providing job aids, necessary commodities, health worker training and refresher training, and supportive supervision/mentorship.
- Strengthen the capacity of community health workers to provide maternal nutrition services during ANC, delivery care, PNC, and other contacts.
- Develop culturally tailored, simple counseling materials on maternal diet, and monitoring and assessing weight gain for use during routine visits (that emphasize small, doable actions).
- Train health providers, such as nurses, local nutritionists, and midwives, in counseling all family members on what foods to consume before and during pregnancy and lactation and why (based on necessary energy, protein, micronutrients, and fatty acids, including fortified staple foods and condiments), according to the local cultural context. Include sessions on problem solving with family members, active listening techniques, empathy, and role-playing.
- Train health providers on assessing weight gain during pregnancy; counseling on the optimal use of IFA, multiple micronutrient supplementation, or calcium supplements, including the management of side effects; and counseling pregnant women on early initiation and exclusive breastfeeding.
- Address beliefs health providers may hold regarding maternal dietary intake and weight gain during pregnancy through training and onsite mentoring to provide local, culturally appropriate solutions to improve the quality of counseling and service delivery.
- Strengthen the quality of maternal nutrition services at health facilities by supporting continuous quality improvement.

### Community Level:

Advocate and work with community-based counterparts to—

- Engage grandmothers, fathers, and other key
influencers (e.g., religious and community and faith-based leaders) to support mothers, for example, by reducing mothers’ workload during pregnancy, ensuring mothers have access to diverse diets, providing adequate opportunity for rest, and accompanying mothers during ANC contacts.

- Use home visits, mother-to-mother support groups, peer groups, and/or community support groups to discuss and resolve challenges faced by women in achieving optimal maternal nutrition and potential solutions.
- Incorporate maternal nutrition and well-being in infant and young child feeding counseling and other community platforms by emphasizing the importance of adequate diet and dietary diversity, adequate rest and social support, for example, for pregnant and lactating women.
- Incorporate maternal nutrition and well-being in community early childhood development programs.
- Use mass, social, or community media (e.g., radio, TV, video) and mobile technologies to address such factors as social norms and family support that prevent or support priority maternal nutrition behaviors (identified through formative research).
- Encourage adolescent girls to consume diverse and iron-rich diets through school-based platforms and youth groups.
- Promote the completion of secondary school for girls and delaying marriage and childbearing until after the age of 19.
- Strengthen links between communities and health centers, and engage community members and health workers in defining and improving the quality of maternal nutrition services.

- Partner with community-level programs including non-nutrition programs and other community stakeholders to promote maternal nutrition—especially among women and girls and those influencing them at the household and community levels, such as mothers-in-law, men/partners, and other relatives.

**Individual Level:**

Advocate and work with community-based counterparts to—

- Conduct outreach to engage mothers and adolescent girls (who will be utilizing services) and outreach to engage men/partners, mothers-in-law, and other influencers of women and girls at the household and community levels.
- Provide context-specific counseling to mothers on healthy eating and keeping physically active during pregnancy to promote a healthy pregnancy, taking into account local availability and access to diverse and nutritious foods.
- Support women’s agency and improved couples’ communication, with the aim of the more equitable division of household labor and income and joint decision-making around health and care seeking.
- Ensure adequate opportunities for rest during pregnancy and lactation by implementing programs that promote a more equitable division of labor at the household level.
- Identify social norms and individual attitudes and beliefs that influence food choices and perceptions about appropriate weight gain during pregnancy and dietary intake before and during pregnancy and lactation through formative research assessments.
3. IMPLEMENT, MONITOR, REFLECT ON AND ADJUST MATERNAL NUTRITION PROGRAMMING

This step consists of implementing your program or activity; continually monitoring to assess progress and or unintended consequences; reflecting on the results of your monitoring; and adapting your implementation approach for continuous QI. Adjust your program or activity’s maternal nutrition interventions on what you learn during implementation. Understand how your activity is progressing by regularly collecting and analyzing data and through specific learning activities. Box 8 provides an example from the Alive & Thrive program in Bangladesh, which incorporated regular data monitoring and adaptation as part of its implementation approach.

Key steps:
- Implement the program, monitor progress, and regularly collect and analyze data on indicators
- Using monitoring data, reflect on progress and adjust interventions accordingly
Implement the Program, Monitor Progress, and Regularly Collect and Analyze Data on Indicators

As you design activities and develop materials for implementation, involve participants (e.g., mothers, adolescent girls, and their influencers at the household and community levels) in all phases using a human-centered design approach. Building upon what you learned from formative research, involve audience members in the process from conception through implementation to incorporate locally defined needs, ideas, and resources. This includes concept testing, pretesting, dissemination and use of materials, and monitoring. This involves listening to and learning from mothers, adolescent girls, and their influencers before introducing information. The starting point is the community’s perspective—rather than the expert’s information.

During implementation, regularly monitor for changes in your selected indicators to determine whether you are achieving what you expected. Collecting process data will allow you to identify and prevent harmful unintended consequences, understand the quality of program implementation, and change the course of the intervention mid-implementation. Use existing data systems as much as possible and avoid creating parallel systems. For example, many health systems already have QI systems in place. Understand the strength of current platforms and services and determine how to use existing systems in your data collection efforts.

Consider monitoring key process indicators, such as—

- attendance and coverage of facility and community-level interventions
- quality of implementation and adherence to protocols
- acceptability of delivery approaches by mothers, adolescent girls, and other participant groups (e.g., health workers, family members, community or religious leaders)
- perceived benefits and experiences of people implementing the intervention(s) (e.g., community health workers or health facility staff)
- benefits or negative consequences perceived by mothers targeted for the intervention(s).

Collect process data on a regular basis using staff reports and routine program data, or conduct implementation research to assess how intervention is occurring and inform how to change course mid-implementation. Implementation research could include an observational study, surveys of health workers and women, focus groups, or other qualitative methods. Implementation outcome variables can include acceptability, adoption, feasibility, cost, coverage and sustainability to provide insights into how the implementation contributes to improved maternal nutrition.

Using Monitoring Data, Reflect on Progress and Adjust Interventions Accordingly

Monitoring your data can enable adaptive management—“an intentional approach to making decisions and adjustments in response to new information and changes in context” (USAID 2018). Organize “pause and reflect sessions” for your program or activity’s staff to gather information and discuss progress, challenges, and successes in implementation, and opportunities to improve. Share analyzed process data or anecdotal findings during your sessions. Support health workers and community members to engage in quality improvement at the service delivery level, and be part of the process of learning and adapting the program approach (Lovich et al. 2003).

Pause and reflect sessions can provide useful information to make decisions about implementation, and can be part of a larger CLA framework. Use a CLA framework to apply learning across your entire program cycle, including the organizational culture, processes, and resources (USAID 2016). For example, monitoring may show an increase in IFA consumption in one geographic area and a corresponding decrease in anemia prevalence, while a neighboring area may show no change or a decrease in IFA consumption. Pause and reflect sessions can help you examine and discuss what is working better in the first area versus the second, and adjust implementation accordingly. Many different activities can be considered pause and reflect opportunities—an in-person after action review meeting, a Google Document journal that is open for staff input on a quarterly basis. The important thing is the intention for thinking and learning.

Based on what you learn mid-implementation and during purposeful learning activities, consider opportunities to change interventions, update the implementation plan, increase or discontinue certain approaches, or modify staffing plans. Annex 2 lists several resources on adaptive management. You have reached the end of this guidance document, but that does not mean the process of implementation, monitoring, and adaptation is finished! We hope this guidance is useful to strengthen maternal nutrition interventions in your program or activity. Consult the annexes for additional tools and resources, and links to program reports from previous maternal nutrition programs as you continue to reflect on implementing, monitoring and adapting your maternal nutrition interventions.
BOX 8. CASE STUDY: ALIVE & THRIVE
BANGLADESH

Alive & Thrive collaborated with Building Resources across Communities (BRAC), a nongovernmental organization in Bangladesh, to integrate a comprehensive package of maternal nutrition interventions in a broader health and nutrition program. A comprehensive situation analysis informed the program design, including a review of national policies and strategies, existing data and research, analysis of nutrition indicators, and new formative research efforts to understand the factors preventing or supporting maternal nutrition behaviors as well as food intake patterns among pregnant women.

Based on the results of the situation analysis, and in collaboration with national parliament members and local union council representatives, Alive & Thrive and BRAC identified the following maternal nutrition priorities—

- improving dietary practices
- increasing intake of IFA and calcium supplements during pregnancy and lactation
- improving breastfeeding practices.

Alive & Thrive’s implementation approach used the socioecological model of behavior change, reaching not only mothers but also fathers/male partners, mothers-in-law, and other community members with three key interventions: home visits, community mobilization, and mass communication.

Throughout implementation, Alive & Thrive and BRAC regularly conducted monitoring for sustainable, quality performance. They conducted routine monitoring through randomly selected household visits and verification of health facility registers, and helped the program understand whether it was achieving its expected results and to document the implementation process for replication and scale-up. Indicators the program monitored included—

- enrollment of eligible women
- service quality (through observation)
- practices of frontline workers interviewed (e.g., home visit made, relevant messages given)

- outcomes (e.g., women’s dietary diversity, dietary intake, IFA and calcium adherence, weight gain during pregnancy, optimal breastfeeding practices).

Collecting this information routinely allowed program staff to make adjustments mid-implementation. Alive & Thrive used monthly performance checklists of frontline workers and registers for home visits to determine the topics for monthly refresher training and supportive supervision visits. Monitoring also helped identify which sub-districts were falling behind with enrolling eligible women and in conducting home visits so that the program could reallocate staff. It also led to a greater emphasis on reaching fathers, religious leaders, doctors, and local opinion leaders with community mobilization efforts. Alive & Thrive’s use of routine monitoring as part of a broad measurement, learning, and evaluation approach ensured the successful scale-up of the maternal nutrition package of interventions. It also led to positive changes in maternal nutrition outcomes in Bangladesh.

Sources: Alive & Thrive 2017; Nguyen et al. 2017
References


Annex 1. Key Maternal Nutrition Indicators and Data Sources

This table provides examples of key maternal nutrition indicators to examine during your data collection efforts and potential data sources. Be sure to consider HMIS data in your country prior to external sources.

<table>
<thead>
<tr>
<th>INDICATOR</th>
<th>POTENTIAL DATA SOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Anemia prevalence and causes and IFA consumption</strong></td>
<td></td>
</tr>
<tr>
<td>Prevalence of anemia in women of reproductive age (15–49 years) and severity—</td>
<td></td>
</tr>
<tr>
<td>• Any: Hemoglobin (Hb) &lt; 11 g/dl for pregnant women; Hb &lt; 12 g/dl for non-pregnant women</td>
<td>DHS</td>
</tr>
<tr>
<td>• Mild: Hb 10.0–10.9 g/dl for pregnant women; 11.0–11.9 g/dl for non-pregnant women</td>
<td></td>
</tr>
<tr>
<td>• Moderate: Hb 7.0–9.9 g/dl for pregnant women; Hb 8.0–10.9 g/dl for non-pregnant women</td>
<td></td>
</tr>
<tr>
<td>• Severe: Hb &lt; 7.0 g/dl for pregnant women; Hb &lt; 8.0 g/dl for non-pregnant women</td>
<td></td>
</tr>
<tr>
<td>Micronutrient intake among mothers—</td>
<td></td>
</tr>
<tr>
<td>• Women with a birth in the past five years who received a vitamin A dose in the first two months after delivery</td>
<td>DHS</td>
</tr>
<tr>
<td>• Women with a birth in the past five years who took no iron (folic acid) tablets or syrup</td>
<td></td>
</tr>
<tr>
<td>• Women with a birth in the past five years who took iron tablets or syrup for &lt;60 days</td>
<td></td>
</tr>
<tr>
<td>• Women with a birth in the past five years who took iron tablets or syrup for 60–89 days</td>
<td></td>
</tr>
<tr>
<td>• Women with a birth in the past five years who took iron tablets or syrup for 90+ days</td>
<td></td>
</tr>
<tr>
<td>% of women who received a hemoglobin test in their last pregnancy</td>
<td>Program records (in certain contexts)</td>
</tr>
<tr>
<td>Supplementation among mothers—</td>
<td></td>
</tr>
<tr>
<td>• % of women with a birth in the past five years who took multiple micronutrient supplementation daily during pregnancy</td>
<td></td>
</tr>
<tr>
<td>• % of women with a birth in the past five years who took small-quantity lipid-based nutrient supplements daily during pregnancy</td>
<td></td>
</tr>
<tr>
<td><strong>Prevalence of underweight and overweight in pregnant women and women of reproductive age</strong></td>
<td></td>
</tr>
<tr>
<td>% of women ages 15–49 with height below 145 cm</td>
<td>DHS</td>
</tr>
<tr>
<td>% of non-pregnant, non-postpartum women ages 15–49 by nutritional status based on specific body mass index levels—</td>
<td></td>
</tr>
<tr>
<td>• Women who are thin according to BMI (&lt;18.5)</td>
<td>DHS</td>
</tr>
<tr>
<td>• Women with normal BMI (18.5–24.9)</td>
<td></td>
</tr>
<tr>
<td>• Women who are overweight or obese according to BMI (&gt;=25.0)</td>
<td></td>
</tr>
<tr>
<td>% of women with a low mid-upper arm circumference (&lt;22.5)</td>
<td>Health facility records</td>
</tr>
<tr>
<td>% of women who gain weight in the last two trimesters of pregnancy within the recommended range for their weight status</td>
<td>Service statistics, ANC cards, or other clinic-based records; samples of home or community-based records reviewed</td>
</tr>
<tr>
<td><strong>Maternal diet during pregnancy and lactation</strong></td>
<td></td>
</tr>
<tr>
<td>% of mothers who receive counseling on maternal diet during ANC</td>
<td>DHS-8*</td>
</tr>
<tr>
<td>Minimum dietary diversity for women—</td>
<td></td>
</tr>
<tr>
<td>% of women 15–49 years achieving dietary diversity (who consumed at least five out of ten defined food groups the previous day or night)</td>
<td>DHS-8*, FAO STAT</td>
</tr>
<tr>
<td>% of women 15–49 years consuming sweet beverages</td>
<td>DHS-8*</td>
</tr>
<tr>
<td>% of women 15–49 years consuming unhealthy foods</td>
<td>DHS-8*</td>
</tr>
<tr>
<td>Average food consumption (in grams per person per day)</td>
<td>FAO STAT</td>
</tr>
<tr>
<td>Average percentage contribution of different foods to the total consumption—in daily diet</td>
<td>FAO STAT, Global Dietary Database, Food Systems Dashboard</td>
</tr>
<tr>
<td><strong>Breastfeeding practices</strong></td>
<td></td>
</tr>
<tr>
<td>% of last-born children born in the past 2 years who started breastfeeding within one hour of birth</td>
<td>DHS</td>
</tr>
<tr>
<td>% distribution of youngest children under 2 years who are living with their mother who are exclusively breastfeeding</td>
<td>DHS</td>
</tr>
<tr>
<td>INDICATOR</td>
<td>POTENTIAL DATA SOURCES</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td><strong>Prevalence of underlying disease burdens</strong></td>
<td></td>
</tr>
<tr>
<td>% of mothers of children 0–59 months of age who took deworming medication during the pregnancy</td>
<td>DHS</td>
</tr>
<tr>
<td>% of mothers of children 0–59 months of age who received intermittent preventive treatment for malaria during the pregnancy for their last live birth</td>
<td>DHS</td>
</tr>
<tr>
<td>Prevalence of malaria infection measured using microscopy</td>
<td>Malaria Indicator Survey</td>
</tr>
<tr>
<td>% of women ages 15–49 who gave birth in the 2 years preceding the survey who were counseled and tested for HIV</td>
<td>DHS</td>
</tr>
<tr>
<td><strong>ANC/PNC contacts</strong></td>
<td></td>
</tr>
<tr>
<td>% of women with a birth in the last 5 years, distributed by highest type of provider of ANC for most recent birth</td>
<td>DHS</td>
</tr>
<tr>
<td>% of women with a birth in the last 5 years receiving ANC from a skilled provider for the most recent birth</td>
<td>DHS, MICS-6</td>
</tr>
<tr>
<td>% of women with a birth in the last 5 years, distributed by number of ANC visits for the most recent birth</td>
<td>DHS, MICS-6</td>
</tr>
<tr>
<td>% of women with a birth in the last 5 years, distributed by number of months pregnant at the time of the first ANC visit for the most recent birth</td>
<td>DHS</td>
</tr>
<tr>
<td>% of women screened for malnutrition in ANC</td>
<td>Health facility records</td>
</tr>
<tr>
<td>% of women receiving 1st ANC contact before 12 weeks gestation</td>
<td>Health facility records</td>
</tr>
<tr>
<td>Among women giving birth in the 2 years preceding the survey, percent distribution of the mother’s first postnatal check for the most recent live birth by time after delivery</td>
<td>DHS, MICS-6</td>
</tr>
<tr>
<td>% of women with a live birth in the 2 years preceding the survey who received a postnatal check 2 days after giving birth</td>
<td>DHS, MICS-6</td>
</tr>
<tr>
<td><strong>Safe motherhood</strong></td>
<td></td>
</tr>
<tr>
<td>% of live births in the past 5 years delivered in a health facility</td>
<td>DHS</td>
</tr>
<tr>
<td>% of births in the 5 years preceding the survey that were assisted by a skilled provider</td>
<td>DHS</td>
</tr>
<tr>
<td>% of live births in the 5 years preceding the survey delivered by caesarean section</td>
<td>DHS</td>
</tr>
<tr>
<td>% of live births in the 5 years preceding the survey weighed at birth reported as less than 2.5 kg</td>
<td>DHS</td>
</tr>
<tr>
<td><strong>Other factors that prevent or support maternal nutrition</strong></td>
<td></td>
</tr>
<tr>
<td>% of women receiving food or cash assistance during last pregnancy</td>
<td>DHS-8*</td>
</tr>
<tr>
<td>% of women and men ages 15–49 years who state that a husband is justified in hitting or beating his wife in at least one of the following circumstances—</td>
<td></td>
</tr>
<tr>
<td>• she goes out without telling him</td>
<td>DHS, MICS-6</td>
</tr>
<tr>
<td>• she neglects the children</td>
<td></td>
</tr>
<tr>
<td>• she argues with him</td>
<td></td>
</tr>
<tr>
<td>• she refuses sex with him</td>
<td></td>
</tr>
<tr>
<td>• she burns the food.</td>
<td></td>
</tr>
<tr>
<td>% of women who make decisions about their own health care independently or jointly with their husband/partner</td>
<td>DHS-8*</td>
</tr>
</tbody>
</table>

*DHS-8 Modules will be released in late 2021 and these data are not expected for several years.

**SOURCES**
Annex 2. Additional Tools and Resources

MATERNAL NUTRITION EVIDENCE AND LITERATURE REVIEWS


RESOURCES ON SCALING UP MATERNAL NUTRITION PROGRAMS


SOCIAL AND BEHAVIOR CHANGE TOOLS AND RESOURCES, INCLUDING THE ENABLING ENVIRONMENT


GUIDANCE FOR STRENGTHENING MATERNAL NUTRITION IN HEALTH PROGRAMS

SITUATION ANALYSIS AND PROGRAM PLANNING RESOURCES AND EXAMPLES


ADAPTIVE MANAGEMENT RESOURCES


RESOURCES ON PROGRAMMING IN THE CONTEXT OF COVID-19


MATERNAL NUTRITION PROGRAM REPORTS AND BRIEFS


RESOURCES ON MULTI-SECTORAL APPROACHES TO NUTRITION


ONLINE LEARNING COURSES

### Annex 3. Collecting and Analyzing Maternal Nutrition Data

The following are examples of tools for collecting and analyzing quantitative and qualitative data on nutrition services in the health system. Adapt or adapt these tools for other country contexts.

#### HEALTH SERVICE ASSESSMENT TOOLS

<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTHOR(S)</th>
<th>PURPOSE</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Service Provision Assessment</td>
<td>The DHS Program</td>
<td>Collect information on the overall availability of different facility-based health services in a country and its readiness to provide those services. This tool is undergoing a revision in 2021.</td>
<td><a href="https://dhsprogram.com/methodology/Survey-Types/SPA.cfm">https://dhsprogram.com/methodology/Survey-Types/SPA.cfm</a></td>
</tr>
<tr>
<td>Service Availability and Readiness Assessment</td>
<td>Health Statistics and Information Systems, WHO</td>
<td>Assess and monitor the service availability and readiness of the health sector and to generate evidence to support the planning and managing of a health system</td>
<td><a href="https://www.who.int/healthinfo/systems/sara_introduction/en/">https://www.who.int/healthinfo/systems/sara_introduction/en/</a></td>
</tr>
</tbody>
</table>

#### QUALITATIVE DATA COLLECTION TOOLS AND GUIDANCE

<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTHOR(S)</th>
<th>PURPOSE</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conducting Formative Research on Adolescent Nutrition: Key Considerations</td>
<td>USAID Advancing Nutrition</td>
<td>Provides key considerations for conducting formative research on nutrition behaviors with adolescents</td>
<td>Forthcoming</td>
</tr>
<tr>
<td>Guidance for Formative Research on Maternal Nutrition</td>
<td>USAID’s Infant &amp; Young Child Nutrition Project</td>
<td>Provides specific information to help guide the development and design of a formative research process for a maternal nutrition program or intervention</td>
<td><a href="http://www.iycn.org/resource/guidance-for-formative-research-on-maternal-nutrition/">http://www.iycn.org/resource/guidance-for-formative-research-on-maternal-nutrition/</a></td>
</tr>
<tr>
<td>Program Guidance on Engaging Family Members</td>
<td>USAID Advancing Nutrition</td>
<td>Offers practical recommendations for designing and adapting interventions that effectively engage family members in improving maternal and child nutrition</td>
<td><a href="https://www.advancingnutrition.org/resources/program-guidance-engaging-family-members">https://www.advancingnutrition.org/resources/program-guidance-engaging-family-members</a></td>
</tr>
<tr>
<td>Trials of Improved Practices Guide</td>
<td>The Manoff Group</td>
<td>Provides an overview of the trials of improved practices technique to identify and test new practices and factors that prevent or support the behaviors with participant groups</td>
<td><a href="https://www.manoffgroup.com/wp-content/uploads/summarytips.pdf">https://www.manoffgroup.com/wp-content/uploads/summarytips.pdf</a></td>
</tr>
</tbody>
</table>

#### OTHER TOOLS FOR NUTRITION DATA COLLECTION AND ANALYSIS
<table>
<thead>
<tr>
<th>TITLE</th>
<th>AUTHOR(S)</th>
<th>PURPOSE</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>District Assessment Tool for Anemia (DATA)</td>
<td>The SPRING Project, JSI Research &amp; Training Institute, Inc.</td>
<td>Helps districts assess their current anemia situation and strengthen anemia programming at the district level</td>
<td><a href="https://www.spring-nutrition.org/publications/tools/district-assessment-tool-anemia-data">https://www.spring-nutrition.org/publications/tools/district-assessment-tool-anemia-data</a></td>
</tr>
<tr>
<td>Nutrition Reference Guide</td>
<td>Catholic Relief Services, Chemonics, CORE Group</td>
<td>Provides organizations with a reference guide of nutrition-specific tools and approaches, information on how and when to use them, and special considerations for their use</td>
<td><a href="https://coregroup.org/resource-library/nutrition-reference-guide/">https://coregroup.org/resource-library/nutrition-reference-guide/</a></td>
</tr>
<tr>
<td>Nutrition Program Design Assistant</td>
<td>CORE Group Nutrition Working Group, Food and Nutrition Technical Assistance III Project (FANTA), and Save the Children</td>
<td>Helps organizations design the nutrition component of their community-based maternal and child health, food security, or other development program. Includes quantitative and qualitative data collection tables for adaptation</td>
<td><a href="https://www.fantaproject.org/tools/nutrition-program-design-assistant-npda">https://www.fantaproject.org/tools/nutrition-program-design-assistant-npda</a></td>
</tr>
<tr>
<td>Tips for Collecting Primary Data in a COVID-19 Era</td>
<td>Overseas Development Institute</td>
<td>A web-based repository designed to bring together experiences and resources for collecting remote primary data in a COVID-19 era. Materials come from books, journal articles, newspaper articles, blogs, and webpages, and include experiences of conducting participatory, qualitative, and quantitative research, as well as potential ethical issues and how to approach them.</td>
<td><a href="https://odi.org/en/publications/tips-for-collecting-primary-data-in-a-covid-19-era/">https://odi.org/en/publications/tips-for-collecting-primary-data-in-a-covid-19-era/</a></td>
</tr>
<tr>
<td>Women’s Empowerment in Agriculture Index (WWEI)</td>
<td>International Food Policy Research Institute, Oxford Poverty and Human Development Initiative, and USAID’s Feed the Future</td>
<td>Provides a comprehensive and standardized measure to assess women’s empowerment and inclusion directly in the agricultural sector (WWEI). The Project WEAI seeks to measure women’s empowerment in project-specific contexts, and includes optional modules tailored to nutrition and health programs.</td>
<td><a href="https://www.ifpri.org/project/weai">https://www.ifpri.org/project/weai</a></td>
</tr>
</tbody>
</table>

GUIDANCE FOR STRENGTHENING MATERNAL NUTRITION IN HEALTH PROGRAMS SEPTEMBER 2021 | 33

The following table summarizes key global guidelines on maternal nutrition. For more details on a specific recommendation and for context-specific recommendations, consult the original source listed in the third column. These guidelines are up-to-date as of July 2021. Please consult the [World Health Organization website](https://www.who.int) for the latest information on global guidelines.

<table>
<thead>
<tr>
<th>TIME IN THE LIFE CYCLE</th>
<th>GLOBAL GUIDELINES</th>
<th>SOURCE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-pregnancy</td>
<td>Daily iron supplementation for menstruating adult women and adolescent girls, living in settings where anemia is highly prevalent (40% or higher in this age group)</td>
<td>WHO 2016a</td>
</tr>
</tbody>
</table>
|                        | Eight key actions for improving adolescent nutrition—  
1. promoting healthy diets  
2. providing additional micronutrients through fortification of staple foods and targeted supplementation  
3. managing acute malnutrition  
4. preventing adolescent pregnancy and poor reproductive outcomes  
5. promoting preconception and antenatal nutrition  
6. providing access to safe environment and hygiene  
7. promoting physical activity  
8. disease prevention and management.                                                                 | WHO 2018                                   |
| Pregnancy              | Provide counseling on healthy eating (e.g., dietary diversity, balanced protein energy intake, and food quantity) and keeping physically active to stay healthy and prevent excessive weight gain | WHO 2016b                                  |
|                        | • Daily oral IFA supplementation with 30 to 60 mg of elemental iron and 400 μg (0.4 mg) of folic acid  
• If daily iron is not acceptable due to side effects, and in populations with anemia prevalence < 20%, intermittent oral IFA supplementation with 120 mg of elemental iron and 2800 μg (2.8 mg) of folic acid once weekly | WHO 2016b                                  |
|                        | Antenatal multiple micronutrient supplements that include IFA, recommended in rigorous research                                                                                                                | WHO 2020a                                  |
|                        | Balanced energy-protein dietary supplementation, recommended in undernourished populations                                                                                                                        | WHO 2016b                                  |
|                        | Daily calcium supplementation (1.5–2.0 g oral elemental calcium), in populations with low dietary calcium intake, and only in the context of rigorous research                                                                 | WHO 2016b                                  |
|                        | Preventive anti-helminthic treatment is recommended for pregnant women after the first trimester as part of worm infection reduction programs, in endemic areas                                                  | WHO 2016b                                  |
|                        | Minimum of eight ANC contacts: one contact in the first trimester, two contacts in the second trimester, and five contacts in the third trimester                                                                 | WHO 2016b                                  |
|                        | Monitor for adequate gestational weight gain over the duration of pregnancy. Recommended gestational weight gain varies depending on pre-pregnancy body mass index (BMI) category—  
• BMI <18.5: 12.7–18.2 kg  
• BMI 18.5–24.9: 11.4 kg–15.9 kg  
• BMI 25.0–29.9: 6.8 kg–11.4 kg  
• BMI ≥30: 5.0 kg–9.1 kg                                                                | Rasmussen et al., 2009                     |
| Birth                  | Delayed cord clamping from 1–3 minutes recommended for all births, while initiating simultaneous essential neonatal care.                                                                                       | WHO 2014                                   |
|                        | All mothers should be supported to initiate breastfeeding as soon as possible after birth, within the first hour after delivery                                                                               | WHO 2017                                   |
|                        | Facilitate and encourage early and uninterrupted skin-to-skin contact between mothers and infants as soon as possible after birth.                                                                            | WHO 2017                                   |
|                        | Mothers should receive practical support to enable them to initiate and establish breastfeeding and manage common breastfeeding difficulties, with additional support for establishing and maintaining milk supply for mothers of small and sick newborns. | WHO 2017, WHO 2020b                       |
## TIME IN THE LIFE CYCLE

<table>
<thead>
<tr>
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<tbody>
<tr>
<td><strong>Postnatal</strong></td>
<td></td>
</tr>
<tr>
<td>• If birth is in a health facility, mothers and newborns should receive PNC in the facility for at least 24 hours after birth</td>
<td>WHO 2013</td>
</tr>
<tr>
<td>• If birth is at home, the first postnatal contact should be as early as possible within 24 hours of birth</td>
<td>WHO 2013</td>
</tr>
<tr>
<td>Minimum of three PNC contacts recommended for all mothers and newborns, on day 3 (48–72 hours), between days 7–14 after birth, and six weeks after birth</td>
<td>WHO 2013</td>
</tr>
<tr>
<td>Counsel mothers and provide support for exclusive breastfeeding at each postnatal contact</td>
<td>WHO 2013</td>
</tr>
<tr>
<td>Mothers should be counseled on nutrition, hygiene (especially handwashing), birth spacing and family planning, malaria prevention (if applicable), and adequate rest/exercise</td>
<td>WHO 2013</td>
</tr>
<tr>
<td>Oral iron supplementation, either alone or in combination with folic acid, may be provided to postpartum women for 6–12 weeks following delivery for reducing the risk of anemia, in settings where gestational anemia is of public health concern</td>
<td>WHO 2016c</td>
</tr>
<tr>
<td>Integrate psychosocial interventions to support maternal mental health in early childhood health and development services</td>
<td>WHO 2020c</td>
</tr>
<tr>
<td><strong>Quality of Care</strong></td>
<td></td>
</tr>
<tr>
<td>Quality statement 1.1b: Newborns receive routine care immediately after birth</td>
<td>WHO 2016d</td>
</tr>
<tr>
<td>Quality statement 1.1c: Mothers and newborns receive routine postnatal care</td>
<td>WHO 2016d</td>
</tr>
<tr>
<td>Quality statement 1.9: No woman or newborn subjected to unnecessary or harmful practices during labor, childbirth, and the early postnatal period</td>
<td>WHO 2016b</td>
</tr>
</tbody>
</table>

## SOURCES


Annex 5. Sample Agenda Items for Multi-Stakeholder Workshop

1. Briefly present findings from your maternal nutrition situation analysis.
2. Present suggested maternal nutrition priority recommendations based on your situation analysis, and discuss alignment with existing government priorities and guidance on maternal nutrition.
3. Map out stakeholders’ existing programming areas, interventions, timelines, and staffing—and opportunities for complementary efforts.
4. Develop a theory of change and logical framework to address the implementation priorities (See Annex 3).
5. Discuss roles, responsibilities, and a general timeline for agreed on maternal nutrition implementation priorities. Determine which activities to incorporate in your program or activity’s implementation plan.
6. Agree on a schedule for follow-up meetings and discussion.

Annex 6. Using a Theory of Change Methodology

Using a theory of change methodology will help you map how you and other stakeholders will achieve the maternal nutrition implementation priorities you have identified. After you have identified the desired outcomes, work backwards to identify the “preconditions” or intermediate outcomes to reach. Rationales, or statements of why one outcome appears to be a prerequisite for another, explain the links between outcomes. At the end, you will have an “outcomes pathway” showing each outcome in a logical relationship to all the others, and a chronological flow. An example of a theory of change statement: If health worker capacity and motivation are strengthened, then the quality of ANC counseling will improve, and pregnant women will be more likely to complete the recommended number of ANC contacts.

Review more information and examples in the USAID LEARN article, “What is this thing called ‘Theory of Change?’"
Annex 7. Illustrative Implementation Plan Outline

I. Background
   a. Country/Regional Context
   b. Program/Activity Objectives
   c. Theory of Change

II. Maternal Nutrition Priorities

III. Implementation Matrix
   a. Activities/Interventions
   b. Partners/Implementers
   c. Key Deliverables
   d. Timeline
   e. Staff and Materials Needed

IV. Monitoring and Evaluation Plan

V. Emergency Protocols