The Republic of South Sudan

Ministry of Health

Promotes Health & Provides Care

MATERNAL, INFANT AND YOUNG CHILD NUTRITION

MIYCN GUIDELINES

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December 2017

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Acknowledgments

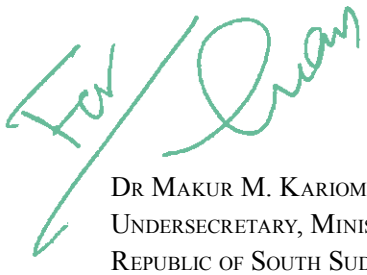
The Ministry of Health (MOH) in South Sudan has embarked on relevant processes in developing its first Maternal, Infant and Young Child Nutrition (MIYCN) guidelines and training package based on the National Health Policy, the Boma Health Initiative (BHI), the Basic Package of Health and Nutrition Service (BPHNS) and the draft National Nutrition Policy. The MIYCN guidelines aim to provide guidance to all government and non-governmental agencies and organizations working on maternal, infant and young child nutrition.

This MIYCN guideline document is a product of a highly technical, intensive and consultative processes led by the Nutrition Department of the Ministry of Health in collaboration with the technical nutrition core group comprising individuals from the MOH and partners including Dr Samson Baba, Rebecca Alum, Shishay Tsadik TA, and Rita Juan Demetry; UNICEF Nutrition Section including Vandana Agarwal, Joseph Senesie, Gilbert Dachi and Priscilla Bayo; WFP Nutrition Unit including Lucas Alamprese; Marina Adrianopoli (WHO); Joyce Akandu (Save the Children); Gladys Lasu (HPF), Tracy Dube (CWW), Akol Lonyamoi (WVI), Emmanuel Kokole (HTO), Juliet Vilegwa (UNIDO) and Alessandro Lellamo (Consultant).

The MOH wants to acknowledge especially the financial and technical support provided by UNICEF, the technical support provided by other UN agencies, INGOs and NGOs that contributed to the development, review and finalization the MIYCN guidelines.

Finally, I would like to express our gratitude to the Senior Management of the Ministry of Health, staff from the different departments, the state Ministries of Health (SMOH), the relevant line ministries that actively participated and provided valuable inputs in shaping a MIYCN guideline which will guide, in particular, maternal, infant and young child programming and capacity building to respond to the needs and situations of women and children of South Sudan.

The Ministry of Health wished to extend special gratitude to all individuals, national and international organizations and donors for their unwavering support and commitment in the development of the Maternal, Infant and Young Child Nutrition guidelines as well as training package.



Dr Makur M. Kariom
Undersecretary, Ministry of Health
Republic of South Sudan

Foreword

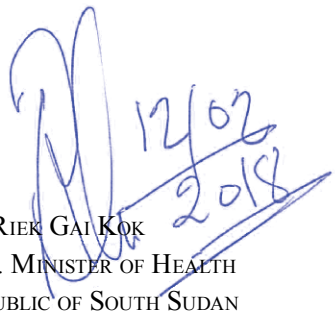
The Government of the Republic of South Sudan is committed to prevent maternal and child morbidity and mortality, through improved access to basic health and nutrition services. Strengthening the national health system in order to improve quality and increase access to the Basic Package of Health and Nutrition Services (BPHNS) to its citizens. To this end the Ministry of Health updated the National Health Policy (2016-2026), the Health Sector Strategic Plan (2015-2019) and the Boma Health Initiative (BHI 2016) to provide long-term strategic framework for strengthening, harmonizing and coordinating the health system and the establishment of a community health system (the reform).

The Maternal, Infant and Young Child Nutrition Guidelines are aligned with the overarching government strategies and policies of the Ministry of Health, providing a set of concrete, evidence based recommendations, procedures and protocols that operationalize the MIYCN strategy and will contribute to the improvement of maternal, infant and young children nutrition and survival as well as providing guidance to all health workers, social workers, managers and other professionals working in the area of MIYCN, and guiding the Boma Health Team and Home Health Promoters on how best to support mothers and children.

Infants and young children are the most vulnerable, and during their first two years of life undernutrition can weaken their resistance and make them more susceptible to diseases and deaths. Focusing our attentions and investing our resources on improving maternal nutrition and infant and young child nutrition will have a great impact on a child's ability to grow, learn, and rise out of poverty. Investing in maternal, infant and young child nutrition will in the long term contribute to the improvements of the health situation, stability and economy in the country.

I therefore call upon all stakeholders to continue supporting South Sudan in the dissemination, rollout, and implementation of the guidelines, supporting the capacity building initiatives at each level of the health and community systems.

I call upon all development and implementing partners to work together, in the spirit of collaboration and cooperation, so that together we can win the battle against malnutrition and hence saving the lives of women and children in South Sudan.



Dr Riek Gai Kok
Hon. Minister of Health
Republic of South Sudan

Definition of term(s):

Acute malnutrition - Also known as 'wasting', acute malnutrition is characterized by a rapid deterioration in nutritional status over a short period of time. In children, it can be measured using the weight-for-height nutritional index or mid-upper arm circumference. There are different levels of severity of acute malnutrition: moderate acute malnutrition (MAM) and severe acute malnutrition (SAM).

Basic packages of health and nutrition services [BPHNS] -These are evidence based, cost effective health intervention/services made available at health facilities and in communities for reduction of the burden of diseases. The Ministry of Health of the Republic of South Sudan defined the BPHNS.

Body mass index (BMI) – Defined as an individual's body mass (in kilograms) divided by height (in meters squared): BMI units = kg/m2. Acute malnutrition in adults is measured by using BMI.

Boma - is the smallest geographical area and administrative unit in South Sudan. It consists of villages and households.

Boma health teams - A team of three people who live in a Boma, selected by their community and recruited to provide community health services.

Breast milk substitutes - Any food marketed or otherwise represented as a partial or total replacement for breast milk, whether or not suitable for that purpose.

Community health workers - shall be solely dedicated to provide health promotion, disease prevention and selected treatment services at the community level (Boma Health Initiative).

Complementary feeding - The use of age-appropriate, adequate and safe solid or semi-solid food in addition to breast milk or a breast milk substitute. The process starts when breast milk or infant formula alone is no longer sufficient to meet the nutritional requirements of an infant. It is not recommended to provide any solid, semi-solid or soft foods to children less than 6 months of age. The target range for complementary feeding is generally considered to be 6–23 months.

Chronic malnutrition – Chronic malnutrition, also known as 'stunting', is a form of growth failure which develops over a long period of time. Inadequate nutrition over long periods of time (including poor maternal nutrition and poor infant and young child feeding practices) and/or repeated infections can lead to stunting. In children, it can be measured using the height-for-age nutritional index.

The Code – The International Code of Marketing of Breast-Milk Substitutes adopted by the World Health Assembly (WHA) in 1981, and regularly updated through subsequent WHA resolutions.

Early initiation of breastfeeding - Provision of mother's breast milk to infants within one hour of birth is referred to as "early initiation of breastfeeding" and ensures that the infant receives the colostrum, or "first milk", which is rich in protective factors.

Exclusive breastfeeding - An infant receives only breast milk and no other liquids or solids, not even water, with the exception of oral rehydration salts (ORS) or drops or syrups consisting of vitamins, mineral supplements or medicines. UNICEF recommends exclusive breastfeeding for infants aged 0-6 months.

Follow-on/follow-up formula – Breast milk substitute formulated for infants aged 6 months or older.

Food fortification – The addition of micronutrients to a food during or after processing to amounts greater than were present in the original food product. This is also known as 'enrichment'.

Food security – Access by all people at all times to sufficient, safe and nutritious food needed for a healthy and active life. (1996 World Food Summit definition).

Global acute malnutrition (GAM) – The total number of children aged between 6 and 59 months in a given population who have moderate acute malnutrition, plus those who have severe acute malnutrition. (The word 'global' has no geographic meaning.) When GAM is equal to or greater than 15 per cent of the population, then the nutrition situation is defined as 'critical' by the World Health Organization (WHO). In emergency situations, the nutritional status of children between 6 and 59 months old is also used as a proxy to assess the health of the whole population.

Growth monitoring and promotion – Individual-level assessment where the growth of infants and young children are monitored over time in order to identify and address growth faltering and growth failure.

Health workers – Doctors, nurses, midwives and nutritionists.

Home health promoters – Shall be selected at the ratio of 1HHP per 30-40 households in densely populated areas (urban), or two HHPs (one woman and one man per village) in sparsely populated areas (rural). They will work together with the boma health teams on voluntary basis with a defined basic incentive mechanisms.

Infant and young child feeding (IYCF) – Term used to describe the feeding of infants (less than 12 months old) and young children (12–23 months old). IYCF programmes focus on the protection, promotion and support of exclusive breastfeeding for the first six months, on timely introduction of complementary feeding at six months and continued breastfeeding for two years or beyond. Issues of policy and legislation around the regulation of the marketing of infant formula and other breast milk substitutes are also addressed by these programmes.

Infant formula – A breast milk substitute formulated industrially in accordance with applicable Codex Alimentarius standards. The Codex Alimentarius Commission was established in 1963 by the Food and Agriculture Organization (FAO) and WHO to protect the health of consumers and to ensure fair practices in the international food trade.

Malnutrition – A broad term commonly used as an alternative to 'undernutrition' (stunting, wasting, micronutrient deficiencies), but which technically also refers to over-nutrition (overweight and obesity). People are malnourished if their diet does not provide adequate nutrients for growth and maintenance or if they are unable to fully utilize the food they eat due to illness (undernutrition). They are also malnourished if they consume too many calories (over-nutrition).

Micronutrients – Essential vitamins and minerals required by the body in miniscule amounts throughout the life cycle.

Mid-upper-arm circumference – The circumference of the mid-upper arm is measured on a straight left arm (in right-handed people) midway between the tip of the shoulder (acromion) and the tip of the elbow (olecranon). It measures acute malnutrition or wasting in children aged 6–59 months. The mid-upper arm circumference (MUAC) tape is a plastic strip, marked with measurements in millimeters. MUAC < 115mm indicates 9 that the child is severely malnourished; MUAC < 125mm indicates that the child is moderately malnourished.

Mixed feeding - Giving other liquids or foods as well as breast milk to infants under 6 months of age.

Minimum dietary diversity - Proportion of children 6-23.9 months of age who receive foods from 4 or more food groups. *Dietary diversity refers to the child receiving 4+ of the following food groups: 1)* grains, roots and tubers 2) legumes and nuts 3) dairy products (milk, yogurt, cheese) 5) flesh foods (meat, fish, poultry and

liver/organ meats) 6) eggs 7) vitamin A rich fruits and vegetables and 8) other fruits and vegetables.

Moderate acute malnutrition - Defined as weight-for-height between minus two and minus three standard deviations from the median weight-for-height for the standard reference population.

Multiple micronutrient powder – Comes in a little sachet to sprinkle on food which contains most of the micronutrients needed. Proposed for children aged 6–23 or 59 months to improve the quality of complementary food, or for pregnant mothers.

Nutrition surveillance – The regular collection of nutrition information that is used for making decisions about actions or policies that will affect nutrition. In emergency situations, nutritional surveillance is part of early warning systems to measure changes in nutritional status of populations over time to mobilize appropriate preparation and/or response.

Oedema – Bilateral oedema (fluid retention on both sides of the body) is caused by increased fluid retention in extracellular spaces and is a clinical sign of severe acute malnutrition. There are different clinical grades of oedema: mild, moderate and severe.

Outreach –The word "outreach" is used to to describe a wide range of activities, from actual delivery of services to dissemination of information. As a tool to help expand access to health services, practices or products, outreach is most often designed to accomplish one of the following (or some combination):

- Directly deliver healthy services or products
- Educate or inform the target population, increasing their knowledge and/or skills
- Educate or inform people who interact with the target population (often called community health advisors)
- Establish beneficial connections between people and/or organizations

Ready-to-use infant formula – A type of BMS that is nutritionally balanced and packed in a form that is ready to use for infants who do not have the option of being breastfed.

Re-lactation – Induced lactation (breastfeeding) in someone who has previously lactated.

Social mobilization - Social mobilization is a process that raises awareness and motivates people to demand change or a particular development. It is mostly used by social movements in grassroots groups, governments and political organizations to achieve a particular goal.

Severe acute malnutrition – A result of recent (short-term) deficiency of protein, energy, and minerals and vitamins leading to loss of body fats and muscle tissues. Acute malnutrition presents with wasting (low weight-for-height) and/or the presence of oedema (i.e. retention of water in body tissues). Defined for children aged 6–59 months as a 1) weight-for-height below -3 standard deviations (SD) from the median weight-for-height for the standard reference population, 2) a mid-upper arm circumference of less than 115 mm or, 3) the presence of nutritional oedema or marasmic-kwashiorkor.

Stunting - also known as 'chronic malnutrition', is a form of growth failure which develops over a long period of time. Inadequate nutrition over long periods of time (including poor maternal nutrition and poor infant and young child feeding practices) and/or repeated infections can lead to stunting. In children, it can be measured using the height-for-age nutritional index.

Volunteer - members of a community who are chosen by community members or organizations to provide basic health and nutrition services to their communities

Vulnerable population – populations affected by the crisis, priority for interventions are pregnant and lactating women, children under 5 years of age, adolescents and the elderly.

Wasting - Also known as 'acute malnutrition', acute malnutrition is characterized by a rapid deterioration in nutritional status over a short period of time. In children, it can be measured using the weight-for-height nutritional index or mid-upper arm circumference. There are different levels of severity of acute malnutrition: moderate acute malnutrition (MAM) and severe acute malnutrition (SAM).

Wet nursing – When a woman breastfeeds a baby that is not her own.

Weight for age - Nutritional index, a measure of underweight (or wasting and stunting combined).

Weight for height - Nutritional index, a measure of acute malnutrition or wasting.

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
ANC	Antenatal Care
ART	Antiretroviral Therapy
ARV	Antiretroviral
BCC	Behavioral Change Communication
BFCI	Baby Friendly Community Initiative
BFHI	Baby Friendly Hospital Initiative
BMI	Body Mass Index
BMS	Breast-milk substitutes
BSFP	Blanket Supplementary Feeding Programme
CHVs	Community Health Volunteers
CLTS	Community Led Total Sanitation
CM	Community Midwife
CMAM	Community based Management of Acute Malnutrition
CRC	Convention of the Rights of the Child
CHWs	Community Health Workers
CSB+	Corny soy blend plus
DHIS	District Health Information System
DHS	Demographic and Health Survey
EBF	Exclusive Breastfeeding
ECD	Early Childhood and Development
EPI	Expanded Programme on Immunization
FAO	Food and Agriculture Organization
FGD	Focus Group Discussion
FBF	Fortified Blended Food
FSNMS	Food Security and Nutrition Monitoring System
GAM	Global Acute Malnutrition
GIYCF	Global Strategy for Infant and Young Child Feeding
Hep B	Hepatitis B
HHPs	Home Health Promoters
HIV	Human Immunodeficiency virus
HMIS	Health Management Information System
HSV-1	Herpes simplex virus type 1
IASC	Inter-Agency Standing Committee
IEC	Information, Education and Communication
IFA	Iron Folic Acid
IMCI	Integrated Management of Childhood Illnesses
IUGR	Intra Uterine Growth Retardation
IBFAN	The International Baby Food Action Network
ICDC	International Code Documentation Center
ICN2	Second International Conference on Nutrition
IDPs	Internally Displaced Populations
IFE	Infant Feeding in Emergency
ILO	International Labour Organization
IMR	Infant Mortality Rate
IYCF	Infant and Young Child Feeding
IYCF-E	Infant and Young Child Feeding during emergencies
IYCN	Infant and Young Child Nutrition
IOM	International Organization for Migration
IPC	Integrated Food Security Phase Classification
IPTp	Intermittent Preventive Treatment of malaria for pregnant women
IRNA	Initial Rapid Needs Assessment
ITP	In-Patient Programme
IU	International Units

KAP	Knowledge, Attitudes and Practices
KII	Key Informant Interview
LBW	Low Birth Weight
LNS	Lipid Nutrient Supplement
MAD	Minimum Acceptable Diet
MAM	Moderate Acute Malnutrition
MCHWs	Maternal and Child Health Workers
MDG	Millennium Development Goal
MICS	Multiple Indicator Cluster Survey
MIYCN	Maternal, Infant and Young Child Nutrition
MMR	Maternal Mortality Rate
MNP	Micronutrient Powder
MOH	Ministry of Health
MrMSG	Mother to Mother Support Group
MUAC	Mid-Upper Arm Circumference
NCDs	Non Communicable Diseases
NGO	Non-governmental organization
NSP	National Strategic Plan
ODF	Open Defecation Free
OPD	Outpatient department
OTP	Out Patient Programme
PDM	Post-Distribution Monitoring
PHCC	Primary Health Care Center
PHCU	Primary Health Care Unit
PLWs	Pregnant and Lactating Women
POC	Protection of Civilian site
RM	Resource Mobilization
RNA	Rapid Nutrition Assessment
RRM	Rapid Response Mission
RUIF	Ready to Use Infant Formula
RUSF	Ready to Use Supplementary Food
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SC	Stabilization Center
SD	Standard Deviation
SDG	Sustainable Development Goals
SMART	Standardized Monitoring and Assessment of Relief and Transitions
SRA	Simple Rapid Assessment
SSD	The Republic of South Sudan
SUN	Scaling Up Nutrition
SWOT	Strengths, Weaknesses, Opportunities and Threats
TB	Tuberculosis WHA
ToT	Training of Trainers
TSFP	Targeted Supplementary Feeding Programme
TWG	Technical Working Group
UN	United Nations
UNHCR	Office of the United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
U5MR	Under five mortality rate
VLBW	Very Low Birth Weight
WASH	Water, Sanitation and Hygiene
WFH	Weight for Height
WFP	World Food Programme
WHO	World Health Organization

CHAPTER 1

Introduction to the guidelines

1. Introduction

The Republic of South Sudan is the newest country of the world, with a total estimated population of 11,296,000 and 406,000 annual births. Despite facing many challenges, it is a growing country committed to improving the living conditions of their population.

The Republic of South Sudan recently has issued important health policies that will improve the health system and reduce maternal and child mortality in the country. The newly issued Health Policy 2016-2015 calls for a responsive intersectoral collaboration that targets individuals, families and communities to take responsibility for the determinants of health; food security and nutrition, education, poverty, water and sanitation, environmental and climatic conditions, housing, socio-cultural and gender related barriers to access to health services, all forms of violence, traffic and urban planning, in addition to sustained behavior change campaigns.

Among its objectives, the policy envisions that all efforts and programmes work to strengthen health service organization and infrastructure development for effective and equitable delivery of the basic package of health and nutrition services.[1]

TABLE 1 MIYCN strategic actions

MATERNAL, INFANT AND YOUNG CHILD NUTRITION STRATEGIC ACTIONS	
1	Endorse and disseminate key policies and regulations
2	Improve maternal nutrition
3	Protect, promote, and support optimal infant and young child feeding practices
4	Support optimal infant and young child feeding in difficult circumstances
5	Ensure intra-sectoral integration (Health and Nutrition)
6	Improve intersectoral integration (food security and livelihood, WASH, protection, education and shelter)
7	Support capacity building and service strengthening
8	Initiate advocacy and social behavioural change communication
T	Sustain research, information, monitoring and evaluation
10	Mobilise resources and support

THE POLICY CALLS ON THE MINISTRY OF HEALTH TO:

1. Ensure improved health determinants and address health inequities through intersectoral collaboration and developing community health structures and effectively deliver health promotion services with community participation.
2. Ensure reduction of mortality and morbidity due to non-communicable diseases through establishment of health promotion, treatment and rehabilitation interventions.

In line with this, the Ministry of Health, with the support of other stakeholders, has initiated a process to establish a policy and legal environment that will help improve the nutrition situation in the country.

The most recent 2016 Food Security and Nutrition Monitoring System (FSNMS) report suggested that the Global Acute Malnutrition (GAM) rate was 13.0%. Assessment findings indicate that poor complementary feeding practices and morbidity predisposed children to malnutrition. It was further suggested that among the families reached, only 59.7% of children aged between 0 to less than 6 months were exclusively

breastfed, while only 16% of children age 6-8 months were fed solid/semi-solid foods.

The composite indicator of quality and quantity of complimentary feeds provided (minimum acceptable diet or MAD) to children 6 to 23 month's shows a disturbing situation in which only 6.1% of children 6 to 23 months received the MAD.

The Ministry of Health and its partners identified the need to develop a common set of strategies, interventions, and actions that would guide the implementation of a concerted set of activities by all stakeholders. MOH and its partners developed a Maternal, Infant, and Young Child Nutrition Strategies, with accompanying guidelines that will be the basis for national and sub-national programming and implementations.

2. The maternal, infant and young child feeding strategy in South Sudan

The MIYCN strategy proposes evidence-based and cost effective strategic actions that will have to be supported an enabled in the country (Table 1). Most of the proposed interventions will focus on nutrition interventions, while others will focus on nutrition sensitive interventions, which may not be implemented directly by the Ministry of Health and its stakeholders, their up-taking by the relevant and concerned government and non-government agencies, will be advocated for.

3. The development and adaptation process

The Ministry of Health lead the development and/or adaptation of key guidelines for each of the strategic actions proposed by the MIYCN strategy. For each strategic action, the development team was tasked to identify if current national guidelines were available, review to ensure these responded to the needs and call of the strategy. For areas where no guidelines were available, the development team identify the current best practices and reviewed them *vis* a *vis* the international recommendations. Once the current practices were validated with the international recommendations, the latter were then adapted and recommended as the new national guidelines.

4. Purpose of the technical guidelines and recommendation s

To provide guidance to health, nutrition, and social service providers, including government partners, organizations, and donors involved in the protection, promotion, and support of maternal, infant, and young child nutrition.

5. User(s) of the technical guidelines

The primary users of the guidelines will be the front liners, implementers, program managers from the following agencies and organizations:

1. Ministry of Health[2]
2. Line ministries[3]
3. Sub-national government[4]
4. Nutrition cluster
5. Other sector clusters[5]
6. Health workers, social workers, community leaders and mobilizers, community health and nutrition volunteers
7. Academia (i.e. universities) and research institutes
8. Non-governmental organizations (international and national)
9. United Nation agencies
10. Donor community
11. Other civil society and community based organizations (faith based groups, women's groups, youth groups)
12. Private sector (industries/enterprises)

CHAPTER 2

The Guidelines

STRATEGIC ACTION 1

Endorse and disseminate key policies, legislation(s) and regulation(s)

1.1.	National nutrition policy and strategy
1.2	Adaptation of the International Code of Marketing of Breast-Milk Substitutes and related relevant World Health Assembly Resolutions (WHAs) (The Code)
1.3	Issue protocols and guidelines for all health facilities offering maternity services
1.4	Issue protocol and guidelines for baby-friendly communities
1.5	Adaptation of the ILO Convention 192
1.6	Food fortification of staple foods
1.7	Salt iodization regulation(s)
1.8	Regulations of sugar levels for children and adults

1.1 National nutrition policy and strategy

A policy is a statement by an authoritative body with intent to act in order to maintain or alter a condition in society. A nutrition policy (or nutrition strategy or planning) is defined as a set of concerted actions, based on a governmental mandate, intended to ensure good health in the population through informed access to safe, healthy, and adequate food.[6]

Established by a government and often supported by special legislation, nutrition and food policy are viewed as a specific set of decisions with related actions that address a set of nutrition or food problems.

Effective policies include actions that enable policy goals to be achieved, and therefore, should include a means of translating policy decisions into effective programs.[7]

The following are the recommended key components and/or elements of a national nutrition policy:

1. Coverage

The nutrition policy in South Sudan should cover malnutrition in all its forms, including undernutrition, obesity, and diet-related NCDs, as well as some programmatic issues related to infant and young child feeding, vitamin and mineral supplementation, and food fortification.

2. Coordination mechanisms

The coordination mechanism that will be identified and agreed upon in South Sudan should ensure a larger possible participation by government, non-governmental agencies (with no conflict of interest), and other actors that have a stake (direct or indirect) in the success of the implementation of the national policy.

Based on agreements between other ministries and stakeholders, the national nutrition policy may also cover other underlying factors, such as food security, cash transfers, infection, trade, gender, and focus on vulnerable groups.

3. Inclusion of the policy as part of the national development plan(s)

Nutrition should be embedded in other national development plans like the South Sudan Development Plan and the Health Sector Development Plan. In addition, nutrition should be reflected in the mechanisms and multiple agencies working towards the development and improvement of the population's living conditions.

4. Provision of clear mechanisms, resources and responsibilities for policy implementation

There is a need for coherence between the policy directions and the implementation of activities. The national nutrition policy should indicate resources, bodies, and mechanisms that will be tasked to carry out every single recommendation in a continuous and sustained fashion.

1.2 The International Code of Marketing of Breast-Milk Substitutes and subsequent relevant World Health Assembly Resolutions (WHAs) (The Code)[8,9]

The Code protects human rights, including children's rights to life, survival, development, health, nutrition, and the right to safe and adequate food. It also protects the right of women to full and accurate information on which to base decisions affecting their children's health.

The Code promotes appropriate infant and young child feeding practices, including the protection of breastfeeding, while prohibiting any form of promotional activity and advertising of products within its scope.

IBFAN-ICDC developed a 10-point summary of the Code and subsequent World Health Assembly Resolutions.[10] Below is a summary of recommendations contained in the code for different target groups:

1. Mothers

- Mothers should not be given free samples of any of the products covered by the Code.
- Company representatives can in no way initiate direct or indirect contact with mothers.
- Advertising directly to mothers (or any other members of the general public) through radio, TV, print, mailings, websites, text messages or any other form is prohibited.
- Promotional devices at the retail level are prohibited.
- Product labels for infant formula must comply with the requirements of Article 9 of the Code.
- Labels for powdered infant formula must inform mothers and caregivers as well as medical professionals of the inherent risks of the a) improper use of the product b) intrinsic contamination of the product.
- Information and educational materials must comply with Article 4 of the Code and in no case should they refer to a product brand name.

2. Health care facilities

- Free supplies: manufacturers and distributors are prohibited from providing any product covered by the Code to health care facilities free or at low cost (at less than 80% of the retail price). The Code allows free supplies for social welfare institutions, under extremely limited circumstances. The World Health Assembly passed two resolutions[11] that effectively called for an end to all free or low-cost supplies to any part of the health care system.
- There should be no posters, literature, crib cards, equipment, or other materials with a name, picture, logo or other reference to any product covered by the Code on display in a health care facility.
- Manufacturers should not distribute gifts such as pens, note pads, car stickers, bibs or toys, whether or not the item carries a product brand name.

3. Health care workers

- Information given to health workers by manufacturers and distributors must only contain "scientific and factual" matters.
- Manufacturers and distributors must not provide gifts in the form of money, goods, or services to health care workers.
- Free samples can be given to health workers only when necessary for professional evaluation or for research at institutional level. In no case should these samples be passed on to mothers.

OTHER "CODE" RECOMMENDATIONS ARE:

World Health Organization resolution number 58.32 (2005)

- Nutrition and health claims are not permitted for breast-milk substitutes, except where specifically provided for in national legislation;
- Clinicians and other health-care personnel, community health workers, families, parents, and other caregivers, are all informed that powdered infant formula may contain pathogenic microorganisms, and must be prepared and used appropriately; and, where applicable, this information is conveyed through an explicit warning on the packaging;
- Financial support and other incentives for programmes and health professionals working in infant and young-child health do not create conflicts of interest.

World Health Organization resolution number 63.23 (2010)

- End inappropriate promotion of food for infants and young children, and ensure that nutrition and health claims shall not be permitted for foods for infants and young children, except where specifically provided for in relevant Codex Alimentarius standards or national legislation;

World Health Organization resolution number 69.9 (2016)

- To take all necessary measures in the interest of public health to end the inappropriate promotion of foods for infants and young children, in particular implementation of the guide recommendations, while taking into account existing legislation and policies, as well as international obligations;
- To end inappropriate promotion of food for infants and young children, and to promote policy, social, and economic environments that enable parents and caregivers to make well informed infant and young child feeding decisions, and further support appropriate feeding practices by improving health and nutrition literacy.

THE RANGE OF PRODUCTS COVERED BY THE "CODE"[12,13]

Below is a list of *relevant products* covered by "the Code" that South Sudan will have to integrate when adopting relevant legislation and regulations, as well as when setting up the monitoring systems for Code adherence.

a. Infant formula. This includes milk or milk-like formulation that can be fed to infants from birth and prepared in accordance with relevant international or national standards. The upper age indication on the product label varies from country to country but is usually between 6 and 12 months. There are various types of infant formula. These include "special" formulas such as soy formula, lactose-free formula, low-birth-weight/premature formula, and therapeutic milks.

b. Follow-up formula *(sometimes referred to as 'follow-on milk').* This includes milk or milk-like formulations commonly marketed for babies from 6 months of age and prepared in accordance with relevant international or national standards. The upper age indication on the product label varies from country to country but is usually between 12 and 24 months. Any milk product that is marketed or represented as suitable as a partial, or total replacement of the breast milk part of the young child's diet, is a breast-milk substitute thus falling under the scope of the Code. This product always replaces breast milk as breastfeeding is recommended to continue for 2 years or beyond. Follow-up formula should, therefore, not be promoted.

In a 2013 statement entitled *Information concerning the use and marketing of follow-up formula*,[14] WHO stated that "If follow-up formula is marketed or otherwise represented to be suitable, with or without modification, for use as a partial or total replacement for breast milk, it is covered by the Code. In addition, where follow up formula is otherwise represented in a manner which results in such product being perceived or used as a partial or total replacement for breast milk, such product also falls within the scope of the Code."

c. Growing-up milk *(sometimes called growing-up formula, toddler milk or formulated milk).* This product is targeted at infants and young children from 1 year old (sometimes younger) to 3 years old. Often, the product name is similar to a company's formula products, with a figure "3" added on. Where growing-up milks are marketed as suitable for feeding young children up to the age of 36 months, they fall under the Code definition of "breast-milk substitute" read together with WHA resolution 58.32 from 2005, which recommends that breastfeeding continue for up to 2 years or beyond.

d. Any other milk for children 0 to < 36 months Any other milk or milk formulation, that may be available in the country and promoted for use by infants and young children (0-35 months), will be covered.

e. Any other food or liquid targeted for infants less than 6 months of age. Since resolution WHA 54.2 from 2001 recommends exclusive breastfeeding for six months, followed by safe and appropriate complementary foods with continued breastfeeding for up to 2 years or beyond, any food product represented as suitable for infants less than 6 months necessarily replaces breast milk. All such products are within the scope of the Code. At the same time, WHA 63.23 from 2010 calls for an end to all inappropriate promotion of products for infant and young children, so it is important to monitor how marketing of these products is done.

f. Feeding bottles and teats are also covered by the Code. This includes feeding bottles attached to breast pumps, and other types of vessels comprised of a container and teat for feeding infants.

g. Complementary foods or liquids. Complementary foods marketed for use after the age of 6 months generally fall outside the scope of the Code. However, if complementary foods are promoted for infants under 6 months, or in a way to cross-promote some of the breastmilk substitutes, or in a manner that suggests they can be fed by bottle, then these products fall under the scope of the Code.

The World Health Organization published a global report on the status of implementation of the Code.[15] As of March 2016, 135 out of 194 countries had some form of legal measure in place covering some provisions of the Code. As of 2016, the Republic of South Sudan has no legal measure implementing the Code.

1.3 Protocols and guidelines for health facilities offering maternity services (the baby-friendly hospital Initiative)

The Innocenti Declaration (1990, updated in 2005) identified the need for a government structure, support, and a system of management for the breastfeeding program. It recommended that all health facilities with maternity services implement the ten steps for successful breastfeeding, reiterated the importance of implementing the *Code* and the passage of legislations in favor of maternity protection in the workplace. The BFHI (1991, revised and updated in 2009) represents a global effort to improve health worker practices in protecting, promoting, and supporting breastfeeding in health facilities offering maternity services.

BFHI, launched in 1991, aims to give every baby the best start in life by creating a health care environment where breastfeeding is the norm. *The Ten Steps for Successful Breastfeeding (Table 2)* include having a breastfeeding policy in the hospital, not promoting infant formula products, pacifiers, or bottles, while counselling and educating mothers on how to initiate, support, and maintain breastfeeding.

The BFHI concept has been evolving and was adapted to universities, schools, workplaces, cities, and communities. Recommendations and standards were updated in 2009 based on new knowledge and experience. They upheld the *International Code* as a key component of BFHI, also including support for non-breastfeeding mothers, and suggested additional modules on 1) HIV and infant feeding and 2) mother-friendly care; and provided additional guidance on the monitoring and reassessment process.

TABLE 2 Ten steps for successful breastfeeding

1.	Have a written breastfeeding policy that is routinely communicated to all health care staff.
2.	Train all health care staff in the necessary skills to implement this policy.
3.	Inform all pregnant women about the benefits and management of breastfeeding.
4.	Help mothers initiate breastfeeding within a half-hour of birth.
5.	Show mothers how to breastfeed and how to maintain lactation, even if they should be separated from their infants.
6.	Give newborn infants no food or drink other than breast milk unless medically indicated.
7.	Practice rooming-in, allow mothers and infants to remain together 24 hours a day.
8.	Encourage breastfeeding on demand.
9.	Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.
10.	Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

The 2009 version is composed of five (5) modules as following:

1. Background and implementation;
2. Course for hospital decision makers;
3. 20-hour course for maternity staff;
4. Hospital self-appraisal and monitoring; and
5. External assessment and re-assessment.

A full training packages is available from WHO and UNICEF websites.[17,18]

THE FOLLOWING ARE PRACTICAL RECOMMENDATION ON HOW TO START A PROCESS OF COMPLIANCE AND IMPLEMENTATION OF THE TEN STEPS FOR SUCCESSFUL BREASTFEEDING:

1. Build consensus and revitalize interest around BFHI
    a. Organize a consultation/annual implementation review among the states, to review current progress, best practices, challenges, and agree on essential next steps to strengthen BFHI in the country.
2. With the relevant government agencies and stakeholders, explore integrating BFHI standards into existing national health facility strengthening plans and/or MCH protocols and standards.
3. Policies and standards
    a. Issue a protocol to all health facilities offering maternity services;
    b. Integrate and highlight the implementation and enforcement of the Code inside and outside the hospital premises
4. Pre-service/in-service education
    a. Following the WHO, IYCF Model chapter, integrate key breastfeeding (IYCF) topics into the curriculum of health professionals
    b. Conduct MIYCN mentorship on health workers who are already trained on MIYCN competencies
    c. Implement Follow-up of training activities
5. Funding and financing
    a. Identify financing mechanisms that benefit BFHI practicing facilities
    b. Increased government and donor resources towards the scaling up and sustainability of health facilities practicing BFHI
        i. Prioritize implementation from teaching hospitals, specialized pediatricians, obstetrics and gynecology hospitals, etc.
6. Conduct intermediate and external BHFI assessments in facilities offering MCH services[19]
    a. Integrate new assessments into existing health system assessments to increase attention and optimize resources
7. Establish a BHFI committee (or integrate the management and monitoring of the BFHI initiative into existing committees) at facility level to ensure implementation of the ten steps

1.4 Baby-friendly community initiative[20]

Baby-friendly community initiative (BFCI) was developed to expand the BFHI's 10th step, which only focuses on supporting breastfeeding mothers after they leave the hospital. BFCI, a multifaceted program for community-based breastfeeding promotion, is a complementary initiative to BFHI that offers an entry point to address the nutritional and developmental needs of both the mother and the child. The objectives of BFCI are to increase the percentage of babies who are breastfed, increase the duration of exclusive breastfeeding, and sustain breastfeeding after 6 months alongside the introduction of complementary foods. Addressing environmental sanitation, personal hygiene, and equity, the BFCI aims to protect, promote, and support breastfeeding for healthy mothers and babies through the implementation of a seven point plan that complies with the International Code of Marketing of Breast-milk Substitutes. The BFCI seven point plan was developed based on the 'BFHI's 10 steps'. The seven point plan is summarized in Table 3[21]:

The seventh step of the BFCI emphasizes the importance of creating community support groups and mother-to-mother support groups that encourage the inclusion of men, as they are the main influencers of feeding practices at household level. This initiative also includes the introduction of sustainable income generating activities, such as kitchen gardens.

TABLE 3 The seven steps for a baby-friendly Community

NO.	STEPS FOR A BABY-FRIENDLY COMMUNITY
1	A written breastfeeding policy that is routinely communicated to all staff and volunteers.
2	Train all health care workers in the knowledge and skills necessary to implement the breastfeeding policy.
3	Inform pregnant women and their families about the benefits and management of breastfeeding.
4	Support mothers to establish and maintain exclusive breastfeeding to six months.
5	Encourage sustained breastfeeding beyond six months, to two years or more, alongside the introduction of appropriate, adequate, and safe complementary foods.
6	Provide a welcoming atmosphere for breastfeeding families.
7	Promote collaboration among health services, and between health services and the local community.

Community level involvement in breastfeeding initiatives consists of health care professionals, multipurpose community health workers, family members, relatives and friends, peers, lay counsellors, community developers, extension workers, traditional health practitioners, local media, breastfeeding advocates such as grandmothers, as well as community and religious leaders.

MAIN FEATURES OF THE BFCI

1. Community involvement
2. Breastfeeding, adequate complementary feeding maternal nutrition, early childhood development, and hygiene
3. Formation and training of mother support groups at the village level, close links to the health facility
4. Training messages are derived based on knowledge and practices of the community as identified through interviews with community members.
5. MIYCN sensitization sessions at community stakeholders/ gate keeper's levels. (community and religious leaders, grand mothers, Fathers etc.)

BENEFITS OF BFCI

- Creates links between maternal, infant child nutrition
- Creates links between the health facilities and communities
- Integrated with environmental, personal hygiene, and sanitation practices
- Includes sustainable income generating activities through integration of food security and livelihood
- Includes men as important actors of infant feeding decisions
- Involves a larger community integrated group
- Addresses the environmental and cultural issues that affect breastfeeding beyond the mother
- Offers sustainability through community engagement. Health care providers are often transferred from one health facility to another, this causes low sustainability of programs, and loss of follow-up . Unlike health care providers, members of the community are not likely to move away on transfer.
- Draws resources of the entire community
- Provides the governments with an entry point for further community development and the creation of health care policy frameworks and programs.
- Develops contextual messages based on traditional knowledge and the practices of local communities.

1.5 Adaptation of the ILO Convention 192 (maternity protection)

The Government of South Sudan will adapt the recommendations and standards of the International Labor Organization. Currently the Labour Bill of 2011 provides for 56 days of paid maternity leave (8 weeks). The Ministry of Health will advocate to the relevant ministries and agencies for a review and update of the current laws and regulations governing maternity protection. The adaptation will follow the key recommendations provided.

The ILO Convention No. 183 provides for a minimum of 14 weeks of maternity benefit for women to whom the instrument applies. Women who are absent from work on maternity leave shall be entitled to a cash benefit, which ensures that they can maintain themselves and their child in proper conditions of health, with a suitable standard of living. The cash benefit shall be no less than a comparable amount of two-thirds her previous earnings. The convention also requires that states take measures to guarantee pregnant woman or nursing mothers are protected against discrimination, and, are not obliged to perform work that has been determined to be harmful to their health or that of their child's. The standard also prohibits employers to terminate the employment of a woman during pregnancy, her absence on maternity leave, or during the

period following her return to work. The exception is if employment is terminated on grounds unrelated to pregnancy, childbirth, nursing and its consequences. Women returning to work must be given the same position or an equivalent position paid at the same rate. Women must also be provided the right to one or more daily breaks or a daily reduction of work hours to breastfeed their child.

The convention, adopted at the ILO's annual conference in 2000, is legally binding for the countries that ratified it. The ILO also adopted a recommendation saying that where possible, facilities for nursing should be made available at or near the workplace.[22]

UNICEF recognizes that exclusive breastfeeding for six months is crucial for the health of mothers and infants everywhere, not just among those who do not have access to clean water and who are unable afford artificial breast milk substitutes. But it is also widely known that in any place, there are women entering the work force in greater numbers, and they need special support to be able to breast feed exclusively.[23]

Much of women's work is informal, poorly paid or unpaid, unrecognized, and unprotected by labour legislation. Women usually take responsibility for unpaid household work and the nurturing work of child rearing. Thus, work includes income-generating activities in the recognized labour market and in the informal sector, as well as unpaid, unrecognized, household and volunteer work. Only women have the capacity to breastfeed. However, the integration of breastfeeding with other kinds of work requires new policies and actions to protect the rights of women, including the right to breastfeed.[22]

The International Labour Organization (ILO) suggests that the global efforts taken to promote breastfeeding in the workplace are starting to pay off, with more than 65 percent (65%) of countries around the world now having some sort of legislation entitling mothers to either remunerated nursing breaks or a daily reduction of working hours.

The ILO in 2009 has requested governments to include paternity leave, which is generally a short period of leave for the father immediately after childbirth in order to take care of the infant and assist the mother. *The International Labour Conference at its 98th session in 2009 on Gender equality* at the heart of decent work called upon governments to develop sound policies for a better balance between work and family responsibilities for both women and men, including paternity and/or parental leave, with incentives to encourage men to take up such leave (ILO, 2014).[24]

1.6 Fortification of staple foods (cereals) and oil

In South Sudan, fortification of staple food is not yet in place. Fortified staple foods are provided by development partners and generally imported from neighboring countries. The Ministry of Health will engage relevant ministries, agencies, and the private sector to work towards a staple food fortification effort that will provide medium and long-term improvement to the nutritional status of women and children in South Sudan.

Wheat and maize flour fortification should be considered when large groups of the country population regularly consume industrially produced flour. If mandated at the national level, wheat and maize flour fortification programmes are expected to be most effective in achieving a public health impact, and can help achieve international public health goals.

"Wheat and maize flour fortification should be considered when industrially produced flour is regularly consumed by large population groups in a country. Decisions about which nutrients to add and the appropriate amounts to add should be based on a number of factors including i) the nutritional needs and deficiencies of the population; ii) the usual consumption profile of "fortifiable" flour (i.e. the total estimated amount of flour milled by industrial roller mills, produced domestically or imported, which could in principle be fortified); iii) sensory and physical effects of the added nutrients on flour and flour products; iv) fortification of other food vehicles; and v) costs."[25]

WHO reports that wheat and maize flour fortification is a preventive food-based approach to improve micronutrient status of populations over time, and can be integrated with other interven-

"A woman shall be provided with the right to one or more daily breaks or a daily reduction of hours of work to breastfeed her child."

ILO CONVENTION, 2000 (NO. 183)
ARTICLE 10(1)

"The period during which nursing breaks or the reduction of daily hours of work are allowed, their number, the duration of nursing breaks and the procedures for the reduction of daily hours of work shall be determined by national law and practice. These breaks or the reduction of daily hours of work shall be counted as working time and remunerated accordingly."

ILO CONVENTION, 2000 (NO. 183)
ARTICLE 10(2)

"Where practicable and with the agreement of the employer and the woman concerned, it should be possible to combine the time allotted for daily nursing breaks to allow a reduction of hours of work at the beginning or at the end of the working day."

ILO RECOMMENDATION, 2000 (NO. 191)
PARAGRAPH 8

"Where practicable, provision should be made for the establishment of facilities for nursing under adequate hygienic conditions at or near the workplace."

ILO RECOMMENDATION, 2000 (NO. 191)
PARAGRAPH 9

tions in efforts to reduce vitamin and mineral deficiencies when identified as public health problems. Annexes 1, 2 and 3 provide technical recommendations on the amount of micronutrients to be added.

For other staple foods like vegetable oil, the World Health Organization and the Food and Agricultural Organization issued a set of Guidelines on food fortification with micronutrients.[26]

Beside industrial fortification, it is also possible to educate households on how to fortify their own staples.[27]

1.7 Iodization of salt for the prevention and control of Iodine deficiency disorders

WHO recommends that all food-grade salt, used in household and food processing, should be fortified with iodine as a safe and effective strategy to prevent and control iodine deficiency disorders in populations living in stable and emergency settings. *Annex 4* provides the suggested concentrations for the fortification of food-grade salt with iodine.

UNICEF recognizes that exclusive breastfeeding for six months is crucial for the health of mothers and infants everywhere, not just among those who do not have access to clean water and who are unable afford artificial breast milk substitutes.

STANDARDS FOR THE PRODUCTION OF IODIZED SALT

1. This standard applies to iodized salt used as a condiment or an ingredient in the preparation of food in households, food service, and food manufacturing establishments.
2. Iodized salt is food-grade salt that contains the prescribed level of iodine. It shall be produced from refined or unrefined (crude) salt obtained from underground rock salts deposits or by evaporation of seawater or natural brine. The finished product shall be in the form of solid crystals or powder, white in color, without visible spots of clay, sand, gravel, or other foreign matter.
3. Bags or packets of Iodized salt should be labeled with " For Human Consumption"

4. IODIZATION PROCESS

    a. Salt may be iodized with potassium iodate (KIO3) or potassium iodide (KI) by means of any of the following methods:

        i. Dry mixing if the salt is in powdered form

        ii. Drip feeding or spray mixing if salt is in crystal form

        iii. Submersion of salt crystals in iodated brine

As indicate, one criterion to select the appropriate iodization process is the form of the salt (powder or crystal).

5. ESSENTIAL COMPOSITION AND QUALITY FACTORS

    a. To ensure the stability of iodine, salt to be iodized must conform with the following purity requirements:

        i. Moisture, max 4% for refined salt 7% for unrefined salt NaCl, min 97% (dry basis)

        ii. Calcium and magnesium, max 2%

        iii. Water insoluble, max 0.2%

        iv. Heavy metal contaminants, max arsenic as As 0.5 mg/kg cadmium as Cd 0.5 mg/kg lead as Pb 2.1 mg/kg mercury as Hg 0.1 mg/kg

STANDARDS FOR SALT TESTING

South Sudan adopts the recommendations from WHO, UNICEF and ICCIDD. The international recommendations the country has adopted state that iodine must be added at a concentration of 20–40 mg iodine per kg salt, which is dependent on the local salt intake.[28] Potassium iodide or potassium iodates are the two forms in which iodine can be added to the household salt.[29]

The following conditions demonstrate successful use of iodized salt in the household to eliminate an iodine deficiency:

1. 95% of salt at the households must be iodized (>15 ppm and <40 ppm) when they are estimated with the salt iodine titration; and
2. Should be greater than or equal to 90% when they are estimated by the rapid test kits (RTK).

1.8 Regulation to reduce the amount of sugar for children and adults [30]

A new WHO guideline recommends that adults and children reduce their daily intake of free sugars to less than 10% of their total energy intake. A further reduction to below 5% or roughly 25 grams (6 teaspoons) per day would provide additional health benefits. This evidence shows that adults who consume less sugar have lower body weight while increasing the amount of sugars in a diet is associated with a weight increase. In addition, research found that children with the highest intakes of sugar-sweetened drinks are more likely to be overweight or obese than children with a low intake of sugar-sweetened drinks. This recommendation is further supported by evidence showing that higher rates of dental caries (commonly referred to as tooth decay) occur when the intake of free sugars is above 10% of total energy intake compared to when the intake of free sugars is below 10% of total energy intake.

RECOMMENDATIONS[31]

1. WHO recommends a reduced intake of free sugars throughout life.
2. In both adults and children, WHO recommends reducing the intake of free sugars to less than 10% of their total energy intake.
3. WHO suggests a further reduction of the intake of free sugars to below 5% of total daily energy intake.

These recommendations should be:

- Used by policy-makers and programme managers to assess their populations current intake of free sugars relative to a benchmark, and develop measures to reduce intake of free sugars, where necessary, through a range of public health interventions. Measures and interventions that are already being implemented by countries include food and nutrition labeling, consumer education, regulation of marketing of food and non-alcoholic beverages that are high in free sugars, and fiscal policies targeting foods and beverages that are high in free sugars;
- Used to develop a strategy to reformulate food products; in particular, processed foods that are high in free sugars; and
- Translated at the country-level into culturally and contextually specific food-based dietary guidelines that take into account locally available food and dietary customs

STRATEGIC ACTION 2

Improve maternal nutrition

2.1 Pregnant women

2.1.1 COUNSELLING AND SUPPORT FOR APPROPRIATE NUTRITION DURING ADOLESCENCE AND PREGNANCY

Maintaining good nutrition during adolescence and pregnancy is critical for the health of the girl, the mother, and the unborn child. It is also important to prepare the mother to properly feed the infant (early initiation of exclusive breastfeeding and importance of nutrition for the mother). Nutrition counselling for behavior change is a critical strategy to improve the nutritional status of women during adolescence and pregnancy. If the mother is prepared well in advance, during pregnancy, their ability to practice early initiation and exclusive breastfeeding is enhanced. It is important that community health workers and HHPs, as well as facility based health workers, are able to provide nutrition counselling and support to pregnant women. Nutrition counselling should focus on the following:

1. Encourage the adolescent girls and pregnant women to increase the diversity, the amount of foods consumed with adequate meal frequency.
2. Help promote the consumption of an extra meal to ensure adequate weight gain during the duration of the pregnancy.
3. Promote consistent and continued use of micronutrient supplements (IFA for example), food supplements.
4. Encourage consumption of fortified foods such as CSB+, fortified vegetable oil, and iodized salt.
5. Encourage the support of the male partner, or the other adult members of the family, in carrying out some of the house chores.
6. Include health, hygiene, and sanitation in the counselling messages. (encourage attendance to ANC clinics, Tetanus Toxoid immunizations, screening of nutrition status, Malaria, HIV/STI, iron status, and weight monitoring among others)
7. Encourage facility delivery to ensure early initiation of breast feeding within the first hour of birth, (skin to skin contact) as well as sustained exclusive breastfeeding within the first 6 months of life.
8. Provide key messages to prepare for difficult circumstances such as HIV, breastfeeding difficulties (inverted nipple), twins, and babies born with congenital abnormalities.

Evidence suggests that nutrition counselling for pregnant women targeting behavior change has helped improve gestational weight gain, reduce the risk of anaemia in late pregnancy, increase birth weight and early initiation of breastfeeding, and lower the risk of preterm delivery. Nutrition counselling will bear better results if other determinants on the conceptual framework of malnutrition are addressed. Such determinants include improving food security (access, availability) through micronutrient supplementation, (IFA) provision of some fortified food, and crop diversity.

2.1.2 RAPID NUTRITION SCREENING WITH MUAC

Mid Upper Arm Circumference (MUAC) is the most useful measurement for identifying pregnant women with an increased risk of Low Birth Weight (LBW), Intra Uterine Growth Retardation (IUGR), or foetal/infant mortality, compared with all other anthropometric indicators investigated (weight-for-gestational-age, weight gain, absolute weight, pre- or early pregnancy weight, BMI, pre- or early pregnancy BMI).

Screening by HHPs/nutrition volunteers should be done in line with the national IMAM guidelines at each known contact with a pregnant woman, at the community level. Any pregnant woman with a MUAC less than 23.0 cm should be referred to TSFP for further assessment and appropriate management.[32] (Table 4)

TABLE 4 Cut off for MUAC screening of pregnant women

TARGET GROUP	MUAC CUT-OFF	LEVEL OF MALNUTRITION
PREGNANT WOMEN	>23 cm	Normal
	>=18 to < 23 cm	Moderate
	< 18 cm	Severe

TABLE 5 Recommendations for anaemia prevention in pregnant women[32]

AGE GROUP/TARGET POPULATION	INDICATION OF SUPPLEMENTATION	DOSAGE	DURATION
All pregnant women	All settings	Iron: 30-60 mg of elemental iron and folic acid: 400 µg (0.4 mg) (one supplement daily)	Throughout pregnancy. Iron and folic acid supplementation should begin as early as possible.

South Sudan is a malaria-endemic area, therefore the provision of IFAs should be implemented in conjunction with adequate measures to prevent, diagnose, and treat malaria (Intermittent Preventive Treatment of malaria for pregnant women (IPTp) and the use of insecticide-treated bed nets).

At the health facility, in addition to the routine antenatal and post-natal checks for pregnant and lactating women, ALL Pregnant women are systematically screened for acute malnutrition in the Outpatient Department (OPD), antenatal care (ANC) clinic, and those whose MUAC is less than 23 cm are referred to TSFP.

2.1.3 BLANKET SUPPLEMENTARY FEEDING PROGRAMME (BSFP)

The Ministry of Health and its stakeholders endorsed the national guidelines for Community Management of Acute Malnutrition (CMAM). BSFP programmes are among the preventive measures that should be implemented to prevent malnutrition in pregnant women, children under 5 years, and lactating mothers. BSFP products, such as CSB+, are fortified with vitamins and minerals that are critical in meeting the demands of both the mother and the foetus, thereby promoting optimal weight gain during pregnancy. For a full description of the BSFP guidelines, please refer to the CMAM national guidelines.[31]

2.1.4 DAILY SUPPLEMENTATION WITH IRON AND FOLIC ACID (IFA)

Daily oral iron and folic acid supplementation is recommended as part of antenatal care to reduce the risk of low birth weight, maternal anaemia, iron deficiency, and death as a result of anaemia in pregnancy and during delivery.[33]

South Sudan has adapted the WHO recommendations (Table 5) which require that all pregnant women start IFA supplementation as soon as possible. Therefore, all pregnant women in South Sudan should receive the required dosage and amount of Iron Folic Acid (IFA) supplementation. It is critical to step up community-based interventions to increase the access of pregnant women to IFA.

2.1.5 DEWORMING SUPPLEMENTATION FOR PREGNANT WOMEN[34]

It is recommended to periodically treat all at-risk people living in endemic areas, without previous individual diagnosis, with anthelminthic (deworming) medicines. This includes pregnant women in the second and third trimester.

Treatments should be given once a year when the prevalence of soil-transmitted helminth infections in the community is over 20%, and twice a year when the prevalence of soil-transmitted helminth infections in the community exceeds 50%. By lessening the worm burden this intervention reduces morbidity (Table 6).

TABLE 6 Deworming supplementation for pregnant women

TARGET AGE GROUP	DOSAGE
Adults (age 15 years and above)	Albendazole 400mg* Mebendazole 500 mg*

TABLE 7 Iron Folic Acid supplementation for post-partum women

AGE GROUP/ TARGET POPULATION	INDICATION OF SUPPLEMENTATION	DOSAGE	DURATION
All post-partum women	All settings	Iron: 30-60 mg of elemental iron and folic acid: 400 µg (0.4 mg) (one supplement daily)	Iron and folic acid supplementation should be provided for at least three months

South Sudan is a malaria-endemic area. Therefore, the provision of IFAs should be implemented in conjunction with adequate measures to prevent, diagnose, and treat malaria (Intermittent Preventive Treatment of malaria for pregnant women (IPTp) and use of insecticide-treated bed nets).

2.1.6 REACHING OPTIMAL IODINE NUTRITION IN PREGNANT WOMEN

As recommended in strategic action 1.7, iodine is essential for healthy brain development in the foetus and the young child. Deficiency in iodine negatively affects the health of women, as well as economic productivity, and quality of life.

2.1.7 NUTRITION CARE AND SUPPORT FOR PREGNANT WOMEN DURING EMERGENCIES

The nutritional needs for energy, protein, and micronutrients significantly increase during pregnancy. Pregnant women require an additional 285 kcals/day, while lactating women require an additional 500 kcals/day. In fact, both pregnant and lactating women have increased needs for micronutrients. Thus, a way to meet the recommended daily intake of micronutrients is to provide foods fortified with micronutrients. Pregnant women need to be targeted and prioritized during emergencies. During emergencies, fortified foods such as corn-soya blend, biscuits, vegetable oil enriched with vitamin A, and iodized salt are usually provided as part of food rations. The aim is to avert micronutrient deficiencies or prevent them from getting worse among the affected population. Such foods must be appropriately fortified while taking into account the fact that other unfortified foods will meet a share of micronutrient needs. Distribution of such fortified foods needs clear messaging on their usage, and must be in conjunction with appropriate counselling.

2.2. Lactating mothers (mothers with children 0-23 months)

2.2.1 IRON-FOLIC ACID SUPPLEMENTATION FOR POST-PARTUM WOMEN

Anaemia is a public health problem worldwide, particularly among women of reproductive age. A substantial portion of this anaemia burden is assumed largely to be iron deficiency. The consequences of anaemia resulting in iron deficiency during the postpartum period (six weeks after child birth) can be serious and have long-term health implications for the mother and her child (Table 7).

2.2.2 RAPID NUTRITION ASSESSMENT FOR LACTATING MOTHERS (MOTHERS WITH INFANTS LESS THAN 6 MONTHS)

In line with the national CMAM guidelines at the community level, screening by community health workers (CHWs), and home health promoters (HHPs), should be done at each contact with a lactating mother who has an infant less than six (6) months. Any lactating mother with an infant less than six (6) months with a MUAC less than 23.0 cm should be referred to TSFP for further assessment and appropriate management. (Table 8)

Besides having routine post-natal check-ups for lactating women, at the health facility, all lactating women with infants less than six (6) months should be systematically screened for acute malnutrition in the outpatient department (OPD), post-natal care (PNC) clinic, and mother & child health (MCH) clinic.

TABLE 8 Cut off for MUAC screening of pregnant women

TARGET GROUP	MUAC CUT-OFF (CM)	NUTRITIONAL STATUS
Lactating mother with infant less than 6 months	>23	Normal
	>=18 to less <23 cm	Moderate
	<18 cm	Severe

2.2.3 COUNSELLING AND SUPPORT FOR APPROPRIATE NUTRITION DURING LACTATION AND FEEDING OF THE CHILD/CHILDREN

During lactation, it is important that both the mother's and infant's nutritional needs are met. Maternal counselling during the pregnancy, immediately after child birth, and at key moments in the postnatal period, has large and significant effects on breastfeeding rates. One-on-one counselling and practical help is particularly effective in promoting Exclusive Breastfeeding. The Lancet series on maternal and child undernutrition review showed that counselling is especially useful in improving breastfeeding practices.[35] Quality counselling of mothers and caregivers, and communicating appropriate behavioral change to family and other community decision-makers, are essential in improving feeding for children 6 to 23 months old.[36] Community-based and health facility based counselling (in postnatal ward) services have to be set up to help improve maternal and child nutrition. Counselling during lactation should therefore focus on:

Both pregnant and lactating women have increased needs for micronutrients. Providing them with foods fortified with micronutrients is only one way to meet the recommended daily intake of micronutrients. Lactating women need to be targeted and prioritized during emergencies.

1. Early initiation of breastfeeding, promotion of exclusive breastfeeding, continuous breastfeeding until 2 years or beyond, and appropriate diverse complementary feeding (after completion of at least 6 months).
2. Encouraging the lactating women to increase their dietary diversity, and the amount of foods consumed with adequate meal frequency.
3. Promoting consistent and continued use of micronutrient supplements (IFA for example) and food supplements according to recommended cut off points.
4. Encourage fortification of locally prepared foods and consumption of fortified foods such as CSB+, fortified vegetable oil, and iodized salt.
5. Encourage male partners and the other adult members of the family to carry out some of the house chores.
6. Include health, hygiene, and sanitation in the counselling messages. (encourage attendance to Post-natal Care(PNC) clinics, EPI immunizations, screening of nutrition status, malaria, HIV, iron status among others).
7. Encourage and promote monthly child growth monitoring.
8. Provision of support in difficult circumstance cases such as HIV, breastfeeding difficulties (i.e. cleft palate, inverted nipples), twins and babies born with congenital abnormalities.

2.2.4 BLANKET SUPPLEMENTARY FEEDING PROGRAMMES (BSFP)

BSFP programmes are among the preventative measures that should be implemented to prevent malnutrition in lactating women. This is because BSFP products, such as CSB+, are fortified with vitamins and minerals that are critical in meeting the nutritional requirements of both mothers and infants. For a full description of the BSFP guidelines, please refer to the CMAM national guidelines.[66]

2.2.5 REACHING OPTIMAL IODINE NUTRITION IN LACTATING WOMEN

As recommended in strategic action 1.7, iodine is essential for healthy brain development in the fetus and young child. Hence, iodine deficiency negatively affects the health of women, as well as the economic productivity and quality of life.

2.2.6 NUTRITION CARE AND SUPPORT FOR LACTATING MOTHERS DURING EMERGENCIES

During lactation, women's nutritional needs for energy, protein, and micronutrients significantly increase. In fact, lactating women require an additional 500 kcals/day. Both pregnant and lactating women have increased needs for micronutrients. Providing them with foods fortified with micronutrients is only one way to meet the recommended daily intake of micronutrients. Lactating women need to be targeted and prioritized during emergencies.

In order to meet the recommended daily intake of micronutrients, foods fortified with micronutrients should be provided. Fortified foods such as corn-soya blend, biscuits, vegetable oil enriched with vitamin A, and iodized salt are usually provided as part of food rations. The aim is to avert micronutrient deficiencies or prevent them from getting worse among the affected population. Such foods must be appropriately fortified while taking into account the fact that other unfortified foods will meet a share of micronutrient needs. Women are ensured access to sufficient and safe drinking water (extra 1 liter of clean water per day). Distribution of such fortified foods needs clear messaging on their usage, and must be in conjunction with appropriate counselling.

STRATEGIC ACTION 3

Protect, promote and support optimal infant and young child feeding practices

3.1 Infants less than six months

3.1.1 EARLY INITIATION OF BREASTFEEDING WITHIN THE 1ST HOUR OF LIFE

Provision of mother's breast milk to infants within one hour of birth is referred to as "early initiation of breastfeeding" and ensures that the infant receives the colostrum, or "first milk", which is rich in protective factors.

Babies should be placed skin-to-skin contact with their mothers immediately following birth for at least an hour, while mothers should be encouraged to recognize when their babies are ready to breastfeed, offering help if needed.

Evidence indicates that skin-to-skin contact between mother and infant shortly after birth helps initiate early breastfeeding and increases the overall duration of breastfeeding, as well as likelihood of exclusive breastfeeding. Infants placed in early skin-to-skin contact with their mother also appear to interact more with their mothers and cry less.

3.1.2 EXCLUSIVE BREASTFEEDING

Exclusive breastfeeding (EBF) means that the child receives only breast milk for the first six months of life. This means no water, solid, semi-solid, or other liquids are necessary in that period of his/her life. Medications and vitamins are permitted if recommended by a health professional. Breastfeeding should be on demand, and should be responsive to the cues of the baby.

EBF is one of the most effective and rewarding preventable interventions with the potential to reduce mortality among children under five by 13%. Six months of EBF is recommended for improved infant, child, and maternal health. EBF from birth is possible except for a few medical conditions, and unrestricted EBF results in ample milk production.

3.1.3 GROWTH MONITORING, PROMOTION AND COUNSELLING

In April 2006, the World Health Organization (WHO) released a new international growth standard for young children aged 0 to 5 years. This standard describes the growth of healthy children living in well-supported environments. In general, it is recommended that children less than six (6) months, and less than two (2) years, have their weight or length be measured. To be able to carry out such measurement, health workers need to be trained

and health facilities need to be equipped. At this time, the use of the BMI-for-age growth chart is not recommended for children younger than two years. For now, weight-for-age is recommended, and the WHO growth charts are available.

Infants should undergo growth monitoring every month, with the findings recorded in their individual growth monitoring chart. Growth monitoring informs health workers on the nutritional status and wellbeing of the child, and will help provide targeted messages to the mother/caregiver, and when necessary even provide additional services, and/or refer to appropriate facilities. To document the growth of the child, health workers have to record the values measured in their registry and plot the same values in each child's EPI card. Growth monitoring with quality counselling services will help improve the feeding practices of mothers and children.

3.2 Children 6-23 months

3.2.1 COMPLEMENTARY FEEDING

Every child in South Sudan should be introduced to safe and appropriate complementary feeding when he/she reaches the age of six months, while continuing to breastfeed. Optimal complementary feeding practices are often discussed in terms of the most frequently used indicators, which focus on continued breastfeeding and timely introduction, frequency, and variety of foods consumed. These comprise of the primary components of appropriate complementary feeding, but secondary components of complementary feeding that are often overlooked are responsive feeding and feeding hygiene related to food preparation and handling.

It is important to emphasize that continued breastfeeding is part of optimal complementary feeding. Breastfeeding should occur frequently and on demand until at least two years of age. Around the age of six months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk, and complementary foods are necessary to meet those needs. An infant of this age is also developmentally ready for other foods. If complementary foods are not introduced when a child has reached six months, or if they are given inappropriately, an infant's growth may falter.[41] Breastfed children at 12–23 months of age receive on average 35% to 40% of total energy needs from breast milk, with the remaining 60% to 65% covered by complementary foods (fig 1).[32]

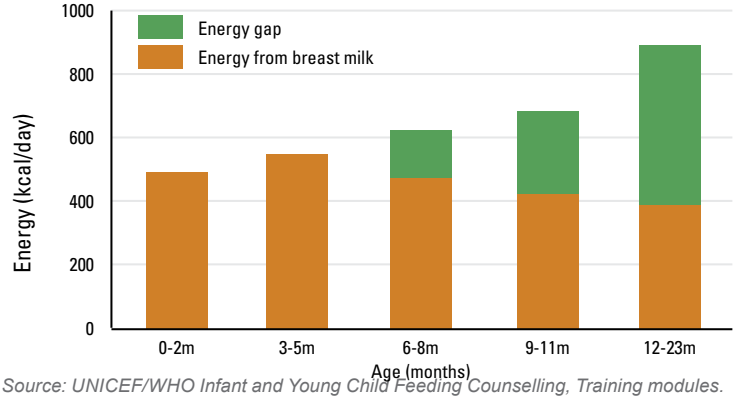
Successful complementary feeding is significant in preventing malnutrition. Growth faltering is most evident between 6 and 11 months, when foods of low nutrient density begin to replace breast milk, and the rates of diarrheal illness caused by food contamination are at their highest.

The transition from exclusive breastfeeding to introduction of complementary foods can be difficult to navigate safely. Introducing infants and young children to new foods may potentially expose them malnutrition resulting from inappropriate feeding, or illness caused by unclean water and foods.

Among others, it is important to ascertain whether the right food is available and affordable with the recommended composition of macro (carbohydrate, protein and fat) and micronutrients (vitamins and minerals). Depending on the outcome of the assessment, the appropriate type of intervention can be determined.

WHO recommends at 6 months of age that infants start receiving complementary foods 2-3 times daily in addition to breast milk. Between 6-8 months, increase intake to 3-4 times daily. At 9-11 months, add 1-2 nutritional snacks per day. When they reach 12-23 months, additional nutritious snacks can be offered 1-2 times per day, as desired.

FIGURE 1 Energy required by age of the child



Source: UNICEF/WHO Infant and Young Child Feeding Counselling, Training modules.

TABLE 9 Complementary feeding recommendations by age of child

AGE	FREQUENCY	AMOUNT OF FOODS AN AVERAGE CHILD WILL USUALLY EAT AT EACH MEAL	TEXTURE
6 to 8 months	Two to three meals per day plus frequent breastfeeds Depending on the child's appetite one to two snacks may be offered	Start with two to three tablespoonfuls per feed Increasing gradually to 1/2 to 2/3 of a 250mL cup/bowl	Start with thick porridge, well-mashed foods
9 to 11 months	Three to four meals plus breastfeeds Depending on the child's appetite one to two snacks may be offered	1/2 to 2/3 of a 250mL cup/bowl	Finely chopped or mashed foods, and foods that baby can pick up
12 to 23 months	Three to four meals plus breastfeeds Depending on the child's appetite one to two snacks may be offered	3/4 to one 250mL cup/bowl	Family foods, chopped or mashed if necessary

If baby is not breastfed, give in addition: one to two cups of milk per day, one to two extra meals per day and extra water (four to six cups) per day

Source: World Health Organization. n.d.

Table 9 presents a set of basic recommendations that highlights the different type of foods (by texture, frequency, and amount), and recommended meal frequency for children according to their specific age.

It is important that during the 6 to 24 months period, breastfeeding is supported by dietary diversity and the inclusion of good-quality local foods (when these are available and accessible) in a child's diet to avoid excess energy consumption (or reduced appetite for breast milk)

In developing countries, a breastfed child 6-8 and 9-11 months of age needs only 200 and 300 kcal, respectively, in addition to breast milk from all complementary foods, and a breastfed child aged 12-23 months needs 550 kcal in addition to breast milk (Table 10).

Table 10 Energy needed from complementary foods for breastfed and non-breastfed older infants and young children in developing countries and estimated gastric capacity

Figure 2, presents a decision framework that can be used by health workers and managers in identifying the options and interventions needed to improve the quality of complementary foods, mainly when the current diet of the child is inadequate in terms of micronutrient requirements.

The following sections present the key principles that all health workers and community health workers will have to follow when providing counselling and support for complementary feeding to breast-fed and non-breastfed children.

The key principles that need to be applied when providing complementary food to a breastfeeding child can be seen in table 11.

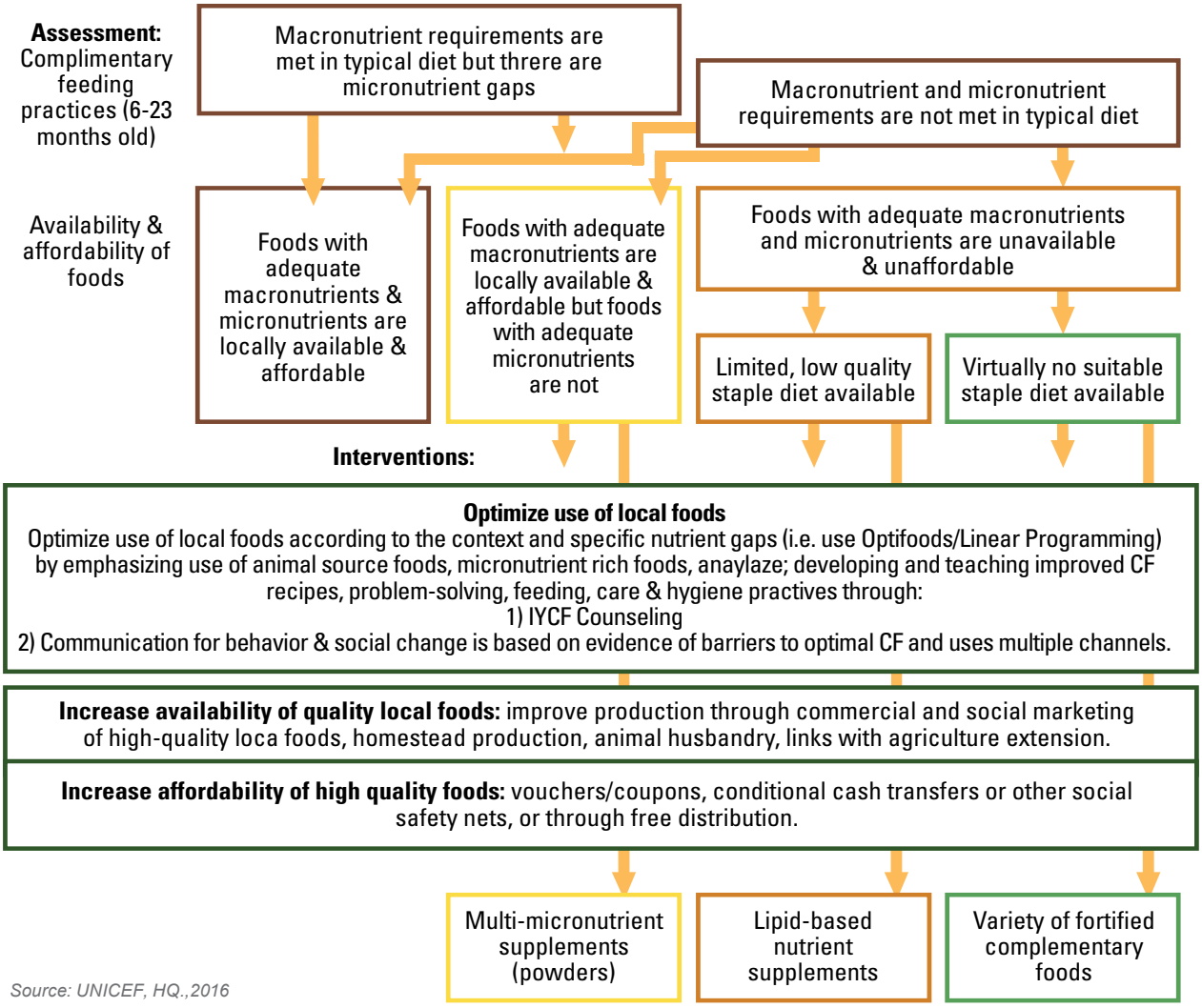
TABLE 10 Energy needed from complementary foods and estimated gastric capacity for breastfed and non-breastfed older infants and young children in developing countries

AGE OF CHILD (MONTHS)	RECOMMENDED DAILY FEEDING FREQUENCY (MEALS/ SNACKS)		ENERGY NEEDS FROM COMPLEMENTARY FOODS		GASTRIC CAPACITY* (ML)	
	Breastfed	Not breastfed	Breastfed** (kcal/ day)	Not breastfed (kcal/ day)	Average child ml/meal	Growth retarded child ml/meal
6-8	2-3	4-5	200	600	249	192
9-11	3-4	4-5	300	700	285	228
12-23	3-4	4-5	550	900	325	273

* Assumes body weight of 8.3 kg, 9.5 kg, and 11.5 kg for well nourished children and 6.4 kg, 7.6 kg and 9.1 kg for growth retarded children in the three age groups respectively (6-8, 9-11, 12-23 mo.) and gastric capacity of 30 g/kg body weight. ** Assumes average breast milk intake

Source: PAHO/WHO (2003). Guiding principles for complementary feeding of the breastfed child.
http://www.who.int/child_adolescent_health/documents/a85622/en/index.html

FIGURE 2 Improving complementary foods



Source: UNICEF, HQ.,2016

TABLE 11 Guiding principles for complementary feeding of the breastfed child

1.	Practice exclusive breastfeeding from birth to 6 months of age, and introduce complementary foods at 6 months of age (180 days) while continuing to breastfeed.
2.	Continue frequent, on-demand breastfeeding until two years of age or beyond.
3.	Practice responsive feeding, applying the principles of psychosocial care.
4.	Practice good hygiene and proper food handling.
5.	Start at six months of age with small amounts of food and increase the quantity as the child gets older, while maintaining frequent breastfeeding.
6.	Gradually increase food consistency and variety as the infant gets older, adapting to the infant's requirements and abilities.
7.	Increase the number of times that the child is fed with complementary foods as he/she gets older.
8.	Feed a variety of locally available seasonal foods to ensure that nutrient needs are met (such as rich in Vitamin A, green leaves, and iron rich foods)
9.	Use fortified complementary foods or vitamin-mineral supplements for the infant, as needed.
10.	Increase fluid intake during illness, including more frequent breastfeeding, and encourage the child to eat soft, varied, appetizing, favorite foods. After illness, give food more often than usual and encourage the child to eat more.

Source: Pan American health organization. Guiding principles for complementary feeding of the breastfed child.2004.

TABLE 12 Guiding principles for feeding the non-breastfed child

6–24 MONTHS OF AGE	
1.	Ensure that energy needs are met.
2.	Gradually increase food consistency and variety as the infant gets older, adapting to the infant's requirements and abilities.
3.	For the average healthy infant, meals (including milk and milk products) should be provided four to five times per day, with additional nutritious snacks offered one or two times per day, as desired.
4.	Feed a variety of foods to ensure that nutrient needs are met. (rich in Vitamin A, green leaves and iron rich foods, grains, lentils, fish/meat/egg)
5.	As needed, use fortified foods or vitamin-mineral supplements that contain iron. (Preferably mixed with or fed with food)
6.	Non-breastfed infants and young children need at least 400–600 mL/day of extra fluids in a temperate climate, and 800–1200 mL/day in a hot climate.
7.	Practice good hygiene and proper food handling.
8.	Practice responsive feeding, applying the principles of psychosocial care.
9.	Increase fluid intake during illness and encourage the child to eat soft, varied, appetizing, favorite foods. After illness, give food more often than usual and encourage the child to eat more.

Source: WHO. Guiding principles for feeding non-breastfed children 6-24 months of age, 2005.

In cases where children between 6 to 23 months are not breastfed anymore, the following is recommended (Table 12).

3.2.2 CONTINUED BREASTFEEDING UP TO 2 YEARS AND BEYOND

Breastfeeding continues to make an important nutritional contribution well beyond the first year of life. Breastfed children at 12 to 23 months of age receive on average 35% to 40% of total energy needs from breast milk with the remaining 60% to 65% covered by complementary foods. Breast milk is a key source of energy and essential fatty acids, providing substantial amounts of certain micronutrients. The nutritional impact of breastfeeding is most evident during periods of illness, when the child's appetite for other foods decreases but breast milk intake is maintained. Continued and frequent breastfeeding also protects child health by delaying maternal fertility postpartum and reducing the child's risk of morbidity and mortality in disadvantaged populations. Longitudinal studies demonstrate that in developing countries, a longer duration of breastfeeding is associated with greater linear growth. Continued breastfeeding is also linked to reduced risk of childhood chronic illnesses, obesity, and improve cognitive outcomes. [32]

3.2.3 NUTRITION SCREENING, GROWTH MONITORING, PROMOTION AND COUNSELLING

All children 6 to 23 months should undergo nutrition screening. Mid-upper arm circumference (MUAC) measurement is the recommended method for screening. MUAC is a rapid and effective predictor of death risk in children aged 6 to 59 months.[66]

At the same time, it is important to equip health workers in the community and elsewhere with the necessary skills and equipment to offer growth monitoring services using weight-for-height (WFH). WHO, WFP, and UNICEF recommend the use of a cut-off for weight-for-height, of below -2 standard deviations (SD) of the WHO standards, to identify infants and children as having acute malnutrition (SAM/MAM). Growth monitoring provides a perfect window for health workers to offer quality counselling services to the caregivers, which help them improve their current feeding practices.

Among the reasons for the choice of this cut-off (-2 SD) are as follows:

2.1.5 Children below this cut-off have a highly elevated risk of death compared to those who are above the cut-off;

2.1.6 These children have a higher weight gain when receiving a therapeutic diet compared to other diets, which results in faster recovery.

3.2.4 VITAMIN A SUPPLEMENTATION

Vitamin A is essential for the immune system to adequately function. Deficiency in Vitamin A can lead to blindness. Likewise, a child with Vitamin A deficiency faces a 25% greater risk of dying from a range of childhood ailments such as measles, malaria, or diarrhoea. Thus, children should receive Vitamin A supplementation every 6 months.

Vitamin A supplements should be delivered once (1) every 6 months to children 6 to 23 months of age during health system contacts. Infants 6 to 11 months should receive one (1) dose of Vitamin A (100,000 IU), while children 12 to 23 months should receive a dose every six (6) months (200,000 IU) (table 13).

TABLE 13 Vitamin A dosage according to target groups

TARGET AGE GROUP	DOSAGE
6 – 11 months	100,000 I.U.
12 – 23 months	200,000 I.U.

Where appropriate, supplements should be integrated into other public health programmes aimed to improve child survival, such as polio or measles national immunization days, or biannual child health days that deliver a package of interventions such as deworming, distribution of insecticide-treated mosquito nets and immunizations.

3.2.6 PROVISION OF COMPLEMENTARY FOODS, FORTIFIED FOODS AND MICRONUTRIENT SUPPLEMENTATION

In the states that are found to have food of inadequate quality or quantity and where there are high prevalence rates of chronic and acute malnutrition (stunting with GAM above 40% and GAM above 15%, respectively) an intervention that combines IYCF counseling and behavior change communication, with a complementary food supplement, such as a fortified blended food (FBF), is recommended and appropriate.

> "Complementary food supplements can be defined as food-based complements to the diet that can be mixed with or consumed in addition to the diet and the purpose of which is to add nutritional value."[42]

Complementary food supplements have produced results for the treatment of acute malnutrition and the prevention of acute and chronic malnutrition. Prevention of acute malnutrition programmes should not be overlooked, as studies have concluded that the provision of supplementary foods can reduce the prevalence and incidence of SAM and MAM. With a global emphasis on the 1000-day window of opportunity, the prevention of chronic malnutrition should also be one of the priorities in South Sudan. The benefits of complementary food have been demonstrated through greater growth in height, better cognitive outcomes, and higher levels of productivity, as well as positive benefits for the next generation.[43]

Any approach that provides supplementation to complementary food should include measures that establish sustainable access to a good quality diet. Different strategies, whether short-term and long-term, exist. These strategies should be developed and implemented simultaneously. In the case of South Sudan, it is recommended that a discussion take place to possibly link these interventions with the social protection programs and Food Security and Livelihood programs by including a nutrition component with specialized nutritious food, or providing cash or vouchers to increase access to good quality foods (specialized nutritious foods or local good quality foods) available in the market.

One of the micronutrient supplements is micronutrient powders (MNPs), which are generally sachets (like small packets of sugar) containing a blend of micronutrients (vitamins and minerals) in powder form. This is easily added to semi-solid foods prepared in the home.[44] Single serving sachets allow families to fortify a young child's food with needed vitamins and minerals at an appropriate and safe level for healthy physical and cognitive development. Home fortification with MNPs should be a key component of IYCF counselling, and include a behavioral change strategy that promote awareness and correct hygienic use of the product in the preparation of complementary foods, and reiterates recommended breastfeeding practices and steps to manage diaorrhea.[45,46]

MNPs are generally recommended for children aged 6 to 23 months where the variety, quality and/or quantity of foods provided to young children may not meet the nutrient density/adequacy for this period of rapid growth and development.

Anaemia is quite common in many communities consuming plant-based diets.

To improve the iron status and reduce anaemia in populations where the prevalence of anaemia in children under 5 years is 20% or higher, WHO recommends the home fortification of foods with MNPs for children 6 to 23 months of age.

Studies have proven MNPs as a cost effective intervention to reduce anaemia in children by as much as 45%.[47,48]

WHO recommends (Table 14) that children receive at least one sachet of MNPs per day, for a minimum of 2 months. In malaria endemic areas MNP should be provided in conjunction with malaria prevention and control.

TABLE 14 WHO suggested scheme for home fortification with MNPs.

SUGGESTED SCHEME FOR HOME FORTIFICATION WITH MULTIPLE MICRONUTRIENT POWDERS OF FOODS CONSUMED BY INFANTS AND CHILDREN 6–23 MONTHS	
Composition per sacheta	**IRON:** 12.5 mg of elemental iron, preferably as encapsulated ferrous fumarateb **VITAMIN A:** 300 µg of retinol **ZINC:** 5 mg of elemental zinc, preferably as zinc gluconate
Frequency	One sachet per day
Duration and time interval between periods of intervention	At minimum, for a period of 2 months, followed by a period of 3–4 months off supplementation, so that use of the micronutrient powders is started every 6 months
Target group	Infants and children 6–23 months of age, starting at the same time as weaning foods are introduced into the diet
Settings	Populations where the prevalence of anaemia in children under 2 years or under 5 years of age is 20% or higher

Source: WHO. Essential Nutrition Actions. Geneva, 2014.

How to use MNPs (Figure 3)

Please inform the mother/caregiver that he/she should:

- Set aside the right amount of home-cooked food a child can eat
- Tear open the sachet where the arrow indicates
- Add contents of one MNP sachet
- Mix MNP into food
- Feed the child with MNP in a comfortable manner

FIGURE 3 How to use MNPs

1. Wash your hands before cooking.
2. Cook meal using regular healthy food (e.g.: rice porridge, steamed rice, Asida etc.)

3. Place meal in a plate/bowl.
4. Open MNP sachet from the top corner (use one MNP sachet per child per day).

5. Pour the powder of one sachet on the child's meal.

6. Mix with the child's food when it has cooled down.
7. Feed the child.

Source: Draft Operational Guidelines for the preparation of MNPs in Eastern Equatoria in South Sudan, 2013

Please note, inform the mother/caregiver that he/she should:

- Avoid using MNP in hot or liquid foods
- Use MNP every other day or use a box within 2 months
- Avoid sharing one sachet of MNP with other children

Please note:

- In malaria-endemic areas, the provision of iron should be implemented in conjunction with measures to prevent, diagnose and treat malaria.
- This guideline is not applicable to children with specific conditions such as human immunodeficiency virus (HIV) infection or tuberculosis as the effects and safety of the intervention in these specific groups have not been evaluated.
- Is not appropriate to combine MNPs with other specially formulated products, such as RUTF (ready-to-use therapeutic food) for treatment of SAM (severe acute malnutrition), RUSF (ready-to-use supplementary food) or fortified blended foods such as WSB++ (wheat-soy blend) or CSB++ (cornsoy blend) for treatment of MAM (moderate acute malnutrition), or small-quantity LNS (lipid-based nutrient supplement, ≤= 20 g/d, providing ≤=120 kcal/d) because those products already contain a similar or higher amount of micronutrients. In this case, one can recommend keeping the MNP for later, when the other products are no longer used.[49]
- MNPs programmes should include a behaviour change communication strategy that promotes: awareness and correct use of the powders along with information on recommended breastfeeding practices; commencement of complementary foods at 6 months of age; preparation of complementary foods at age-appropriate frequency, amounts, consistency and variety; hand washing with soap and hygienic preparation of food; prompt attention to fever in malaria settings; and measures to manage diarrhoea.

3.2.7 OPTIMAL IODINE NUTRITION IN YOUNG CHILDREN

As per strategic action 1.7, children less than two (2) years of age are among the most susceptible groups to iodine deficiency, and measures are needed to scale access and consumption of iodized salt.

3.2.8 DEWORMING ADMINISTRATION

It is recommended to periodically treat all at-risk people living in endemic areas, without previous individual diagnosis, with anthelminthic (deworming) medicines.

Worms can deprive children of nutrients, which causes malnutrition and other problems.

Treatments should be given once a year when the prevalence of soil-transmitted helminth infections in the community is over 20%, and twice a year (every six months) when the prevalence of soil-transmitted helminth infections in the community exceeds 50%. This intervention reduces morbidity by reducing the worm burden. In addition to deworming tablets supplementation, education on health and hygiene reduces transmission and reinfection by encouraging healthy behaviors. The provision of adequate sanitation is also important, but not always possible in resource-constrained settings (Table 15).

TABLE 15 Deworming supplementation

TARGET AGE GROUP	DOSAGE
Children 12 – 23 months	Albendazole 200mg* Mebendazole 250 mg*

**In large-scale deworming programs it is recommended to use either albendazole 400 mg/tablet or mebendazole 500 mg/tablet. Albendazole and mebendazole are particularly attractive deworming drugs because they are single dose and there is no need for weight-based dosage. Moreover, albendazole and mebendazole tablets are chewable. (Report of the WHO Informal Consultation on the use of Praziquantel during Pregnancy/Lactation and Albendazole/Mebendazole in Children under 24 months. Geneva 2002)*

3.2.9 INFANT AND YOUNG CHILD FEEDING COUNSELLING

Community-based IYCF counselling and support can play an important role in improving these practices. Counselling will ensure access to key IYCF and maternal nutrition messages and services in the poorest and the most vulnerable communities with limited access to health care facilities. Therefore, it becomes an important strategy for programming with an equity focus.[50]

3-STEP COUNSELLING ON IYCF is hereby recommended[51]

1. ASSESS: Ask, listen, and observe
2. ANALYZE: Identify the difficulty and if there is more than one – prioritize the difficulties
3. ACT: Discuss, suggest a small amount of relevant information, and agree on a possible action

STEP 1 - ASSESS

1. Greet the mother/ caregiver
2. Ask questions that stimulate conversation

- **Use listening and learning skills**
  - Use helpful non-verbal communication
    - *Ask open questions*
    - *Use responses and gestures that show interest*
    - *Reflect back what the mother (or caregiver) says*
    - *Avoid using "judgmental" words ("that's wrong", "you are doing the wrong thing")*
  - Keep your head level with the mother or caregiver
  - Pay attention
  - Reduce physical barriers
  - Take time
  - Touch appropriately
- **Use building confidence and giving support skills**
- Accept what a mother (or caregiver) thinks and feels.
- Listen carefully to the mother's (or caregiver's) concerns.
- Recognize and praise what a mother (or caregiver) and child are doing correctly.
- Give practical help.
- Give little, relevant information at a time.
- Use simple language that the mother or caregiver will understand.
- Make one or two suggestions, not commands.

3. May ask the following questions

- What are your name and your child's name?
- What is the age of the child?
- Has your child been recently sick? If presently sick, refer mother to health facility
- Ask mother/ father/ caregiver if you can check the child's growth chart. Is growth curve increasing? Is it decreasing? Is it leveling off? Does the mother know how her child is growing?
- Ask the mother how the child is doing, whether the child is gaining weight (do not just rely on the plots on the growth chart)
- If there is no growth chart, ask mother/ father/caregiver how he or she thinks the child is growing
- Ask about the child's usual food intake

Ask about breastfeeding

- Observe the mother's and the baby's general conditions
- Observe the baby's position and attachment when breastfeeding
- Ask about complementary feeding
- What type/kinds of foods are given?
- How often are foods given?
- How much food is given along with breastfeeding?
- Texture (thickness/consistency: mashed, sliced, chunks)
- Ask about other milks
- Ask about other liquids
- Does your child use a cup?
- Who assists child during meals?
- Are there other challenges that mother/caregiver faces in feeding the child?

STEP 2 – ANALYZE. MAY ASK THE FOLLOWING QUESTIONS:

- Is feeding age-appropriate? Identify feeding difficulties
- If there is more than one difficulty, prioritize difficulties
- Answer the mother's questions, if any

STEP 3 – ACT

1. Depending on the analysis and age of the baby, select a small amount of information relevant to the mother's situation
2. Praise the mother
3. For any difficulty, discuss with mother/father/caregiver how to overcome the difficulty
4. Present options/small doable actions and help mother to select one that she can try to overcome the difficulty
5. Share with mother/father/caregiver appropriate counselling card and discuss
6. Ensure the mother understands what is being presented to her
7. Let mother know that you will follow-up with her at the next weekly visit
8. Suggest where mother can find additional support
9. Refer, as necessary, to the nearby health facility
10. Thank the mother for her time

3.2.10 ESTABLISHING MOTHER SUPPORT GROUPS

The World Health Organization states that:

Mother support groups (MSGs) provide individual counselling, information, support, and group discussions to enable women to practise breast-feeding and child care

well. These groups have a special role, different from, but complementary to, the role of health services and health professionals. The key to the best breast-feeding practices is continued day-to-day support for the breast-feeding mother within her home and community. Mother support groups attempt to fill the void for a mother when breast-feeding is not the cultural norm and when she lacks extended family and peer support. MSGs are thus a vital link between the breast-feeding woman and the health care system.

The goal of MSGs is to help mothers to breast-feed by: (a) providing the practical and scientific information on which a woman can base her decision to breast-feed; and (b) giving women the moral support they need, whenever they need it, to carry out their decisions and to feel good about their experiences. Mother support groups accomplish these goals through group meetings, home and hospital visits, phone calls, correspondence, the distribution of breast-feeding literature, talks at breast-feeding seminars and conferences, and in schools, churches, clubs, community organizations, health service locations, and hospitals.

Source: WHO. The role of mother support groups. http://apps.who.int/iris/bitstream/10665/58728/2/WHO_NUT_MCH_93.1_(part2).pdf

Understanding mother-to-mother support groups:

Mother-to-mother support groups (MtMSG) are groups of women, of any age, who come together to learn about and discuss issues of infant and young child nutrition (IYCN). These women also support each other as they care for children ages 0–5 years. One member of each group will be trained on IYCN, as well as on basic group facilitation techniques. This person will be responsible for engaging group members in discussion about MIYCN and providing basic health education in an interactive, participatory manner.

To maximize the effectiveness and sustainability of such groups, mobilization efforts should focus on identifying and recruiting existing community groups with women members instead of forming entirely new groups. Groups should be recruited based on their interest in IYCN and their regular meeting times, as well as their ability to identify one key member who can undergo training on IYCN.

Possible groups for mobilization include:

- Women's groups
- Church groups
- Married adolescent groups
- Breastfeeding groups
- Groups for preventing mother-to-child transmission (PMTCT) of HIV
- Groups for people living with HIV/AIDS (PLHA)
- Youth groups
- School clubs

By using groups of women who already meet on a regular basis, we can tap into sustainable, ongoing mechanisms to spread additional information about IYCN. The women get together for other reasons, but can supplement this work with additional sessions and information on IYCN.

If forming a completely new group, it's important that women understand the purpose of these sessions and feel confident they can manage their own group. MtMSG will not be financially sustained in any way. It's a group formed for the purpose of providing support and sharing information about IYCN.

Source: IYCN Project USAID, PATH and Care

Mother-to-mother support groups: composition:

Feeling support usually means that we feel as sense of trust, acceptance, self-worth, value, and respect. When we are supported we can share information better, learn new skills, talk about our thoughts and feelings, and feel connected to others.

A support group is formed when people come together with a common interest or life experience. It may be informal or formal, but includes the following:

- Safe environment
- Sense of respect
- Sharing information
- Availability of practical help
- Sharing responsibility
- Acceptance
- Learning together and from each other
- Emotional connection

A mother-to-mother support group is a meeting where pregnant women and mothers with young children, as well

as other people with similar interests, come together in a safe place to exchange ideas, share experiences, give and receive information, and at the same time, offer and receive support in breastfeeding, child rearing, and women's health. Mother-to-mother support group activities can take place within an existing women's support group.

Mother-to-mother support groups have the following characteristics:

- Groups have up to 15 participants.
- Members decide how often they meet.
- Members decide how long their meetings are.
- Members support each other through sharing experiences and information.
- The group is made up of pregnant and lactating women and other interested people
- Facilitation is by a breastfeeding counselor with experience (with a co-facilitator who has less experience).
- The group is open, allowing for new members.
- Members decide on the topics to be discussed.

Facilitator responsibilities include:

- Identifying future participants.
- Choosing the date, time, and meeting place.
- Preparing for the topic.
- Inviting participants to the meeting.

Choosing the meeting time and place:

- **TIME:** It should not interfere with the primary activities of the members (preparation of meals, washing, market days, chores, work schedules, etc.).
- **ACCESSIBILITY:** If it is a home, it should not be more than 15–25 minutes walking distance from the homes of members. If the community is spread out, the health centre, church, or school could be a good alternative.
- **PLACE:** The place should be private and safe so that members can bring their children.

Source: IYCN Project USAID, PATH and Care

Other mother support group(s):

Support groups for breastfeeding, infant and young child feeding, and other related public health programs can be expanded to include non-mothers, adolescents, men and other community members who are interested and concerned about the health and well-being of the women and children in their community. Anecdotal evidence shows that the members of the group can be trained and oriented on breastfeeding support, promotion, and advocacy, according to their demographics they can engage peers and promote optimal breastfeeding practices.

Father support group(s):

Father support has been demonstrated empirically to have a strong influence on a mother's decision to initiate and continue breastfeeding (e.g. Arora et al., 2000, Swanson and Power, 2005 and Britton et al., 2007). For instance, research with mothers identifies fathers as a primary source of support for the continuance of breastfeeding. However, little is known about the nature of this support (Sherriff et al., 2009). Indeed, although the importance of the father's role in supporting breast feeding has been known for some time, our own research shows that, in practice, little has changed in the intervening years (Sherriff and Hall, 2011). There has been some experience creating Father-to-Father Breastfeeding Support groups. The concept is based on previous success with a breastfeeding peer counselor program and research documenting the father's attitude as an important influence on a mother's decision to breastfeed. Peer dads are fathers of breastfed infants. Fathers are recruited then trained to give breastfeeding and parenting information to other fathers. Father-to-father breastfeeding education was successful in educating and empowering fathers, enabling them to support their breastfeeding family members.[52]

3.2.11 MOTHER-BABY FRIENDLY SPACES[53]

The mother-baby friendly spaces are perceived as a model of intervention for a holistic program to support pregnant, lactating women, and their children in emergency situations.

The mother-baby friendly spaces objectives:

- Prevent the increase of malnutrition, morbidity, and mortality rates
- Help the family to adapt care practices for an emergency and post-emergency context
- Improve the well-being of pregnant women, infants, young children, and their mothers/caregivers, taking into account life experiences, past and present difficulties
- Provide a safe and private space for pregnant, lactating women, and their infants
- Help families to facilitate child development and survival

- Prevent or reduce the negative effects of unsolicited and unmonitored distribution of breast milk substitutes
- Provide appropriate and sustainable solutions for infants for whom breastfeeding is not an option

Therefore, the mother-baby friendly Space's main objective is to take care of the mother/caregiver in order to support her/him to take care of the child/infant.

Baby-friendly Spaces do not only focus on breastfeeding and the child. The goal of the BFS is a holistic psychosocial program that aims to provide comprehensive support for children and their caregivers who are facing emergency situations.

More concretely, the idea of mother-baby friendly spaces is to create a safe place:

- Where infants, young children, and their caregivers, as well as pregnant women are welcome and given support
- Where sharing of experiences is possible, yet privacy is ensured
- Where caregivers and their children can get together to spend an enjoyable, positive, and gratifying moment together
- Where sensitization, guidance, and support are provided to caregivers of infants and young children, as well as future mothers
- For promoting and reinforcing child care practices by parents, caregivers, families, and communities
- Where meeting and exchanging thoughts, create the opportunity to exchange information about subjects like breastfeeding, hygiene, nutrition, etc. reinforcing community links
- Where the mother/caregiver to child bond can be developed and reinforced; as well as where mothers'/caregivers' capacity to care for their children, despite the difficult living conditions, can be reinforced
- Where acute malnutrition in infants, young children, as well as pregnant and lactating women can be possibly detected and prevented
- Where psychosocial support or psychological care is offered for people identified with emotional distress
- Where care for the infants is provided in security and with good quality (i.e. give a bath, breastfeeding spaces if no privacy in the camps, etc.)
- In which optimal care practices are safeguarded and promoted through family support and community awareness

Setting up and the location of the mother-baby friendly spaces[52]

The mother-baby friendly space is an area, (a tent, a shelter, a room, a corner in a health facility, or any other available space) located in close proximity to the mothers, their children, and the community beneficiaries (for example, inside a refugee or displaced people's camp, or in the heart of a deprived village or urban poor community).

If the baby-friendly space is located in a fixed site, the implementation team should pay attention to the following:

- The baby-friendly space should be located in close proximity to the beneficiaries' living place. Make sure the access is easy and possible in all seasons (such as rainy season/ lean season).
- The mother-baby friendly space should ideally be located in a quiet and clean place, away from external noise, smells, smoke (such as markets, garbage dumps, factories, main roads… etc.) and away from unhygienic areas (such as swamps, suck away pit, undrained area… etc.)
- Ensure cars and trucks can have easy access to facilitate delivery and water supply. *Note: if you choose a spot in dry season, check what the conditions might be in rainy season.*
- If the target population is wide spread, there should be a higher number of smaller sites, rather than one big one.
- If possible, they should be situated a short distance from other related services, such as maternity ward, health centres, MCH, etc. in order to facilitate collaboration and referral.
- The space should resemble the usual home environment of the beneficiaries as much as possible. For example, if the local habit is to sit together on mats during gatherings, then mats should be used in the BFS as well.
- Decorations are important to create a friendly, positive, and welcoming atmosphere: colours, children's drawings, etc. It does not have to be expensive. If health education posters are put up, keep them limited and deal only with relevant issues. Make sure these posters are pleasant to look at and promote positive behavior.
- Pay attention to a minimum standard of comfort in

the mother-baby friendly spaces: make sure that the temperature is acceptable. Tents, for example, are quick and easy to set up, but experience has shown that in hot climates the temperature inside can become very high. Additional sheeting placed above, an electric fan, or opening the sides may help to make the temperature reasonable.

- Pay attention and guarantee access to safe drinking water.
- Make sure the size of the mother-baby friendly space is in line with the expected number of beneficiaries.
- The question of security for the mother-baby friendly spaces and the beneficiaries should be carefully considered. In order to start activities as soon as possible, an emergency space can be set up first, allowing more time to look for better solutions.
- The mother-baby friendly space should have the following:
  - A waiting area - a space for group activities
  - Space for individual discussions
  - Space for psychological support sessions
  - Space to store materials
  - If BMS provision cannot happen in a separate location, then a separate space for BMS beneficiaries must be present (see below)
  - Space for older children to play
  - Sufficient privacy to allow breastfeeding, as is acceptable within the culture
  - Sufficient privacy to prevent people passing by from staring and disrupting - a presence of sufficient clean drinking water and cups
  - A presence of a place to wash cups or other materials - Close proximity to clean toilets or latrines
  - A hand washing area
  - Baby-weighing scale, height/length board, MUAC tapes (if needed)

3.3 Children 24 to 59 months

3.3.1 NUTRITION SCREENING AND GROWTH MONITORING, PROMOTION AND COUNSELLING

All children aged 24 to 59 months should undergo nutrition screening. For community, camp-based and mobile clinics, mid-upper arm circumference (MUAC) measurement is the recommended method for nutritional screening. MUAC is a rapid and effective predictor of death risk in children aged 6 to 59 months with low mid-upper arm circumference (MUAC < 12.5 cm), and/or oedemas, both which are internationally recognized as independent diagnostic criteria for acute malnutrition (SAM/MAM).[31]

At the same time, it is important to equip health workers in the community and elsewhere with the necessary skills and equipment to offer growth monitoring services using weight-for-height (WFH). WHO, WFP, and UNICEF recommend the use of a cut-off for weight-for-height, of below -2 standard deviations (SD) of the WHO standards, to identify infants and children as having acute malnutrition (SAM/MAM). Growth monitoring provides a perfect window for health workers to offer quality counselling services to the caregivers, which help them improve their current feeding practices.

Among the reasons for the choice of this cut-off (-2 SD) are as follows:

1. Children below this cut-off have a highly elevated risk of death compared to those who are above the cut-off;
2. These children have a higher weight gain when receiving a therapeutic diet compared to other diets, which results in faster recovery.

3.3.2 VITAMIN A SUPPLEMENTATION FOR CHILDREN UNDER FIVE YEARS

Children aged 24 to 59 months should receive a dose of Vitamin A every six months (200,000 IU). It is highly recommended that where appropriate, supplements should be integrated into other public health programmes aimed to improve child survival, such as polio or measles national immunization days, or biannual child health days that deliver a package of interventions such as deworming, distribution of insecticide-treated mosquito nets and immunizations. (Table 16).

TABLE 16 Vitamin A dosage according to target groups

TARGET AGE GROUP	DOSAGE
24 – 59 months	200,000 I.U.

3.3.3 DEWORMING ADMINISTRATION

It is recommended to periodically treat all at-risk people living in endemic areas, without previous individual diagnosis, with anthelminthic (deworming) medicines.

Worms can deprive children of nutrients, which causes malnutrition and other problems.

Treatments should be given once a year when the prevalence of soil-transmitted helminth infections in the community is over 20%, and twice a year (every six months) when the prevalence of soil-transmitted helminth infections in the community exceeds 50%. This intervention reduces morbidity by reducing the worm burden. In addition to deworming tablets supplementation, education on health and hygiene reduces transmission and reinfection by encouraging healthy behaviors. The provision of adequate sanitation is also important, but not always possible in resource-constrained settings (Table 17).

TABLE 17 Deworming supplementation

TARGET AGE GROUP	DOSAGE
Children 24 – 59 months	Albendazole 400mg* Mebendazole 500 mg*

**In large-scale deworming programs it is recommended to use either albendazole 400 mg/tablet or mebendazole 500 mg/tablet. Albendazole and mebendazole are particularly attractive deworming drugs because they are single dose and there is no need to base doses on the child's weight. Moreover, albendazole and mebendazole tablets are chewable. (Report of the WHO Informal Consultation on the use of Praziquantel during Pregnancy/Lactation and Albendazole/Mebendazole in Children under 24 months. Geneva 2002)*

STRATEGIC ACTION 4

Support optimal infant and young child feeding in difficult circumstances

4.1 Children in special circumstances

4.1 Children in special circumstances

4.1.1 THE CARE OF NON-BREASTFED CHILDREN (EMERGENCIES, ORPHANS ABANDONED) AND CHILDREN DURING EMERGENCIES.[54]

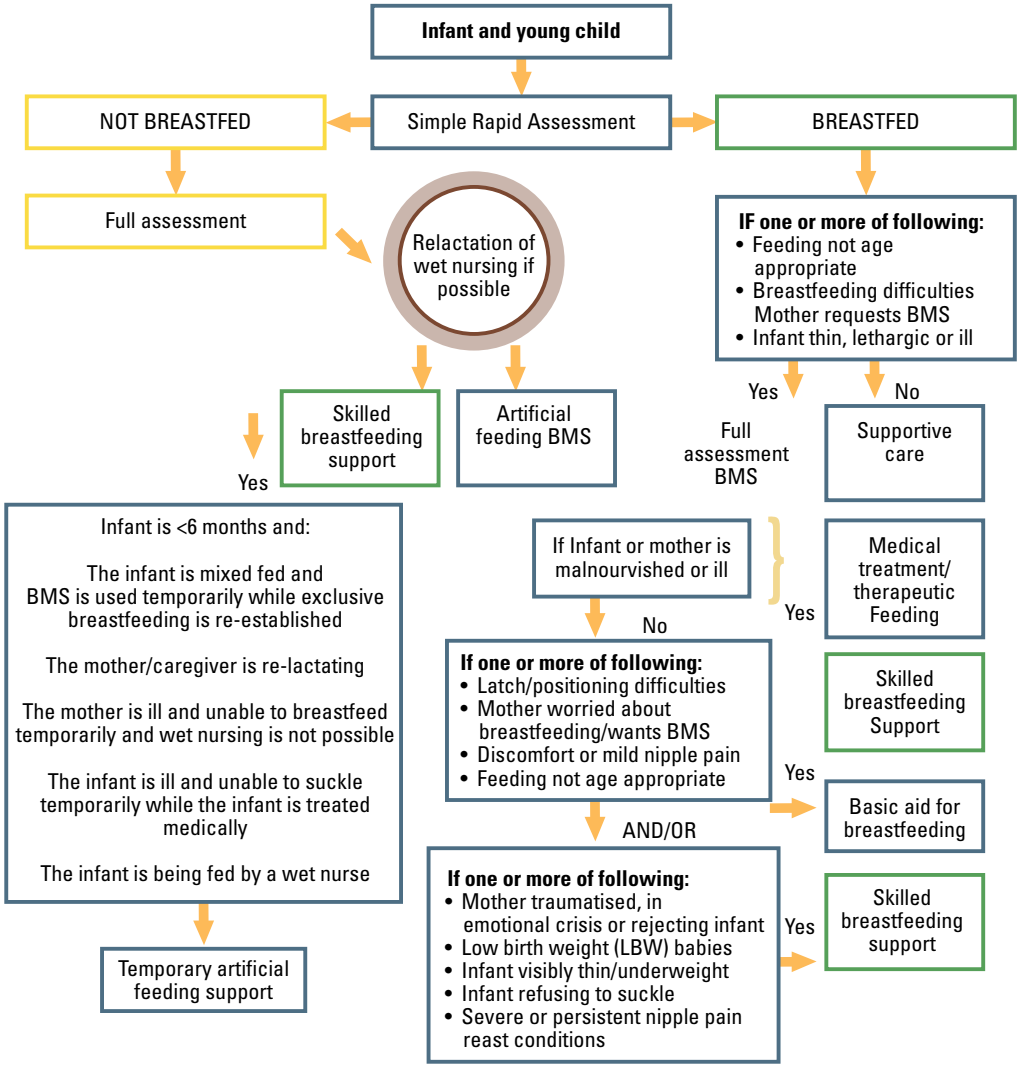
A majority of mothers and children can and will breastfeed if conducive supportive environments, correct information, and positive messages are provided. There are cases where, for certain mothers and children, breastfeeding is not feasible or possible at all. To be able to detect and provide the necessary support, the following process is recommended. (see fig.4)

a. Simple rapid assessment

- Simple rapid assessment (SRA) does not require observation of breastfeeding, or medical and nutrition training. It covers:
- Age-appropriate feeding
- Breastfeeding ease
- The baby's condition.

Keep the SRA simple and try to memorize these questions so that they can be asked without the use of a form. The form below is for practicing, but in real situations there is no need to keep a written record. It is best to question each mother privately, away from other mothers, as her responses may be affected if other mothers can hear her.

FIGURE 4 Flow chart for the process of assessing an infants need for breastmilk substitutes[55]



ASK:

1. How old is the baby?
   Age _____
2. Are you breastfeeding him/her?
3. Is the baby getting anything else to drink or eat?
4. Is the baby able to suckle your breast?
5. Do you have any difficulties with breastfeeding?

LOOK:

6. Does the baby look visibly thin?
7. Is the baby lethargic, perhaps ill?

REASONS TO REFER FOR FULL ASSESSMENT:

- Not breastfed
- Breastfed but feeding not age-appropriate under 6 months, not exclusively breastfed over 6 months, and given no complementary foods
- Baby unable to suckle the breast
- Mother has other difficulties with breastfeeding
- Mother requests breast milk substitutes
- Baby looks visibly thin
- Baby looks lethargic, perhaps ill

If the infant is at immediate risk for any of the above reasons, therefore a Full Assessment is needed; explain to the mother where she should go.

All infants who are artificially fed should be referred for full assessment. They are at high risk in an emergency setting.

b. Full assessment

Health or nutrition workers with direct responsibility for the mothers' and babies' health and nutrition generally do this full assessment. If mothers do not want male workers to watch them breastfeed, it is urgent to identify female workers who can carry out Full Assessment.

A full assessment aims to find out:

- Whether BMS use is truly indicated or not (including if whether re-lactation or wet nursing are possible).
- If truly indicated, whether BMS use is likely to be temporary or long term (until over six months of age) and the best system to support, manage, and monitor the case.
- Where BMS is indicated, to observe resources within the household to support the use of BMS and to observe the caregiver managing artificial feeding to identify problems.
- If BMS is not indicated, where to refer the infant for appropriate IYCF support.
- Whether there is a need for further investigation at the community level: is this an isolated case or an indication of a wider problem?

In camp settings (internally displaced populations and refugees) protecting, promoting, and supporting exclusive breastfeeding under normal situations, and much more during emergencies, is important for the following reasons:

- Risks of infections are higher during emergencies: breastfeeding protects against the increased risks of infection and illness among infants during emergencies.
- Breastfeeding counselling and mother-to-mother support reinforces and renews a mother's confidence, and resolve to breastfeed.
- There is a strong association between the receipt of infant milk formula donations, a change in feeding practices, and diarrhea.
- Providing infants with milk formula in an emergency increases the risk of illness and mortality, as hygiene and sanitation conditions are often poor, and access to clean water and fuel are usually limited.

Only after ALL options for breast milk feeding (e.g. donor's breast milk, wet nursing) have been exhausted, including but not limited to nursing two (2) children at the same time (tandem), cross nursing, wet nursing (when woman HIV status is known), cup feeding of donor milk, increasing the proportion of the diet from locally available complementary solids, etc., shall the provision of infant formula and milk supplements be considered.[56]

For over a decade, the International Operational Guidance on Infant and Young Child Feeding in Emergencies (IYCF-E) has been developed by a number of NGO and UN agencies, including UNICEF, WHO, WFP, IBFAN, and UNHCR (known as the IFE Core Group), which provides practical guidance on ensuring appropriate IYCF in emergencies.

1. General relief distribution should never include products

covered by the International Code of Marketing of Breast milk substitutes including, but not limited to, infant formula and milk supplements for infants and young children

2. Procurement of infant formula and milk products for infants and young children is a last resort. This should only be done when:
   a. The full assessment of mother and child has verified the needs; and
   b. The assessment is supported with data submitted by qualified people in the field (i.e. IYCF-E point person/ qualified healthcare personnel).
3. Purchased ready-to-use infant formula (RUIF) should conform to the existing national laws, regulations, and standards related to labelling.
4. Purchased ready-to-use infant formula should not be provided/supplied in its original packaging (no brand/ trademark/product name/manufacturer recognition). The container shall not be opened or exposed to possible air contaminants and the expiration shall not be less than 12 months from the date of delivery.
5. All ready-to-use infant formula shall be stored in a safe location under the supervision of IYCF team supervisor. Only qualified community health and nutrition workers trained in breastfeeding, (IYCF) counselling, and infant feeding, shall provide products according to the findings of the full assessment of mothers and their children, and shall supervise its consumption inside the feeding corner of the IYCF post.
6. The provision of infant formula MUST be continued for as long as the targeted infant needs it, until breastfeeding is re-established, or until 6 months of age. The Sustenance of RUIF/infant formula is the responsibility of the appointed agency.
7. While on infant formula, the child should be closely monitored and weighed at least twice a month.
8. Purchased infant formula and milk supplements for infant and young children should not be provided/ supplied in its original packaging (no brand/trademark/ product name/manufacturer recognition). The container shall not be opened or exposed to the elements and the expiration shall not be less than 12 months from the date of delivery to the area.
9. All infant formula and milk supplements shall be stored in a safe location under the supervision of government health workers accounting for it. Only qualified health or nutrition workers trained in breastfeeding, (MIYCN) counselling, and infant feeding, shall dispense the products according to findings of the rapid assessment of mothers and their children.
10. Only qualified health or nutrition workers trained in breastfeeding, (MIYCN) counselling, and infant feeding, shall dispense the infant formula to the caregiver the risks of infant formula feeding have been discussed in the local language, after safer alternatives have been explored.
11. The provision of infant formula MUST be continued for as long as the targeted infant needs it, until breastfeeding is re-established, or until 6 months of age. Sustenance of infant formula and necessary implementation is the responsibility of the state Ministry of Health, with the support of the local partners.
12. The risks of infant formula feeding must be minimized. There should be clean and potable water available at all times, with clean feeding cups. Fuel and cooking equipment for boiling water, if necessary, should be provided. There should be trained staff to provide direct supervision and training in the preparation of infant milk formula and/or milk.
13. In areas where clean water and fuel is scarce, trained health staff from the nearest health facilities or the camps should be available to reconstitute BMS on site and observe direct feeding.
14. While donations of artificial feeding implements are prohibited, the use of infant feeding bottles and artificial teats in emergency settings should be actively discouraged. Skilled health workers should instruct caretakers that cup-feeding is safer.
15. The camp coordinator, or the MIYCN team in charge of the camp, should collect donations of infant formula that have not been prevented and turn it over the appointed agency.
16. Donations of infant formula, milk supplements, and other products covered by the International Code that have not been prevented should be collected by the MIYCN point person/camp manager/agency in charge of the Mother-Baby Friendly Space.
    - The agencies may decide to use the donated infant formula or milk supplement as additional ingredient to food prepared for adults.
    - In consideration of emergency situations/conditions, spoiled, or damaged items should be destroyed.

TABLE 18 Amount of prepared formula and infant needs per day

AGE OF THE INFANT IN MONTHS	WEIGHT IN KILOS	AMOUNT OF FORMULA PER DAY (ML)	NUMBER OF FEEDS PER DAY	SIZE OF EACH FEED IN ML
0-1	3	450 ml	8	60 ml
1-2	4	600 ml	7	90 ml
2-3	5	750 ml	6	120 ml
3-4	5	750 ml	6	120 ml
4-5	6	900 ml	6	150 ml
5-6	6	900 ml	6	150 ml

Source: IFE Core Group, Module 2 on Infant Feeding in Emergencies, Annex 5.

17. For children above six (6) completed months of age, breast milk still continues to offer protection and nutrients. The mother must be encouraged to continue breastfeeding. If an older child has a breastfeeding infant sibling, continuing to breastfeed them both (tandem nursing) is a medically acceptable practice. However, in addition to breast milk, infants should receive age appropriate, nutritionally adequate, indigenous foods, safely prepared, and continuously provided as complementary feeding.

At six months, babies DO NOT need milk supplements (follow-on/follow-up formula).[57] They can thrive on breast milk and semi-solid or solid foods. All stakeholders should encourage the use of indigenous and locally available products as much as possible.

Complementary feeding for older infants (over six months) and young children (12 to < 24 months) in emergencies may consist of:

1. Basic food-aid commodities from general rations supplemented by inexpensive locally available foods
2. Micronutrient fortified blended foods (as part of general ration, blanket or supplementary feeding)
3. Additional nutrient-rich foods in supplementary feeding programs

Feed volumes and frequency

For an artificially fed infant, health and nutrition workers should support the caregiver in the safe preparation and provision of feeds. This will include supporting the caregivers in providing the correct volume of BMS at the right frequency to the infant.

Table 18 gives a guide on feed frequency and volume for infants of different ages. Table 18 also contains the instructions on the product's packaging to help make up the feeds accordingly.

4.1.2 HIV AND INFANT AND YOUNG CHILD FEEDING

An HIV-infected mother can pass the infection to her infant during pregnancy, delivery, and through breastfeeding (Table 19).

TABLE 19 Estimated risks of MTCT with no interventions

TIMING	TRANSMISSION RATE WITHOUT INTERVENTION
During pregnancy	5-10%
During labour and delivery	10-15%
During breastfeeding	5-20%
Overall without breastfeeding	15-25%
Overall with breastfeeding to six months	20-35%
Overall with breastfeeding to 18-24 months	30-45%

Note: Rates vary because of differences in population characteristics such as maternal CD4+ cell counts, RNA viral load and duration of breastfeeding.

Source: "HIV transmission through breastfeeding: A review of available evidence." Marie Louise Newell; endorsed by UNICEF, UNFPA, WHO, UN AIDS. 2004 (adapted from De Cock KM et al., 2000.).

Antiretroviral (ARV) drugs, given to either the mother or the HIV-exposed infant, reduce the risk of transmission. Together, breastfeeding and ARVs have the potential to significantly improve infants' chances of surviving while remaining HIV uninfected. WHO recommends that when HIV-infected mothers breastfeed, they should receive ARVs and follow WHO guidance for infant feeding.[58]

The National HIV/AIDS Strategic Plan (NSP) 2013-2017 is aimed towards achieving universal access to

HIV prevention, treatment, and care by 2017, with the overall impact of reducing new HIV infections and mortality among PLHIV by 50%. This will be achieved through increasing HIV testing and ART coverage among adults, children, pregnant and breastfeeding women from below 10% to 80%, improving the retention of PLHIV in care and treatment from 71% to 83%, as well as supporting the livelihood of PLHIVs.

In 2014, the Ministry of Health South Sudan endorsed the National Consolidated Guidelines on the use of Antiretroviral Drugs for HIV Treatment and Prevention that calls for breastfeeding up to 12 months only.[59]

The new 2016 WHO recommendations on HIV and infant feeding recommends that *"Mothers living with HIV should breastfeed for at least 12 months and may continue breastfeeding for up to 24 months or longer (similar to the general population) while being fully supported for ART adherence"*.[60] The 2016 WHO guidelines recommend breastfeeding as per global recommendations for all mothers, with ART for the mother. All newborns need ARVs around the time of birth irrespective of feeding method. As indicated in the MIYCN strategy, there is a need to review the current national recommendations and update it to comply with the relevant recent ones.

With the global evidence and recommendations in mind, the national consolidated guidelines note that HIV transmission through breastfeeding can be significantly reduced if a mother breastfeeds her child exclusively, and if the mother and the baby receive ARV drugs at the same time. The current South Sudan policy is that ART should be provided with continued breastfeeding by HIV infected mothers until the infant is 12 months of age. If the child is tested "negative" then encourage the mother to stop breastfeeding unless there are no alternative form of milk to be given.

There is an urgent need to review the current guidelines to align them with the newly revised WHO guidance. At the moment, the HIV guidelines in South Sudan suggests the following are KEY MESSAGES that health workers should give HIV positive pregnant women:

Diet: Add extra meals during pregnancy and breastfeeding; drink adequate fluids; eat plenty of fruits and vegetables; eat foods rich in vitamin C to enhance iron absorption; avoid tea or coffee close to (less than 1 hour) or with meals as this may interfere with absorption of iron; and use iodized salt to prevent pregnancy complications (abortions, miscarriages and stillbirths), fetal growth retardation, and fetal goiter.

Recommended medications: during pregnancy include supplemental iron to prevent anemia; folic acid to prevent fetal brain and spinal cord birth defects; deworming tablets to treat worms and prevent anemia; and a vitamin A capsule (200,000 iu) immediately after delivery or within 8 weeks to help build your baby's immunity.

Active promotion of breastfeeding initiatives;

- Counsel pregnant women on the benefits of breastfeeding, breastfeeding management, the risk of MTCT, and importance of ART regimen adherence.
- Counsel on the benefits of exclusive breastfeeding for the first six months, regardless of the HIV serological status.
- On discharge from the hospital or clinic, link the mothers to support systems, such as mother-to-mother support groups, and lactation clinics.
- Demonstrate how mothers should position their infants while breastfeeding, and how to maintain lactation should they be separated from their infants. Pay particular attention to the prevention of conditions such as cracked nipples and mastitis, which may increase risk of HIV transmission.

Table 20 summarizes the key recommendations for infants born from HIV infected mothers.

4.1.3 LOW BIRTH WEIGHT AND VERY LOW BIRTH WEIGHT BABIES[61,62]

WHO defines low birth weight children as those children who weigh less than 2500 grams at birth, while very low birth weight is defined as those children who weigh less than 1500 grams at birth. South Sudan adopts the 2011 WHO recommendations[63] in relation to feeding options for low birth weight babies. The following recommendations and standards will have to be included in the requirements for baby-friendly hospital initiative (BFHI) and other health facility based

TABLE 20 Summary of Ministry of Health guidelines on IYCF and HIV

All exposed infants should be exclusively breastfed for the first six months Mothers known to be infected with HIV (and whose infants are HIV uninfected or of unknown HIV status) should be on ARVs. They should exclusively breastfeed their infants for the first 6 months, introduce appropriate complementary food (CF) at 6 months, and continue breastfeeding for the first 12 months (similarly to other mothers).
HIV exposed but not infected: From 6 months continue breastfeeding up to 12 months, stop only if adequate and safe CF (including other sources of milk) can be provided.
HIV exposed and infected at what age can an infant/young child be diagnosed with HIV: Continue breastfeeding until 24 months and beyond.
Unknown status: Continue breastfeeding until 24 months and beyond
6-12 months · After 6 months appropriate CF should be introduced while continuing to BF until 12 months (as often as infant wants).
12-24 months · Discourage BF for mothers whose infants are HIV negative at 12 months (unless there are no alternative form of milk to be given) · Encourage mothers to feed their children 5 times a day (3 main meals and 2 snacks between meals)
12-24 months for children who are HIV infected · Continue BF on demand, day and night, up to 24 months and beyond (keep the child healthy and well nourished) · Give 1 or 2 extra snacks at onset of sickness · Give 3 extra meals when the child is sick and is losing weight
HIV exposed and infected on ARV treatment: Continue BF until 24 months and beyond
HIV exposed and unknown HIV status: Establish the HIV status, encourage EBF 6 months, introduce CF at 6 and continue BF until 12. Once the child's status is established, follow the guidelines.

standards.

What to feed: Choice of milk

1. Low-birth-weight (LBW) infants, including those with very low birth weight (VLBW), should be fed their mother's own milk.
2. LBW infants, including those with VLBW, who cannot be fed their mother's own milk, should be fed donor human milk (recommendations depend on settings where safe and affordable milk-banking facilities are available or can be set up).
3. LBW infants, including those with VLBW who cannot be fed their mother's own milk or donor human milk, should be fed standard infant formula (recommendation relevant for resource-limited settings).
4. VLBW infants who cannot be fed their mother's own milk or donor human milk should be given preterm infant formula if they fail to gain weight despite adequate feeding with standard infant formula.
5. LBW infants, including those with VLBW who cannot be fed their mother's own milk or donor human milk, should be fed standard infant formula from the time of discharge until 6 months of age (recommendation relevant for resource-limited settings).
6. VLBW infants who are fed their mother's own milk or donor human milk should not routinely be given bovine milk-based human milk fortifier (recommendation relevant for resource-limited settings).**
7. VLBW infants who fail to gain weight despite adequate breast milk feeding should be given human-milk fortifiers, preferably those that are human milk based.**

Supplements

1. VLBW infants should be given daily vitamin D supplements at a dose ranging from 400 IU, to 1000 IU, until 6 months of age.**
2. VLBW infants who are fed their mother's own milk or donated breast milk should be given daily calcium (120-140 mg/kg per day) and phosphorus (60-90 mg/kg per day) supplementation during the first month of life.**
3. VLBW infants fed their mother's own milk, or donor human milk, should be given daily 2-4 mg of iron supplementation starting at 2 weeks until 6 months of age.**
4. Daily oral Vitamin A supplementation for LBW infants who are fed their mother's own milk or donor human milk is not recommended at the present time, because there is a lack of evidence supporting such a recommendation.
5. Routine zinc supplementation for LBW infants who are fed their mother's own milk or donor human milk is not recommended at the present time, because there is a lack of evidence of benefits supporting such a recommendation.

When and how to initiate feeding

1. After birth, LBW infants who are able to breastfeed should be put to the breast as soon as they are clinically stable.
2. Starting from the first day of life, VLBW infants should be given 10 ml/kg per day of enteral feeds, preferably expressed breast milk, with the remaining fluid requirement met by intravenous fluids (recommendation

relevant for resource-limited settings).**

Optimal duration of exclusive breastfeeding

1. LBW infants should be exclusively breastfed until 6 months of age.

How to feed

LBW infants who need to be fed by an alternative oral feeding method should be fed by cup, spoon or palladai (which is a cup with a beak).

VLBW infants requiring intragastric tube feeding should be given bolus intermittent feeds.**

For VLBW infants who need to be given intragastric tube feeding, the intragastric tube may be placed either by oral or nasal route, depending upon the preferences of health-care providers.**

Frequency of feeding and how to increase the daily feed volumes

1. LBW infants who are fully or mostly fed by an alternative oral feeding method should be fed based on the infants' hunger cues, except when the infant remains asleep beyond 3 hours since the last feed (recommendation relevant to settings with an adequate number of health-care providers).
2. For VLBW infants who need to be fed by an alternative oral feeding method, or given intragastric tube feeds, feed volumes can be increased by up to 30 ml/kg per day with careful monitoring for feed intolerance.**

IU = international unit
** This is an extract from the relevant guideline (1). Additional guidance information can be found in this document.*
*** These recommendations specifically address infants with birth weight between 1.0 and 1.5 kg.*

4.1.4 INFANT AND YOUNG CHILD FEEDING AND SICK CHILDREN[64]

4.1.4.1 Integrated management of childhood illness (IMCI)

The WHO/ UNICEF guidelines on the integrated management of childhood illness (IMCI) reiterate the importance of optimal infant and young child feeding practices for a fast recovery during the period a child is ill. The recommendations of the IMCI guidelines are for all community health workers and health workers, to:[65]

1. Review the feeding practices and counselling on exclusive breastfeeding, continued breastfeeding, plus counselling on timely, safe, appropriate, and adequate complementary feeding at 6 months of age; and
2. Counselling on continuing to feed the sick child during illness, and feeding more frequently after recovery to support rapid regaining of any weight lost during the illness, and prevent the child from becoming underweight or wasted.

In general, it is recommended that the fluid intake during illness be increased. In addition, there should be more frequent breastfeeding. The child must also be encouraged to eat soft, varied, appetizing, and favorite foods. After illness, more food should be give more often than usual, and the child should be encouraged to eat more.

Sick children appear to prefer breast milk more than other foods. Hence, continued and frequent breastfeeding during illness is advisable. Even though appetite may be reduced, continued consumption of complementary foods is recommended to maintain nutrient intake and enhance recovery. After illness, the child needs greater nutrient intake to make up for nutrient losses during the illness and allow for catch-up growth. Extra food is needed until the child has regained any weight lost and is growing well again.

Diarrhoea in sick young children[66]

Diarrhoea occurs when stools, often described as loose or watery, contain more water than normal. In many regions, diarrhoea is defined as three or more loose or watery stools in a 24-hour period. Children between the ages of 6 months and 2 years often have diarrhoea. It is more common in settings with a lack of safe drinking water, poor sanitation and hygiene.

What are the types of diarrhoea in young infants? A young infant has diarrhoea if the stools have changed from the usual pattern, and are many and watery. This means more water than faecal matter. The normally frequent or semi-solid stools of a breastfed baby are not diarrhoea.

Dehydration: sick child & young infant what is dehydration? Diarrhoea can be a serious problem – and may even lead to death – if the child becomes dehydrated. Dehydration is when the child loses too much water

and salt from the body. This causes a disturbance of electrolytes, which can affect vital organs. A child who is dehydrated must be treated to help restore the balance of water and salt. Many cases of diarrhoea can be treated with oral rehydration salts (ORS), a mixture of glucose and several salts. ORS and extra fluids can be used as home treatment to prevent dehydration. Low osmolarity ORS should be used to treat dehydration. (Table 21)

4.1.4.2 Acute malnutrition (MAM/SAM Cases)

The Ministry of Health has recently developed a set of guidelines for the Community-Based Management of Acute Malnutrition (CMAM). All stakeholders should refer to the national guidance when screening, detecting, referring, and treating children with severe and moderate acute malnutrition.[67]

4.1.4.3 Feeding children less than 6 months that are severely malnourished[68]

The supplementary suckling technique is a technique used in therapeutic feeding centers to feed children with a weight < 3 kg, regardless of their age

The goal is too provide children with a feeding supplement, if necessary, while stimulating the breast milk production at the same time.

1. ADMISSION

Children are admitted for supplementary suckling if:

- **The mother does not have enough breast milk:** Many mothers come with this complaint, but only few have a real lack of breast milk. Most of them need support and counseling, because they want to stop breastfeeding and they hope ACF will provide them with milk, or because they believe the artificial milk is better than their own breast milk. First of all, one must have a conversation with the mother to see why she believes she does not have enough breast milk. Subsequently, the presence of breast milk can be checked by gently pressing the mother's breast, preferably not after the child has immediately drunk. If a strong beam of milk comes out, she most likely has enough breast milk. If there is only a small drop or no milk coming out, there is a risk of lack of breast milk. If there is doubt, the mother can be given support for breastfeeding, while the weight of the child is monitored daily. If there is no gain of weight, or weight loss, even if the child is suckling well; one can conclude that there is a lack of breast milk. If there is clearly a lack of breast milk, the child can be admitted.
- If a child has lost its mother, yet another caretaker is ready to breastfeed, this technique can be used to increase or even start breast milk production. (grandmother, aunt, sister… etc.)

TABLE 21 Recommendations for young children with dehydration

Two of the following signs: · Lethargic or unconscious · Sunken eyes · Not able to drink or drinking poorly · Skin pinch goes back very slowly.	PINK: SEVERE DEHYDRATION	· If child has no other severe classification: ° Give fluid for severe dehydration (Plan C) **OR** · If child also has another severe classification: ° **Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way** ° **Advise the mother to continue breastfeeding** · **If child is 2 years or older and there is cholera in your area, give antibiotic for cholera**
Two of the following signs: · Restless, irritable · Sunken eyes · Drinks eagerly, thirsty · Skin pinch goes back slowly.	YELLOW: SOME DEHYDRATION	· Give fluid, zinc supplements, and food for some dehydration (Plan B) · **If child also has a severe classification:** ° **Refer URGENTLY to hospital with mother giving frequent sips of ORS on the way** ° **Advise the mother to continue breastfeeding** · Advise mother when to return immediately · · Follow-up in 5 days if not improving
Not enough signs to classify as some or sever dehydration	GREEN: NO DEHYDRATION	· Give fluid, zinc supplements, and food to treat diarrhoea at home (Plan A) · Advise mother when to return immediately · Follow-up in 5 days if not improving

- **The child is too weak to suckle:**
  If the child is too weak to suckle because of disease or low weight, there are two main risks. One is that the child will not receive sufficient milk in order to maintain its health and grow; the second is that the mother's breast milk production will decrease because of lack of stimulation.
  Supplementary suckling demands less energy from the child than breastfeeding, and will continue to stimulate the breast milk production
- **The child meets severe acute malnutrition criteria (W/H < 70% and/or nutritional oedema)**
  There is a clear sign that something is wrong if a child is severely malnourished. Whether it be lack of breast milk, too weak to suckle, ignorance or negligence of the mother…. one thing is for sure; the mother and baby must be helped in order to prevent the baby from dying. If there is a therapeutic feeding centre nearby, with a well defined protocol for < 6 months, it might be better to transfer this child there so specialists in severe acute malnutrition can take care of mother and child. If there is no clearly defined protocol for < 6 months, be careful with transfers, as you risk that they might feed the baby therapeutic milk without stimulating breast milk production. Decide for each case individually what would be the best for the baby.

2. MOTHER/CARETAKER DOES NOT HAVE ENOUGH BREAST MILK

For children < 6 months WITH a mother or other breastfeeding caretaker

- Breastfeed the child EVERY 3 HOURS for at least 20 minutes, more often if the child cries or wants more
- One (1) to one and a half (1.5) hours after breastfeeding, give 130 ml/kg/day divided in 8 meals, of F-100 diluted by Supplementary Suckling Technique (SST)

Amount of F-100 diluted to give at each meal according to the weight:

CLASS OF WEIGHT (KG)	QUANTITY OF F100 DILUTED (ML), FOR EACH FEED (8 FEEDS/DAY)
=< 1.5	30
1.6 – 1.8	35
1.9 – 2.1	40
2.2 – 2.4	45
2.5 – 2.7	50
2.8 – 2.9	55
3.0 – 3.4	60
3.5 – 3.9	65
4.0 – 4.4	70

- Add 5ml to each feed if the child is taking all his F100-D, loses weight over 3 consecutive days, and seems hungry.
- When a baby is gaining weight 20gr per day whatever his weight,
  - Decrease the quantity of F100 diluted to halve
  - If the weight gain is maintained (10g/day, whatever his weight, during 3 days) then stop supplement suckling completely and continue breast-feeding alone.
  - If the weight gain is not maintained, then increase the amount given to ¾ of the maintenance amount for 2 to 3 days and then reduce again if weight gain is maintained
- Keep the child in the centre for 5 days to be sure he continues to grow on breast-milk only
- If the child has a medical problem, he should be referred to a health centre for appropriate treatment

3. FOR CHILDREN < 6 MONTHS WITHOUT MOTHER OR WET-NURSE

Give:

F-100 DILUTED or F-75 for babies with oedema

Amounts of F100 diluted or F75 to give for infants not breast-fed in Phase 1

CLASS OF WEIGHT (KG)	ML OF F100D PER FEED IN PHASE 1 (8 FEEDS/DAY)
	Diluted F100
=< 1.5 kg	30 ml per feed
1.6 to 1.8 kg	35
1.9 – 2.1	40
2.2 – 2.4	45
2.5 – 2.7	50
2.8 – 2.9	55
3.0 - 3.4	60
3.5 – 3.9	65
4.0 – 4.4	70

Children with oedema less than 6 months, should be on F75 and not on F100 diluted.

If loss of oedema, no medical problem, and appetite returns, transfer to transition phase

Amounts of F100 diluted to give for infants not breast-fed in Transition phase

CLASS OF WEIGHT (KG)	ML OF F100D PER FEED IN TRANSITION PHASE (8 FEEDS/DAY)
	Diluted F100
=< 1.5 kg	40 ml per feed
1.6 to 1.8 kg	45
1.9 – 2.1	55
2.2 - 2.4	60
2.5 - 2.7	65
2.8 – 2.9	75
3.0 - 3.4	80
3.5 – 3.9	85
4.0 – 4.4	95

If good appetite, then transfer to phase 2 after 2 days

Amounts of F100 diluted to give for infants not breast-fed in Phase 2

CLASS OF WEIGHT (KG)	ML OF F100 PER FEED IN PHASE 2 (6 TO 8 FEEDS/ DAY)
	Diluted F100
=< 1.5 kg	60 ml
1.6 to 1.8 kg	70
1.9 – 2.1	80
2.2 - 2.4	90
2.5 - 2.7	100
2.8 – 2.9	110
3.0 - 3.4	120
3.5 – 3.9	130
4.0 – 4.4	140

CRITERIA FOR DISCHARGE OR TRANSFER:

- No medical problem
- W/H > 85% for 2 weighings
- Weight > 3 kg for > 6 months

If children are still < 6 months when discharged; a sustainable and acceptable solution must be sought for feeding before discharge:

- Look for other woman who can breastfeed the child
- Start weaning from 4 months old
- Infant formula ONLY IF WELL ORGANIZED (training caretakers, pipeline assured…) AND PROPER FOLLOW UP

HEALTH EDUCATION ON WEANING PRACTICES AND INDIVIDUAL TRAINING OF THE CARETAKER IS INDISPENSIBLE!

4. CHILD IS TOO WEAK TO SUCKLE

A child can be too weak to suckle because:

- **Disease:** refer to an appropriate medical center as well as starting the nutritional treatment
- **Exhaustion:** because of insufficient food or dehydration; start nutritional treatment, and refer to an appropriate medical center for a medical check up
- **Prematurity[69]/dysmaturity[70]:** premature and dysmature babies are often too weak to suckle effectively in order to satisfy their needs, so in some cases they might need some help

Suckling the breast is hard work: in order to be able to suck sufficient breast milk from the breast, the baby must have sufficient energy to start with. Babies who are too weak to suckle in order to satisfy their needs will grow weaker and weaker.

Providing these children with a supplement is not sufficient, as the mother will produce less breast milk if the baby doesn't suckle. Losing her breast milk production means she cannot breastfeed when the baby has regained his strength. We must therefore continue stimulation of breast milk production.

Different solutions can be proposed:

A. Use supplementary suckling technique

If the baby is still in reasonably good shape, the supplementary suckling technique can be used, as suckling from the tube is less tiring than suckling from the breast.

However, instead of using a supplement, we will use the mother's own breast milk, in order to have double benefit:

1. The baby doesn't loose the benefit of drinking breast milk
2. The breast milk production of the mother is stimulated

twice: once when she pumps her breasts, once when the baby suckles by SST

STEP 1: EXPLANATION

Explain to the mother what you propose to do, and ask her if she is motivated to do so. If she is not, try to explain more to motivate her in this way. Ask if you can try to show her, maybe she will become motivated after an example. If there are other mothers who have used this technique successfully, ask them to tell about their experiences.

STEP 2: HYGIENE AND PREPARATION

Wash your hands and ask the mother to wash her breasts and hands. Explain to her why hygiene is important

Keep a sterilized container at hand (sterilized in boiling water). Sit down with the mother in a private, quiet environment.

STEP 3: PUMP THE BREASTS

- With a sterilized breast pump
- By hand: let the mother gently squeeze her breasts from the part closest to the body towards the nipple
- With a hot water bottle:
  - Take a clean approximately 1 liter glass bottle, pour a little bit of hot water in the bottle, and when the glass is warm, fill it completely with hot water.
  - Wrap the bottle in a cloth and pour the water out back in the pan.
  - Cool the neck of the bottle and place it over the nipple; after a few minutes the bottle cools and makes a gentle suction.
  - The warmth and the suction should help the oxytocin reflex and milk should flow into the bottle. Do the same for the other breast.

★ If mothers are nervous, pumping might not work very well. Try to help them to relax and ask them to be patient. Letting the baby suckle a bit on the breast can help the oxytocin reflex.

★ Always express all the milk you can, the more milk is pumped, the more milk the mother will produce in the future. The remaining breast milk can be thrown away or given to another child. The mother will produce more breast milk for the next feed.

★ Always pump both breasts.

STEP 4: GIVE THE MILK TO THE BABY

Using the SST, the baby drinks his own mother's breast milk.

When the baby grows stronger, see if it is able to breastfeed independently. Do this by monitoring its weight daily. If the weight goes up, the baby is strong enough.

B. Using a syringe or a cup

Some babies can be too weak to drink by SST. In these cases we can feed the baby by spoon or syringe.

STEP 1: EXPLANATION

Explain to the mother what you propose to do, and ask her if she is motivated to do so. If she is not, try to explain more to motivate her in this way. Ask if you can try to show her, maybe she will become motivated after an example. If there are other mothers who have used this technique successfully, ask them to tell about their experiences.

STEP 2: HYGIENE AND PREPARATION

Wash your hands and ask the mother to wash her breasts and hands. Explain to her why hygiene is important

Keep a sterilized container at hand (sterilized in boiling water). Sit down with the mother in a private, quiet environment.

STEP 3: PUT THE BABY TO THE BREAST

In order for the baby not to lose the habit and suckling reflex, it is important that he is still put to the breast regularly, even if he cannot eat a lot. Let him suckle the breast a little bit until he is too tired, then let the baby rest.

STEP 4: PUMP THE BREASTS

As explained above.

STEP 5: FEED THE BABY

The mother must feed the baby as it lies in her arms, as if it were breastfeeding. Give the baby the breast milk drop by drop with a clean cup or clean syringe:

- Place a small drop of milk on the tongue, not too far behind or it can leak in the lungs
- Check if the baby swallows

SUPPLEMENTARY SUCKLING TECHNIQUE (SST)

- Explain to the mother what you propose to do. If she is not motivated, explain more, let her speak to other mothers who have used this technique and ask her if you can show her once to let her see
- Wash your hands and ask the mother to wash her breasts and hands
- Tape an NGTube n°8, the tip cut off, with the tip next to the nipple of the mother
- Put the right quantity of F-100 Diluted in a cup, and place the other end of the NGT (open) in the cup
- First an assistant holds the cup about 10 cm lower than the breast, and the child is offered the breast. When the child suckles, the milk is sucked from the cup. When the mother is used to the technique, she can hold the cup hersel
- It may take the child 1 or 2 days to adjust to feeding by the tub. Sometimes the child notices the difference between the taste of the breast milk and the F-100 and rejects the tub feeding initially, however it is important to persevere
- After use, the tube is cleaned with clean water & a syringe, then spun to dry

- Continue until the baby is too tired
- If the baby has not been drinking enough, let him rest for a while, then start again
- Clean the cup or syringe thoroughly after use. Use a new syringe every day

★ Do not use bottles:

- They represent a risk of infection if not well cleaned and sterilized
- They will make the child change his suckling habits, so it might be difficult for him to return to breastfeeding afterwards
- They are a bad example

C. Using an naso-gastric tube

Until the baby is better, all or part of the breast milk can be given by a naso-gastric tube if the baby is unconscious or too weak to eat sufficiently by SST or by spoon/syringe.

STEP 1: EXPLANATION

Explain to the mother what you propose to do, and ask her if she is motivated to do so. If she is not, try to explain more to motivate her in this way. Ask if you can try to show her, maybe she will become motivated after an example. If there are other mothers who have used this technique successfully, ask them to tell about their experiences.

STEP 2: HYGIENE AND PREPARATION

Wash your hands and ask the mother to wash her breasts and hands. Explain to her why hygiene is important.

Keep a sterilized container at hand (sterilized in boiling water). Sit down with the mother in a private, quiet environment.

STEP 3: PLACE THE NASO-GASTRIC TUBE

Place the naso-gastric tube, or if the tube is already in place, check if it is still in the correct position, then make sure there isn't too much milk remaining in the stomach.

STEP 3: PUT THE BABY TO THE BREAST

In order for the baby to not lose the habit and suckling reflex, it is important that he is still put to the breast

regularly, even if he cannot eat a lot. Pump the breast until a drop of milk is on the nipple and let him suckle the breast a little bit until he is too tired, then let the baby rest.

STEP 4: PUMP THE BREASTS

As explained above.

STEP 5: FEED THE BABY

- Always first try to feed the baby by spoon or syringe unless he is unconscious or has no swallowing reflex
- When the baby cannot eat any more, fill a syringe with breast milk. Attach the reservoir (5 or max 10 ml syringe), and elevate it 15 – 20 cm above the patient's head. The diet should not be pushed in with the plunger of the syringe, but allowed to flow into the stomach by gravity. When the feed is complete, irrigate the NGT with a few ml of plain water and stopper the tube (or clamp it). Place the child on his/her side, or on the mother's stomach, to minimize regurgitation and aspiration. Observe the child after feeding for vomiting, regurgitation or abdominal distension.
- The baby should remain in his mother's arms during and after the feed, so as to feel the warmth of his mother and feel secure. Ask the mother to keep the baby upright after the feed, in order to avoid vomiting.

4.1.4.4 Acceptable medical reasons for use of breast-milk substitutes[72]

Infant conditions

Infants who should not receive breast milk or any other milk except specialized formula:

- Infants with classic galactosemia: a special galactose-free formula is needed (i.e. soy based).
- Infants with maple syrup urine disease: a special formula free of leucine, isoleucine and valine is needed.
- Infants with phenylketonuria: a special phenylalanine-free formula is needed (some breastfeeding is possible, under careful monitoring).
- Infants for whom breast milk remains the best feeding option, but who may need other food in addition to breast milk for a limited period
- Infants born at less than 32 weeks of gestational age (very pre-term).
- Newborn infants who are at risk of hypoglycaemia by virtue of impaired metabolic adaptation or increased glucose demand (such as those who are preterm, small for gestational age or who have experienced significant intrapartum hypoxic/ ischaemic stress, those who are ill and those whose mothers are diabetic) if their blood sugar fails to respond to optimal breastfeeding or breast-milk feeding.

Maternal conditions

Mothers who are affected by any of the conditions mentioned below should receive treatment according to the existing national guidelines:

Maternal conditions that may justify temporary avoidance of breastfeeding

1. Severe illness that prevents a mother from caring for her infant, for example sepsis.
2. Herpes simplex virus type 1 (HSV-1): direct contact between lesions on the mother's breasts and the infant's mouth should be avoided until all active lesions have resolved.
3. Maternal medication: sedating psychotherapeutic drugs, anti-epileptic drugs, and opioids and their combinations may cause side effects, such as drowsiness and respiratory depression. These are better avoided if a safer alternative is available (7); radioactive iodine -131 is better avoided given that safer alternatives are available, a mother can resume breastfeeding about two months after receiving this substance. Excessive use of topical iodine or iodophors (e.g., povidone-iodine), especially on open wounds or mucous membranes, can result in thyroid suppression or electrolyte abnormalities in the breastfed infant and thus should be avoided. Cytotoxic chemotherapy requires that a mother stop breastfeeding during therapy.

Maternal conditions during which breastfeeding can still continue, although health problems may be of concern

1. Breast abscess: Breastfeeding should continue on the unaffected breast; feeding from the affected breast can resume once treatment has started.
2. Hepatitis B: Infants should be given hepatitis B vaccine, within the first 48 hours or as soon as possible thereafter.
3. Hepatitis C. Breastfeeding continues normally, treat the mother.
4. Mastitis: If breastfeeding is very painful, milk must be removed by expression to prevent progression of the conditions.

5. Tuberculosis: The mother and the baby should be managed according to the national tuberculosis guidelines.
6. Substance abuse: Maternal use of nicotine, alcohol, ecstasy, amphetamines, cocaine, and related stimulants has been demonstrated to have harmful effects on breastfed babies. Alcohol, opioids, benzodiazepines, and cannabis can cause sedation in both the mother and the baby. Mothers should be discouraged from using these substances, and given opportunities and support to abstain.

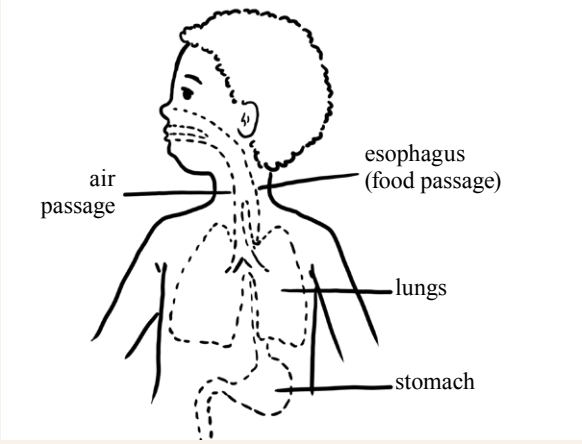
HOW TO INSERT AN NG TUBE

Choose the appropriate size catheter (range is 6,8 or 10 FG). Lie infants on their back, swaddled in a small blanket as a restraint.

Measure the tube from the child's ear to tip of the nose, and then to the tip of the sternum (for pre-term and neonates from the bridge of the nose to just beyond the tip of the sternum), so you know how far to insert the tube.

Lubricate the catheter with water and insert through the nose following the nasal passage into the pharynx.

Bend the head slightly backwards to extend the neck. Insert the catheter smoothly and quickly at first pushing upwards (not just backwards) so that the catheter bends in one loop downwards along the back of the throat. Do not push against resistance (if you cannot pass the tube through the nose, pass it through the mouth instead). Take care that the tube does not enter the airway. If the child coughs, fights or becomes cyanotic, remove the tube immediately and allow patient to rest before trying again. It is vital to check the tube is in the right place at the start and before each feed in case it has become dislodged from the stomach. Note that sick apathetic children and those with decreased consciousness can have the tube passed directly into their lungs without coughing. It is not a guarantee that the tube is in the right place just because it has passed smoothly without complaint from the child.

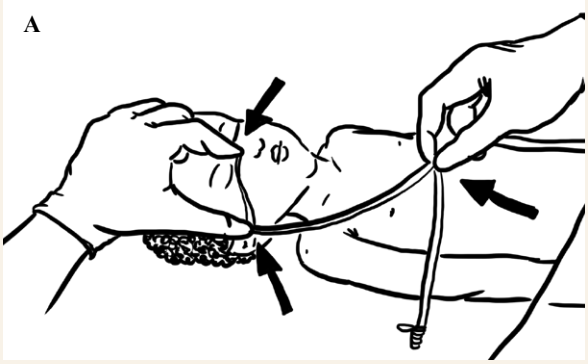


To test for correct position you can aspirate some of the stomach contents and test for acid with litmus paper. The stomach contents in normal children are acid and turn blue litmus paper red, however, the malnourished frequently have "achlorhydria" or lack of gastric acid. Stomach contents usually have a characteristic appearance and smell.

Alternatively, check the position by injecting 0.5 – 1ml of air into the tube whilst listening to the epigastric region with a stethoscope. A "gurgling" or bubbling sound can be heard as air enters the stomach. It is always best to ask someone else to check if you are not sure the tube is in the right place, to avoid the risk of milk going onto the lungs. Before each feed, aspirate the tube to check that the previous feed has left the stomach; this may be slow in very sick children. It is important not to cause gastric distension by giving a new feed on top of an old one[71]. The flow of the feed should be slow.

If children are in day care, the naso-gastric tube should be removed when they go home at night.

If a child is staying in the feeding centre overnight, change the tube every 3-5 days.



4.1.5 VITAMIN A SUPPLEMENTATION IN CHILDREN WITH MEASLES

All children diagnosed with measles should receive one dose of vitamin A supplement. Children from areas with known Vitamin A deficiency, or where a measles case fatality is likely to be more than 1%, should receive 2 doses of a Vitamin A supplement (given 24 hours apart), to help prevent eye damage and blindness. Vitamin A supplements have been shown to reduce the number of deaths from measles by 50%.[73]

4.1.6 COMMON BREASTFEEDING DIFFICULTIES

4.1.6.1 Engorgement [74]

Engorgement is caused by a build-up of milk, blood, and other fluids in the breast tissue. You may find that your breasts become larger and feel heavy, warmer, and uncomfortable when the milk 'comes in', usually about 2–6 days after your baby is born. This is normal. It does not affect milk flow or the ability of the baby to attach to your breast. In some cases a mother's breasts can become very hard, swollen, tender, and her nipples become flattened and taut. It can be painful for the mother, and may make it difficult for a baby to attach to the breast.

We can prevent or minimize the effects of engorgement by:

- Nursing early and often. Nurse as soon after the birth as possible, and at least ten times a day after that.
- Ensuring that the baby is positioned well and is latched on properly.
- Nursing "on cue". If the baby sleeps more than two to three hours during the day, or four hours at night, the mother has to wake him to nurse.
- Allowing the baby to finish the first breast before switching sides. This means waiting until the baby falls asleep or comes off the breast on his own. There is no need to limit the baby's time on the breast.
- If the baby is not nursing at all, or is not nursing well, hand expressing or pumping your milk as frequently as the baby would nurse.

For some mothers, the normal sense of fullness continues, with their breasts becoming hard and painful. Most mothers find that frequent nursing helps to relieve any discomfort. Additional suggestions for dealing with the discomfort of engorgement include:

- Gentle breast massages

With the palm of your hand, start from the top of your chest (just below your collar bone) and gently stroke the breast downward in a circular motion toward the nipple. This may be more effective when done in the shower or while leaning over a basin of warm water and splashing water over the breasts.

- Warm compresses, massage, cold compresses

Some mothers find that applying a warm, moist compress, and expressing some milk just before feeding helps to relieve engorgement. Using heat for too long will increase swelling and inflammation, so it is best to keep it brief. Cold compresses can be used between feedings to reduce swelling and relieve pain.

- cabbage compresses

A popular home remedy for relieving the discomfort of engorgement is cabbage leaf compresses. Rinse the inner leaves of a head of cabbage, remove the hard vein, and crush the leaves with a rolling pin (or similar). They can be used refrigerated or at room temperature. Drape leaves directly over breasts, inside the bra. Change when the leaves become wilted, or every two hours. Discontinue use if rash or other signs of allergy occur. There have been anecdotal reports that overuse of cabbage compresses can reduce milk production. Therefore, some experts suggest mothers discontinue the compresses when the swelling goes down.

Ask the mother to contact a trained health worker if:

- Engorgement is not relieved by any of the above comfort measures.
- You begin experiencing symptoms of mastitis: fever of greater than 100.6°F (38.1°C), red/painful/swollen breast(s), chills, "flu-like" symptoms.
- Your baby is unable to latch on to your breast.
- Your baby is not having enough wet and dirty diapers.

Engorgement can cause the nipples to flatten, or the areola, the dark area around the nipple, to become hard and swollen. This can be a problem if the fullness makes it difficult for baby to latch on. A technique that can help is reverse pressure softening. Reverse pressure

softening, or RPS, softens the areola to make latching and removing milk easier. It is not the same as hand expression (although it is okay if some milk does come out). The following article is a description of RPS, with illustrations.

4.1.6.2 Inverted nipple[69]

Different types of inverted and flat nipples

Dimpled: Only part of the nipple protrudes. The nipple can be pulled out but does not stay that way.

Unilateral: Only one breast has an inverted or flat nipple

Inverted: There are different possible degrees of nipple inversion. The lesser degree of inversion is classified as *slight*. A baby with a normal suck will likely have no problems with bringing a slightly inverted nipple out, although a premature baby or one with a weak suck might have difficulty at first. *Moderate* to severe inversion means that the nipple retracts deeply, it is when the areola is compressed to a level even within or underneath the areola. A nipple with moderate to severe inversion might make latching-on and breastfeeding difficult, but treatment and deep latch techniques can help. Treatment to stretch out the nipple might be helpful, especially during pregnancy. If the inverted nipple is only discovered after birth, treatment will still be useful, but good positioning and latch-on are most important.

Treatments for flat or inverted nipples, and techniques to make latching easier

Although opinions and experiences vary, many women have found treatments for inverted or flat nipples helpful and many breastfeeding experts continue to recommend them. Breastfeeding experts disagree on whether pregnant women should be screened for flat or inverted nipples, and whether treatments to draw out the nipple should be routinely recommended. For example, the British Royal College of Midwives says that hormonal changes during pregnancy and childbirth cause many mothers' nipples to protrude naturally. Although treating flat and inverted nipples during pregnancy is debated, if your newborn is having difficulty latching on to a flat or inverted nipple, these techniques may be found helpful.

- **Hoffman technique**
  This procedure may help loosen the adhesions at the base of the nipple, and can be used during pregnancy and after the birth as well. Place a thumb on each side of the base of the nipple, (directly at the base of the nipple, not at the edge of the areola) push in firmly against your breast tissue while at the same time pulling your thumbs away from each other. This will stretch out and loosen the tightness at the base of the nipple, which will make it move up and outward. Repeat this exercise twice a day, up to five times a day, moving the thumbs around the base of the nipple.
- **Breast pump**
  After birth, an *effective* breast pump can be used to draw out the nipple immediately before breastfeeding. This makes latching easier for the baby. By applying uniform pressure from the center of the nipple, a pump can also be used at other times after birth to further break the adhesions under the nipple.
- **Nipple stimulation before feedings**
  If the nipple can be grasped, roll the nipple between the thumb and index finger for a minute or two. Afterwards, quickly touch it with a moist, cold cloth or with ice that has been wrapped in a cloth. This method can help the nipple become erect. Avoid prolonged use of ice as numbing the nipple and areola could inhibit the let-down reflex.
- **Pulling back on the breast tissue during latch-on**
  Support the breast for latch-on with the thumb on top, and four fingers underneath and behind the areola. Pull slightly back on the breast tissue toward the chest wall to help the nipple protrude.

Getting breastfeeding off to a good start

- **Get help with positioning and latch-on**
  Getting skilled help is critical for a mother with inverted or flat nipples. It is important for the baby to learn how to open his mouth wide and bypass the nipple, allowing his gums to close further back on the breast. Experimenting with different positions is a good way to find what is most comfortable for the mother, and what helps the baby latch on most effectively. Some mothers find that the football hold (clutch) or cross-cradle hold gives them the most control, and also makes it easier for the baby to latch on well.
- **Breastfeed early and often**
  Plan to breastfeed as soon after birth as possible, and at least every 2-3 hours thereafter. This will help

avoid engorgement, and will allow the baby to practice breastfeeding before the milk "comes in" or becomes more plentiful. Lots of practice at breastfeeding while the mother's breasts are still soft often helps the baby to continue to nurse well, even as the breasts become firmer (which can make a flat nipple more difficult to grasp).

- **Achieve a deep latch**
  When latching your baby on, hold him in close against your body, with his ear, shoulder, and hip in a straight line. Align the baby's nose with your nipple. Pull back on your breast tissue to make it easier for him to latch on. Tickle baby's lips with nipple and wait for baby to open *wide* (like a yawn). Then latch him on, assuring that baby has bypassed the nipple and is far back on the areola. The resulting latch should be off-center and deeper on the bottom (more breast taken in on the chin side than the nose side). The baby's nose should be touching (but not buried in) the breast, and his lips should be flared out like "fish lips".
- **Use calming techniques if baby becomes upset**
  The baby should not associate breastfeeding with unpleasantness. If the baby becomes upset, immediately take a break and calm him. Offer a finger for him to suck on, walk, swaddle, rock, or sing to him. Wait until he is calm before trying again.

If nipple soreness occurs

- **Discomfort as adhesions stretch**
  Some mothers experience nipple soreness for about the first two weeks of nursing as baby's suckling gradually draws out their flat or inverted nipple(s).
- **Moisture becoming trapped as nipple inverts after feeding**
  If the nipple retracts after feedings, that skin might remain moist, leading to the skin chapping. After feeding, pat the nipples dry.

When nipple soreness is prolonged

A mother may rarely experience persistent sore nipples for a longer period of time because the adhesions remain tight instead of stretching. This can create a stress point leading to cracks or blisters.

When a mother has a deeply embedded nipple, the baby compresses the buried nipple instead of compressing the mother's milk sinuses (milk storage area) under her areola. Because the baby is unable to get the nipple correctly positioned in his mouth, he will not receive much milk for his efforts, and nursing will be painful for the mother. In this case, an automatic double electric breast pump can help because, rather than compressing the mother's areola, it uses uniform suction from the center of the nipple to draw the nipple out. Over time, this usually works to break the adhesions that are holding the nipple in.

If one breast is easier for the baby to grasp, and he nurses well from that breast, the mother can continue to feed on that side. The mother can pump the breast with the deeply inverted nipple until the adhesion loosens and the nipple is drawn out. The baby will get all the milk he needs from one breast as long as he is allowed unlimited and unrestricted time at the breast.

If both nipples are deeply inverted, the mother can pump both breasts simultaneously for 15-20 minutes, every 2 hours.

4.1.6.3 Cleft lip and/or cleft palate[75]

When a cleft lip *(cl)* occurs, the lip is not contiguous, and when a cleft palate (CP) occurs, there is communication between the oral and nasal cavities. Clefts can range in severity from a simple notch in the upper lip to a complete opening in the lip extending into the floor of the nasal cavity, involving the alveolus to the incisive foramen. Similarly, CP can just involve the soft palate or it can extend partially or completely through the hard and soft palates.[75] In CP, the alveolus remains intact. A CP may be submucous and not immediately detected if there are subtle or no corresponding clinical signs or symptoms.

Based on the reviewed evidence, the following recommendations are made:

1. Mothers should be encouraged to provide the protective benefits of breast milk. Evidence suggests that breastfeeding protects against otitis media, which is highly prevalent in this population. (Breast milk feeding via cup, spoon, bottle, etc. should be promoted in

Mothers who wish to breastfeed should be given immediate access to a lactation specialist to assist with the positioning, management of milk supply, and expressing milk for supplemental feeds.

preference to artificial milk feeding. Additionally, there is speculative information regarding the possible benefits of breastfeeding versus bottle-feeding on the development of the oral cavity.)

2. At the same time, mothers should be counselled about the likelihood of breastfeeding success. Where direct breastfeeding is unlikely to be the sole feeding method, the need for breast milk feeding should be encouraged, and when appropriate, possible delayed transitioning to breastfeeding should be discussed.

3. Babies with CL/P should be evaluated for breastfeeding on an individual basis. In particular, it is important to take into account the size and location of the baby's CL/P, as well as the mother's wishes and previous experience with breastfeeding. There is moderate evidence suggesting that infants with CL are able to generate suction, and descriptive reports suggest that these infants are often able to breastfeed successfully. There is moderate evidence that infants with CP or CLP have difficulty generating suction and have inefficient sucking patterns compared with normal infants. The success rates for breastfeeding infants with CP or CLP are observed to be lower than for infants with CL or no cleft.

4. In normal breastfeeding, knowledgeable support is important. Mothers who wish to breastfeed should be given immediate access to a lactation specialist (MIYCN Counsellor) to assist with the positioning, management of milk supply, and expressing milk for supplemental feeds. Several studies have suggested that there is a need for and benefit from having access during the newborn/infant periods, to a health professional that specializes in CL/P such as a clinical nurse specialist, for advice on feeding a baby with CL/P, as well as referrals to appropriate services. Surveys of parents with a child with CL, CLP, or CP indicated a desire for more instruction on feeding challenges as early as possible.

5. In addition to routine referral to breastfeeding support groups, families may benefit from peer support around breast milk feeding or breastfeeding through associations like Wild Smile.

6. Monitoring a baby's hydration and weight gain is important when a feeding method is being established. If inadequate, supplemental feeding should be implemented or increased. Infants with CL/P may require supplemental feeds for adequate growth and nutrition. One study demonstrated that additional maternal support by a clinical nurse specialist both improved weight gain outcomes, and facilitated referral to appropriate services.

7. Modification to breastfeeding positions may increase the efficiency and effectiveness of breastfeeding. The following positions have been recommended on the basis of weak evidence, (clinical experience or expert opinion) and should be evaluated for success:

   a. For infants with CL:

      i. The infant should be held so that the CL is oriented towards the top of the breast (for example, an infant with a [right] CL may feed more efficiently in a cross-cradle position at the right breast and a "football/twin style" position at the left breast).

      ii. The mother may occlude the CL with her thumb or finger and/or support the infant's cheeks to decrease the width of the cleft and increase closure around the nipple.

      iii. For bilateral CL, a "face on" straddle position may be more effective than other breastfeeding positions.

   b. For infants with CP or CLP:

      i. Positioning should be semi-upright to reduce nasal regurgitation and reflux of breast milk into the Eustachian tubes.

      ii. A "football hold"/twin position (the body of the infant positioned alongside the mother, rather than across the mother's lap, and with the infant's shoulders higher than his or her body) may be more effective than a cross-cradle position.

      iii. For infants with CP, it may also be useful to position the breast toward the "greater segment"—the side of the palate that has the most intact bone. This may facilitate better compression and stop the nipple being pushed into the cleft site.

      iv. Some experts suggest supporting the infant's chin to stabilize the jaw during sucking, and/or supporting the breast so that it remains in the infant's mouth.

      v. If the cleft is large, some experts suggest that the breast be tipped downward to stop the nipple being pushed into the cleft.

      vi. Mothers may need to manually express breast milk into the baby's mouth to compensate for absent suction and compression or to stimulate the let-down reflex.

8. If a prosthesis is used for orthopedic alignment prior to surgery. Parents must be cautious in using such devices to facilitate breastfeeding, as there is strong evidence that they do not significantly increase feeding efficiency or

effectiveness.

9. Evidence suggests that breastfeeding can commence/recommence immediately following CL repair and that breastfeeding may be slightly more advantageous than spoon-feeding. Breastfeeding can commence/recommence 1 day after CP repair without complications to the wound. In a survey of CP surgeons regarding postoperative care after palatoplasty, two-thirds of surgeons allowed mothers to breastfeed immediately after surgery.
10. Assessment of the potential for breastfeeding of infants with CL/P as part of a syndrome/sequence should be made on a case-by-case basis, taking into account the additional features of the syndrome that may impact on breastfeeding success.

4.1.6.4 Sore or cracked nipple[71]

Symptoms:

1. Breast/nipple pain
2. Cracks across top of nipple or around base
3. Occasional bleeding
4. May become infected

Prevention:

1. Good attachment
2. Do not use feeding bottles (sucking method is different than breastfeeding so can cause "nipple confusion")
3. Do not use soap or creams on nipples

What to do:

1. Do not stop breastfeeding (if milk is not removed risk of abscess increases; let baby feed as often as he or she will)
2. Apply warmth (water, hot towel)
3. Hold baby in different positions, so that the baby's tongue/chin is close to the site of the plugged duct/mastitis (the reddish area). The tongue/chin will massage the breast and release the milk from that part of the breast
4. Ensure good attachment
5. For plugged ducts: apply gentle pressure to breast with flat of hand, rolling fingers towards nipple; then express milk or let baby feed every 2-3 hours day and night
6. Rest (mother)
7. Drink more liquids (mother)
8. If no improvement in 24 hours refer to a health centre
9. If mastitis: express if too painful to suckle, expressed BM may be given to baby (if mother is not HIV infected)

4.1.6.5 Crying babies[76]

Help the mother to try to figure out the cause of the baby's crying and listen to its feelings:

1. Discomfort: hot, cold, dirty
2. Tiredness: too busy
3. Illness or pain: changed pattern of crying
4. Hunger: not getting enough breast milk; growth spurt
5. Mother's foods: can be a certain food; sometimes cow's milk
6. Mother's medicines - Colic

STRATEGIC ACTION 5

Ensure intra-sectoral integration (health and nutrition services)

5.1 Strengthening the capacity of health services to support appropriate infant and young child feeding[77]

5.1.1 REVITALIZING AND EXPANDING THE BABY-FRIENDLY HOSPITAL INITIATIVE

RECOMMENDED ACTIONS:

- Assess the status of the baby-friendly hospital initiative (BFHI) in the country
  - 1.1 Existence of coordinators and/or working groups
  - 1.2 Existence of targets
  - 1.3 Proportion of hospitals that achieved baby-friendly status and have maintained the practice

1. Ensure training of health workers and administrators
2. Monitor quality of certified hospitals
3. Identify areas and opportunities for breastfeeding protection. Promotion and support can be integrated into hospital and health facilities services
4. Promote the concept to other hospitals, while sustaining levels in certified hospitals
5. Carry out further assessments, reassessments, and monitoring
6. Ensure that BFHI is a part of all hospital standards
7. Identify opportunities, current initiatives and health system development standards and/or quality of care standards where breastfeeding protection, promotion and support can be streamlined and sustained

5.1.2 IMPROVING THE SKILLS OF HEALTH PROVIDERS IN FIRST AND REFERRAL LEVEL HEALTH FACILITIES TO GIVE ADEQUATE FEEDING SUPPORT

RECOMMENDED ACTIONS:

1. Assess levels of skills and knowledge, and needs for improvement
2. Assess training carried out, such as by type of course
3. Assess, review and improve quality of pre-service training
   - 3.1 Scope and coverage of the training program
   - 3.2 Competencies, topics, activities, etc.
   - 3.3 Number and type of staff trained
   - 3.4 Distribution of trained staff geographically and by health facility
   - 3.5 Quality of training
4. Assess what training needs remain
5. Analyze how to meet needs given resource constraints
6. Update/upgrade the curricula and materials for pre-service education
7. Train staff
8. Develop and use quality job aids
9. Provide skills-oriented supervision

Infant and young child feeding is a neglected area in the basic training of health professionals worldwide; it is therefore necessary to invest in improving one's knowledge and skills through in-service training and pre-service education. Perhaps the most feasible and sustainable way to address the current knowledge gap is to include essential competencies in the basic curriculum of medical and para-medical professionals. Nevertheless, while

such efforts progress, it is imperative that the skills of health workers who are already in service be increased through action-oriented, skills-focused training.

5.2 Integration of MIYCN (IYCF) into the CMAM programme[73]

Research indicates that for small infants growth faltering starts as early as three months of age. The key window of opportunity for intervention is between pregnancy and two years of age. Therefore, improving IYCF practices and linkages with CMAM activities is essential in combating malnutrition.[73]

In the Dadaab refugee camp in north eastern Kenya, almost 90% of all children in therapeutic feeding were under 24 months and 10-20% were under 6 months. Research also shows that breastfeeding and optimal complementary feeding could reduce malnutrition by 19%, saving many lives.[73]

Linking IYCF support with CMAM is possible. However, staff working at nutrition centres and health facilities offering CMAM services need additional training to enhance their effectiveness.

The following are the recommended contact points where MIYCN could be integrated into CMAM programme (for all children 0 to 59 months). The following services should be considered as part of the job description of the health and nutrition workers, Boma Health teams, and other volunteers engaged in MIYCN and CMAM activities:

1. SC/OTP/TSFP/IFP/BSFP during admission, discharge, and follow-up should ensure that good IYCF practices are re-established and age appropriate feeding practices are being maintained. An important element of this is to ensure that appropriate, high quality, and locally available foods are being used.[78]
2. Community outreach can be implemented, with a brief rapid assessment to establish any child-specific IYCF issues.
3. Follow up on SAM/MAM cases with MIYCN counseling services, during both treatment and upon discharge.
4. MIYCN sessions/counseling during MUAC screening(s) sessions, both in the community and health facilities.

Infant and young child feeding is a neglected area in the basic training of health professionals worldwide; it is therefore necessary to invest in improving one's knowledge and skills through in-service training and pre-service education.

5.2.1 INTEGRATION OF CMAM WITH IYCF TRAINING MODULES[79]

The 'Integration of IYCF Support into CMAM' content was developed in an Emergency Nutrition Network (ENN) led initiative, as a member of the IFE Core Group, funded by the Inter-Agency Standing Committee (IASC) nutrition cluster.

GENERAL OBJECTIVES OF FACILITATOR'S GUIDE:
Integrating IYCF support into CMAM. This training is intended to accomplish the following:

1. Identify gaps between the actual and recommended IYCF practices in the CMAM communities.
2. Raise awareness among CMAM personnel on the importance of recommended breastfeeding and complementary feeding practices for children of 0 – 23 months.
3. Sensitize CMAM personnel about the key contact points within CMAM for meeting with mothers/caregivers to discuss and support recommended IYCF practices.
4. Build the capacity of CMAM personnel to enable them to help mothers and caregivers optimally feed their infants and children aged 0 - 23 months.
5. Enhance the counselling skills of CMAM personnel to support mothers and caregivers. Skills include:
    - Listening and learning - building confidence and giving support (practical help) to the mother/caregiver
    - IYCF 3-Steps of counselling (see section 3.2.9) 'reaching-an-agreement' with mother/caregiver.

STRATEGIC ACTION 6

Improve intersectoral integration (food security and livelihood, WASH, protection, education, and shelter)

In previous sections and actions, several guidelines and recommendations that encourage integration with other sectors have already been provided (health and reproductive health, surveillance and Information System, Food safety and standards). The following sections will provide recommendations related to integration with a) WASH b) education and c) protection.

6.1 Integration of MIYCN and WASH[80]

Rationales for integrating WASH and MIYCN programs are to enhance the outcomes of MIYCN programs, and to build more comprehensive programs to improve health.

Some key implication areas for integrated programming of WASH into MIYCN programs could include:

1. Identify overlapping geographic work areas. Both WASH and MIYCN programs typically focus on the most vulnerable populations, including locations with high poverty rates, households without sanitation facilities, regions with high percentages of stunting, etc.
2. Recognize interventions that affect both WASH and nutrition. Both WASH and MIYCN programs require social and behavioral change to achieve impact. For example, behavior change programs such as "healthy kitchens" target hygiene and MIYCN simultaneously. WASH interventions should also be included in MIYCN programs and in the emergency response. To inform program design, all programs should conduct gender analyses to identify gender dynamics, roles, and how they impact WASH and MIYCN behaviors for men, women, and children. Programs that target the community, households, or health facilities should prioritize recruitment and participation from men and women, with appropriate messages for each audience. Although hygiene can be improved even in the absence of expensive infrastructure investments, one of the challenges for integrated programming is the requirement of adequate equipment and infrastructure for comprehensive and successful WASH interventions.

An illustrative list of programmatic ideas to address WASH in MIYCN programs follows:

1. **Engaging government.** Different levels of government (national, state, county, payam, and boma) should be included to strengthen their capacity and ownership of the integration process. Advocacy and lobbying will guarantee buy-in from relevant units within the ministries (including health, agriculture, public service, education). Partners working in the sectors of WASH and MIYCN can work together with the ministries to develop multifaceted behavioral change strategies, and standardized messaging and materials, so that consistent government-approved hygiene and MIYCN messages are conveyed. Social and behavior change strategies should include a variety of approaches including counselling, training, mass communication, community organization, and others.
2. **Developing standardized messages and effective materials.** Counselling materials should be based on consumer and field research, or must use existing messages that are confirmed to be appropriate for the audience. These materials should be grounded on formative research that recognizes current practices and beliefs, as well as relevant facilitating and constraining factors. To ascertain understanding, final materials and messages are pretested with the target audience. Examples of messages that would benefit from standardization include the length of time to boil water, methods to protect water quality from source to consumption, length of time to wash hands, and what

materials to wash your hands with (soap and water, ash and water, etc.). Radio, video, and mobile phone messaging have also become popular and effective media that have changed communication methods. Commercial marketing expertise that can finely tune messages has proven to be effective in changing social norms around these deeply engrained behaviors.

3. **Encouraging coordinated field visits and cross training.** WASH and MIYCN behaviors are unique in the way that their behavioral standard is high – every person must practice these activities every day, or multiple times per day, in order to maximize the health impact. Consequently, the delivery of the social and behavior changing activities should come from multiple, reinforcing channels that target the entire household. Health workers, MIYCN and agricultural extension agents, teachers, and other community leaders should be encouraged to deliver a range of WASH, nutrition, and agriculture messages, as well as coordinated field visits to minimize disrupting the target population's existing daily activities.

4. **Joint promotion of essential WASH and MIYCN actions.** One example of joint promotion is hand washing with soap or ash and clean water before food preparation, along with complementary feeding. Hand washing with soap or ash should be incorporated into all counselling and promotional materials as "step 0" before preparing any food, feeding oneself, or feeding a child. This task involves the promotion of a designated place for hand washing with soap or ash and water located near areas where food is prepared and children are fed. Complementary feeding and encouraging a proper diet (including diverse nutritious foods in the right quantity and at the right frequency) can be promoted, together with hand washing. Include demonstrations to reinforce these behavioral practices, and emphasize safe drinking water with dietary diversity.

5. **Negotiating improved practices.** Health workers, MIYCN and agricultural extension agents can be taught to work with mothers and others to assess the current WASH practices in a family, then reinforce existing positive actions, and help identify a few actions to be improved. These new "small doable actions" are feasible steps towards reaching ideal WASH and complementary feeding practices. The counselor then "negotiates" one or two "small doable actions" with the mother, which are then followed up on and reinforced positively in subsequent visits.

6. **Food preparation demonstrations.** Demonstrations of food preparation for MIYCN provide a tangible opportunity to link and improve MIYCN and WASH. Project staff should ensure that the demonstration sites for food preparation have safe drinking water stored in clean containers, with a narrow mouth and a lid (e.g., jerry cans or other containers that reduce the potential for contamination through contact with the water), as well as hand washing stations complete with water and soap or ash. Demonstrations should always begin with the staff washing their hands in front of the participants. Messages during a food preparation demonstration might include: keep foods hot, maintain good hygiene during preparation, wash knives and cutting boards after contact with raw meat, and store dishes off the ground.

7. **Promoting enabling technologies with a focus on behavior change.** Hand washing stations that have water and soap or ash provide a visible cue to wash your hands when leaving the latrine, before preparing food, or eating. Rather than a single pre-determined design for latrines/toilets, many combinations of pit, slab, and superstructure provide hygienic sanitation. Similarly, so does offering choices that meet household needs and budgets. Water storage containers also vary, but the key message is to prevent contamination of the stored water by using a small neck on the container, a tap, and/or lid, and a clean ladle to extract water from the container.

6.1.1 INTEGRATION WITH WASH AND MIYCN ASSESSMENTS

The following list of questions is provided for the staff developing the MIYCN assessments. The questions are illustrative. However, it is important to include some questions from each category listed below, as each is associated with a fecal-oral transmission route.

WASH & MIYCN Assessments

Household drinking water

1. Where do you get your drinking water?
2. Do you treat your drinking water? If yes, how?
3. Where do you store treated drinking water? How do you maintain your container? Visually inspect whether it's clean and closed. (Do people put dirty hands or cups into the container?)
4. How do you serve/give people water to drink (pour from jug, dipper, etc.)?

Sanitation

1. Do you have a latrine? Can you show it to me?
2. Who uses the latrine?
3. Does anyone in your house need help to use the latrine?
4. Do your children use the latrine? If not, where do they defecate?
5. How do you dispose of your infant's and/or children's feces?

Hand washing

1. Where do you wash your hands? Can you show me?
2. Do you use soap or ash to wash your hands? If not, what do you use?
3. When do you wash your hands?
4. How do you wash your hands?

Food hygiene

1. Where do you prepare food for cooking?
2. Do you wash the food preparation surfaces? When do you wash them? How do you wash them?
3. Do you wash your food before cooking? What are the foods you wash before cooking?
4. How and where do you store (cooked/prepared) food? For how long?
5. Do you reheat (warm, boil) stored food?
6. How do you wash and store your dishes and cooking utensils?

6.2 Integrating MIYCN with the educational sector

In 2009, the World Health Organization issued "The *Model Chapter on Infant and Young Child Feeding", which is* intended to be used in the basic training of health professionals. It describes the essential knowledge and basic skills that every health professional that works with mothers and young children should master. Teachers and students can use the Model Chapter as a complement to textbooks, or as a concise reference manual.[81] The model chapter can be useful when engaging universities and colleges because it proposes a set of sessions and topics to be included in the curriculum of health workers (doctors, nurses, and midwives). The full model chapter is available in Annex 6.

6.3 Integrating early childhood development (ECD) activities into nutrition programmes in emergencies. Why, what and how[82]

Maternal and child health programs should include health, nutrition, stimulation, and protection. This integrated approach is the best way to ensure good child growth and development.

UNICEF and WHO issued a guidance note[77] explaining why nutrition programmes need to include early childhood development (ECD) activities to maximize the child's development. It provides practical suggestions with the simple steps necessary to create integrated programmes in situations of famine or food insecurity. Additionally, it gives examples of HOW such integrated programmes have been established in other situations.

Below are some practical suggestions on how to integrate early childhood development activities into these various nutrition programmes. For the full description, and to reference training manuals and materials, refer to the guidance note in Annex 5:

1. Integrate key facts on the impact of early childhood development activities, and simple messages on how to do them, into ALL nutritional materials
2. One-to-one counseling** while weighing/assessing child and handing out supplements
3. Interactive health messaging with mothers/caregivers queuing to receive supplements
4. Mother/caregiver and baby groups at OTP and SFP sites
5. Home visits

Maternal and child health programs should include health, nutrition, stimulation, and protection. This integrated approach is the best way to ensure good child growth and development.

STRATEGIC ACTION 7

Support capacity building and service strengthening

7.1 Competency framework for maternal, infant and young child nutrition

It is recommended that training programs and packages aim to ensure that the right competencies are in place. The following table (Table 22) provides an essential set of basic competencies, that key targets have to acquire, in order to support the strategy's implementation.

TABLE 22 Competency package for maternal, infant and young child nutrition

#	SKILLS AND KNOWLEDGE REQUIRED	HHPS	CHWS	HWS	MOTHERS	FATHERS	COMMUNITY
1	Conduct MUAC screening for pregnant women, lactating mothers and children 6 to 59 months	✔	✔	✔	✔		
2	Referral of identified SAM and MAM cases	✔	✔	✔	✔		
3	Monitor and follow-up of SAM and MAM cases for compliance to management plan (both at facility and community level)	✔	✔	✔			
4	Identify women, infants, and young children who are nutritionally at-risk (danger signs)	✔	✔	✔	✔	✔	✔
5	Nutrition counselling for pregnant and lactating mothers	✔	✔	✔	✔		
6	IYCF Counselling	✔	✔	✔	✔		
7	Orient and mobilize volunteers/mother support groups on MIYCN	✔	✔	✔	✔	✔	✔
8	Nutrition education through weekly group session/mother's class/community sessions	✔	✔	✔	✔	✔	✔
9	Assist the MIYCN point person on the day-to-day operations in the mother-baby friendly space. (where applicable)	✔	✔	✔	✔	✔	✔
10	Monitor compliance with the International Code	✔	✔	✔	✔	✔	✔
11	Help collect data and information	✔	✔	✔			
12	Report any MIYCN issues that needs to be addressed	✔	✔	✔	✔	✔	✔
13	Vitamin A supplementation	✔	✔	✔			
14	Iron-folic acid supplementation	✔	✔	✔			
15	Administration of MNP and/or other relevant supplementation to children 6-23 months	✔	✔	✔	✔		
16	Assist mother/caregivers with appropriate complementary feeding practices for children 6-23 months	✔	✔	✔	✔	✔	
17	Support early initiation of breastfeeding		✔	✔	✔	✔	✔
18	Address breastfeeding complications and breastfeeding contraindications (medical conditions, inverted nipples, engorgement, abscess)	✔	✔	✔			
19	Support the care of the non-breastfed child	✔	✔	✔	✔	✔	✔
20	Support the feeding of pre-term babies (low birth/ less than 32 weeks)		✔	✔	✔		
21	Counsel on the feeding of special cases like HIV positive, TB, Kala Azar, … etc. mothers/infants and young children	✔ *	✔	✔			

*Referral to health facilities

7.2 Basic training components by level of responsibility

MIYCN (IYCF) related trainings should focus on developing the necessary competencies of the different health and nutrition workers and volunteers. Table 23, provides an essential set of training objectives, topics, and potential references that should be followed when developing and/or improving the MIYCN (IYCF) training packages.

Formal training programs, with demonstration and practicum sessions, should prioritize the following:

1. Community health and nutrition volunteers (CHNVs) (recruited at field level as volunteers)
2. Community health workers (CHWs) (community midwives and nurses)
3. Health workers (HWs) (doctors, nurses, and midwives)

TABLE 23 Training components according to level of intervention

OBJECTIVE (S)	TOPICS	REFERENCE	HHPS	CHWS	HWS
Understand the role and responsibility of a health and nutrition volunteer			✔	✔	✔
Enhance communication, facilitation and training skills		Power Point on MIYCN national strategies highlighting the key aspects	✔	✔	✔
Describe the national MIYCN key strategies	The basics of infant and young child feeding	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package	✔	✔	✔
State the current recommendations for feeding pregnant, lactating mothers and children from 0-23 months of age	The basics of infant and young child feeding local messages	Locally developed messages	✔	✔	✔
Share the key MIYCN messages to their clients/beneficiaries	Practical interventions to support MIYCN practices	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package	✔	✔	✔
Demonstrate the appropriate use of the listening and learning skills	Practical interventions to support MIYCN practices	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package	✔	✔	✔
Recognize signs of good/bad attachment and positioning (breastfeeding)	Practical interventions to support MIYCN practices	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package	✔	✔	✔
Support early initiation of breastfeeding	Skin-to-skin contact (theory and technique)	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package	✔	✔	✔
Address breastfeeding complications and true breastfeeding contraindications (medical conditions)	Breastfeeding complications (inverted nipples, breast infections, etc.) Recognizing real breastfeeding contraindications versus fallacies and misinformation (BF and TB, BF and Hep B, etc.)	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package WHO, Breastfeeding contraindications guide, 2007		✔	✔

TABLE 23 Training components according to level of intervention (continued)

OBJECTIVE (S)	TOPICS	REFERENCE	HHPS	CHWS	HWS
Support the care of the non-breastfed child	Assess reasons and conditions Verify the inability/non possibility for the child to be breastfed Refer and assist toward feasible options	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package UNHCR Guidance on provision of breast milk substitutes	✔	✔	✔
Support the feeding of pre-term babies	Assist the mother in providing the appropriate feeding support	WHO guidelines for feeding the preterm newborn		✔	✔
Support HIV positive mothers	Assist the mother in providing the appropriate feeding support according to the context and situation	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package UNHCR Guidance on provision of breast milk substitutes WHO Guidelines on HIV and Infant Feeding, 2016 WHO/MOH CONSOLIDATED CLINICAL GUIDELINES ON USE OF ANTIRETROVIRAL DRUGS FOR HIV TREATMENT AND PREVENTION 2014 for South Sudan WHO NUT South Sudan Module on HIF and Infant Feeding		✔	✔
Familiar with the use of the IYCF counseling cards as a tool for counseling mothers and caregivers. Using the cards to orient peer counselors on key messages of IYCF concepts and practices	Enumerate the steps in mobilizing community support for MIYCN	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package	✔	✔	✔
Discuss the coverage and violations of the International Code of Marketing	Practical interventions to support MIYCN practices	WHO/UNICEF IYCF Counselling Training Manual UNICEF Community Based IYCF Counselling Training Package. Code of marketing BMS	✔	✔	✔
Know how to use MUAC tapes and take MUAC measurements for both women and children	Nutritional assessment	CMAM National Training Manual and guidelines	✔	✔	✔
Understand how to check bilateral pitting oedema in children	Common forms of malnutrition	CMAM National Training Manual and guidelines	✔	✔	✔
Understand how to classify and record MUAC	Methods of nutritional assessment	CMAM National Training Manual and guidelines	✔	✔	✔
Know where and when to refer malnourished children (MAM, SAM)	Referrals across all CMAM programs and locations of the existing CMAM sites	CMAM National Training Manual and guidelines	✔	✔	✔
Recommend the appropriate treatment for SAM/MAM cases and malnourished PLWs		CMAM National Training Manual and guidelines		✔	✔
Demonstrate skills in administering micronutrient supplements (other complementary food supplements)	Common micronutrient deficiencies Effectiveness of micronutrient supplementation Micronutrient supplementation during emergency situations	MIYCN guidelines Micronutrient Powder Toolkit http://www.hftag.org/resources/toolkit/	✔	✔	✔

TABLE 23 Training components according to level of intervention (continued)

OBJECTIVE (S)	TOPICS	REFERENCE	HHPS	CHWS	HWS
Ability to provide Vitamin A to target groups (pregnant women, children 6-59 months and children with measles)	Effectiveness of micronutrient supplementation Micronutrient supplementation during emergency situations	MIYCN guidelines	✔	✔	✔
Ability to provide deworming tablets	Effectiveness of micronutrient supplementation Micronutrient supplementation during emergency situations	MIYCN guidelines	✔	✔	✔
Ability to provide iron folic acid	Effectiveness of micronutrient supplementation Micronutrient supplementation during emergency situations	MIYCN guidelines		✔	✔
Familiarize themselves with the monitoring checklist and reporting forms	Recording and reporting	MIYCN guidelines	✔	✔	✔

7.3 MIYCN services by setting

When planning for the implementation of the MIYCN strategy, it is important to determine which set of activities will be implemented in each specific setting. Table 24, herewith, provides a matrix of activities and services that are needed according to the specific setting.

TABLE 24 Matrix of interventions versus intervention setting to be supported

ACTIVITIES AND SERVICES	SETTING										
	COMMUNITY	CAMPS	TRANSIT CENTER	MOBILE H/N CLINICS	PHCU	PHCC	HOSPITALS	SCHOOLS	MEDIA	MARKET	INDUSTRY
Nutrition screening and/or growth monitoring	✔	✔	✔	✔	✔	✔	✔	✔*		✔	
Linkage with the CMAM program	✔	✔	✔	✔	✔	✔	✔			✔	
MIYCN messages dissemination	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Rapid/full assessment of infant and young child feeding practices	✔	✔	✔	✔	✔	✔	✔			✔	
Nutrition care and counselling of the pregnant and lactating mother	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
MIYCN counselling	✔	✔	✔	✔	✔	✔	✔	✔			
Mother support groups	✔	✔			✔	✔					
Mother-baby friendly spaces		✔					✔	✔			✔
Implementation of the ten steps for successful breastfeeding (BFHI)	✔					✔	✔				
Regulation of marketing of breast milk substitutes	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Control of donations of breast milk substitutes	✔	✔	✔	✔	✔	✔	✔				
Care of children in special circumstances	✔	✔	✔	✔	✔	✔	✔				
Deworming / Vitamin A supplementation	✔	✔		✔	✔	✔					
Iron-folic acid supplementation		✔	✔	✔	✔	✔					
Complementary food supplementation (MNPs, others)	✔	✔	✔**								

*Only for preschoolers ** staying for more than 2 weeks.*

7.4 MIYCN service package mix

7.4.1 PACKAGE OF MIYCN SERVICES BY INDIVIDUAL SETTING AND LEVEL OF ACCESS TO BENEFICIARIES

The South Sudan context varies, with many cultural differences, situations, geographies, camps for IDPs and Refugees, and pockets of areas with security limitations. When planning the implementation of MIYCN related activities, all of these factors must be considered. All stakeholders will have to review their capacity to provide the beneficiary population with quality services. In any planning and strategy development process, the concept of access to the affected populations is relevant and needs consideration. The following is a set of minimum packages that needs to be offered, according to the level of access to the target population (Table 25).

Community: Populations in the Boma, Villages are the main targets of this set of activities. Implementing MIYCN at the Boma (Village level) would mean the implementation and support of most, if not all, of the activities listed. In situations where the access to the boma (villages) is limited/ intermittent due to geographical reasons and/or security concerns, then it is recommended that at least the essential recommended set of activities be in place. When there is no access to populations, then there are obvious constraints. While working to resolve such constraints will be the priority, it will still be important to guarantee that a very minimum set of activities are supported, even if remotely.

TABLE 25 Community activities and services according to level of access to the beneficiary population

SETTINGS AND ACTIVITIES/SERVICE(S)	ACCESS LEVEL		
	FULL ACCESS	LIMITED/ INTERMITTENT ACCESS	NO ACCESS
COMMUNITY:			
1. Nutrition screening, growth monitoring, and referral	✔	✔	
2. Rapid and full assessment of MIYCN (IYCF) practices	✔	✔	
3. MIYCN message dissemination	✔	✔	✔
4. Nutrition counselling for pregnant and lactating mothers	✔		
5. MIYCN (IYCF) one-on-one counselling for mothers with children 0-23 months	✔		
6. MIYCN Mother support groups	✔		
7. Vitamin A supplementation (pregnant women and children)	✔	✔	
8. Iron folic acid supplementation for pregnant women	✔	✔	
9. Complementary food supplementation	✔	✔	✔
10. Care of children in special circumstances	✔		
11. Implementation of the International Code of Marketing of Breast-milk Substitutes	✔	✔	
12. Support the non-breastfed child	✔		

Camps for IDPs and refugees: IDP and refugee camps are very critical settings in which the provision of basic MIYCN services must be guaranteed. A full set of activities and services to be set in place is hereby recommended. In situations where the access to the camps is limited/intermittent due to geographical reasons and/or security concerns, then it is recommended to make certain that at least the essential recommended set of activities is in place. No access to the camps means obvious constraints. While resolving such constraints will be a priority, it is still important to ensure that the minimum set of activities are still supported, even if it's done remotely and in coordination with the existing camp management structures. (Table 26)

TABLE 26 Camp activities and services according to level of access to the beneficiary populations

SETTINGS AND ACTIVITIES/SERVICES(S)	ACCESS LEVEL		
	FULL ACCESS	LIMITED/ INTERMITTENT ACCESS	NO ACCESS
CAMPS (IDPS AND REFUGEES)			
1. Nutrition screening, growth monitoring, and referral	✔	✔	
2. Rapid and full IYCF assessment	✔	✔	
3. MIYCN message dissemination	✔	✔	✔
4. Setting up mother-baby friendly spaces	✔	✔	
5. IYCF one-on-one counselling	✔		
6. Vitamin A supplementation (children 6 to 59 months)	✔	✔	
7. Iron folic acid supplementation for pregnant women	✔	✔	
8. Complementary foods supplementation	✔	✔	
9. Advocacy and promotion of camp managers and local groups	✔	✔	✔
10. Control of BMS donations	✔	✔	✔
11. Implementation of the International Code of Marketing of Breast-milk Substitutes	✔	✔	
12. Care of children in special circumstances	✔		

Transit centers/areas: Transit centers/areas are defined as temporary stations/places where IDPs/refugees are requested to transit for registration, screening, initial support like feeding, clothing and medications. It is recommended that besides having potential health services (check-ups), there be an established unit/corner focusing on MIYCN related services. When possible and where there is full access to the target populations, it is recommended that the following set of activities and services be supported. (Table 27)

Mobile health and nutrition clinic(s): Mobile Health and Nutrition Clinics are extensions of the existing health and nutrition system. They aim to reach the most underserved populations with basic survival service. When the mobile clinic is regularly visiting a certain area/population (full access), it's recommended that a full package of services be offered and monitored. (Table 28)

Primary health care unit (PHCU): The PHCU provides basic primary health care services (immunization, nutrition screening, growth monitoring, counselling, and health education) and also manages minor cases. In general, it functions as a referral unit to the next level of the health care. In cases where the PHCU are able to access their beneficiary populations and/or are

TABLE 27 Transit centers activities and services according to level of access to beneficiary population

SETTINGS AND ACTIVITIES/SERVICES(S)	ACCESS LEVEL		
	FULL ACCESS	LIMITED/ INTERMITTENT ACCESS	NO ACCESS
TRANSIT CENTERS/AREAS			
1. Nutrition screening, growth monitoring, and referral	✔		
2. MIYCN message dissemination	✔	✔	✔
3. Nutrition counselling to pregnant and lactating mothers	✔	✔	
4. MIYCN (IYCF) one-on-one counselling	✔		
5. Temporary care of children in special circumstances	✔	✔	
6. Vitamin A (6 to 59 Months)	✔	✔	
7. Deworming (12 to 59 months)	✔	✔	

TABLE 28 Mobile H/N clinics activities and services according to the level of access to the beneficiary population

SETTINGS AND ACTIVITIES/SERVICE(S)	ACCESS LEVEL		
	FULL ACCESS	LIMITED/ INTERMITTENT ACCESS	NO ACCESS
MOBILE HEALTH AND NUTRITION CLINIC (S)			
1. Nutrition screening, growth monitoring, and referral	✔	✔	
2. MIYCN message dissemination	✔	✔	✔
3. Nutrition counselling to pregnant and lactating mothers	✔		
4. MIYCN (IYCF) one-on-one counselling	✔		
5. Temporary care of children in special circumstances	✔		
6. Vitamin A	✔	✔	
7. Deworming	✔	✔	

operating fully, it is recommended that a full package of MIYCN services be set in place. When the operations are intermittent/limited due several issues (staff, security, others), then it is recommended that a limited but relevant set of activities and services be carried out. (Table 29)

Primary health care center (PHCC): The PHCC provides basic primary health care services (immunization, nutrition screening, growth monitoring, counselling, and health education). At the same time, it offers antenatal services and assists in deliveries. The center receives referral from the lower unit for cases that require further management and care. It has a laboratory and can admit patients. (Table 30)

Hospitals: Deal with major cases, surgeries, assist in deliveries (normal and with complications) outpatient services are also provided. Some of the hospitals also provide stabilization centers and allow general admissions. (Table 31)

TABLE 29 Primary health care unit activities and services according to the level of access to beneficiary population

SETTINGS AND ACTIVITIES/SERVICE(S)	ACCESS LEVEL		
	FULL ACCESS	LIMITED/ INTERMITTENT ACCESS	NO ACCESS
PRIMARY HEALTH CARE UNIT (PHCUS)			
1. Nutrition screening, growth monitoring, and referral	✔	✔	
2. MIYCN message dissemination	✔	✔	✔
3. Nutrition counselling to pregnant and lactating mothers	✔	✔	
4. MIYCN (IYCF) one-on-one counselling	✔	✔	
5. Deworming administration/Vitamin A supplementation	✔	✔	
6. Provision of iron folic acid (IFA)	✔	✔	
7. Control of BMS donations	✔	✔	✔*
8. Implementation of the International Code of Marketing of Breast-milk Substitutes	✔	✔	
9. Care of children in special circumstances	✔	✔	

** Only when formal donation.*

TABLE 30: Primary health care center activities and services according to the level of access to beneficiary population

SETTING AND ACTIVITIES/SERVICE(S)	ACCESS LEVEL		
	FULL ACCESS	LIMITED/ INTERMITTENT ACCESS	NO ACCESS
PRIMARY HEALTH CARE CENTER (PHCCS)			
1. Implementation of the essential newborn care package	✔	✔	
2. MIYCN message dissemination	✔	✔	✔
3. Compliance and practice of the ten steps for successful breastfeeding	✔	✔	
4. Nutrition screening, growth monitoring, and referral	✔	✔	
5. Nutrition counselling to pregnant and lactating mothers	✔	✔	
6. MIYCN (IYCF) one-on-one counselling	✔	✔	
7. Deworming administration & Vitamin A supplementation	✔	✔	
8. Provision of IFA supplementation	✔	✔	
9. Control of BMS donations	✔	✔	✔*
10. Implementation of the International Code of Marketing of Breast-milk Substitutes	✔	✔	
11. Care of children in special circumstances	✔	✔	

** Only when formal donation.*

TABLE 31 Hospitals activities and services according to the level of access to the beneficiary population

SETTING AND ACTIVITIES/SERVICE(S)	ACCESS LEVEL		
	FULL ACCESS	LIMITED/ INTERMITTENT ACCESS	NO ACCESS
HOSPITALS			
1. Implementation of the essential newborn care package	✔	✔	
2. Compliance to the ten steps for successful breastfeeding	✔	✔	
3. MIYCN message dissemination	✔	✔	✔
4. Nutrition counselling to pregnant and lactating mothers during ANC and post-partum visits	✔	✔	
5. Growth monitoring and nutrition screening and referral	✔	✔	
6. Control of BMS donations	✔	✔	✔*
7. Implementation of the International Code of Marketing of Breast-milk Substitutes	✔	✔	
8. Care of children in special circumstances	✔	✔	

** When formal donation*

STRATEGIC ACTION 8

Initiate advocacy and social behavioural change interventions

UNICEF defines advocacy as *"a continuous and adaptive process of gathering, organizing and formulating information into argument, which is then communicated to policy-makers, advocates in order to influence policy-makers, political and social leaders, to create an enabling policy and legislative environment that creates and sustains social transformation…. works to allocate resources equitably and link the voices of children and women and men from marginalized groups to upstream policy dialogue*".[83]

Advocacy strategies do not need to be a long document. Four to eight pages, including all relevant information, is a good length. To facilitate sharing amongst colleagues and partners, it is important to use clear and understandable language. The following template can be a useful guide in the development of an advocacy strategy.[84] (Table 32)

The following principles should be followed when developing the national advocacy and SBCC strategy(s):

Who are the potential target audiences?

1. Potential donors
2. Key national and international stakeholders
3. Health authorities, healthcare workers, community health workers, HHPs, and other volunteers, (boma health teams)
4. Other government sectors
5. All humanitarian community actors, especially local volunteer groups and NGOs
6. Community leader(s), faith-based leaders, local organizers,

TABLE 32 Template for advocacy strategy

ADVOCACY STRATEGY TEMPLATE

Title of the strategy: [reference to country and/or issue] *[e.g. Maternal Infant and Young Child Feeding in South Sudan]*

Date:

Expected duration of the strategy:

1. "Overall goal"
2. "Change objectives" (communication)
3. Description of the problem
4. Target Audiences
5. Supporters and partners
6. Potential challenges, risks, and mitigation strategies
7. Key advocacy messages
8. Available evidence [reference to existing reports that can be used to support advocacy messages]
9. Opportunities for advocacy
10. Key activities
11. Indicators of progress (to support monitoring, evaluation, and learning)

mobilisers, and other influencers

7. Civil society groups (women groups, activists, others)
8. Learning institutions
9. Communities and families

What are the key advocacy and SBCC channels?

1. Mass media
2. Folk (traditional) media
3. Social media (ex. Facebook and Twitter)
4. Web (government, cluster and partners)
5. Meetings and briefings (ad hoc events and one-to-one meetings)
6. Key information materials (i.e. briefing notes, donor briefs, power point presentation, and others)
7. Support groups
8. Village health committees
9. Boma health committees
10. Schools
11. Group discussions/focus groups
12. Worship areas
13. Health facilities
14. Outreach sessions
15. General food distribution points
16. Public markets
17. Water collection points
18. Community dialogue
19. Special celebrations
20. World breastfeeding week celebration

What are the key advocacy materials?

1. Policy brief(s) for donors, government decision-makers (state/national)
2. Fact-sheet on MIYCN
3. Billboards
4. Radio/TV messages and talking points
5. Key messages, including the communications lines that all the organizations involved will use in a consistent manner
6. Collaterals (T—shirts, umbrellas, caps, jackets, and others)
7. Questions & answers as an internal document for reference
8. MIYCN (IYCF) national statement and press release
9. Key presentation(s) for donors, national and state decision makers
10. Flyers/leaflets/posters for community leaders, church leaders, and other local leaders
11. Infographics
12. Social media accounts
13. Telephone platforms (M-Health)
14. Peer reviewed articles (journal publications)
15. Documentary(ies)

Key Messages:

Good examples of a set of messages that can be reviewed and adapted to the South Sudanese context are the UNICEF key IYCF counseling messages,[85] and the Ministry of Health Kenya's experience with MICYN messages, when USAID supported them.[86]

MIYCN advocacy activities recommended for consideration in the plan:

1. Strengthen networking and coordination with non-nutrition sectors and programs, as well as those within the cluster by creating a cluster website with MIYCN training materials and other technical resources
2. Identify and train key influential community figures to deliver MIYCN awareness messages to the community using the (local council and media)
3. Prepare key MIYCN communication message briefs for donors, and decision makers of organizations, to be given during high-level meetings.
4. Lobby to increase funding and health center staff at all levels of the health care system, dedicate staff member(s) for MIYCN (IYCF) counseling and implementation
5. Include MIYCN (IYCF) training as part of the mandatory health care training for health staff
6. Include MIYCN in organizational policies for health staff training
7. Improve coordination between nutrition and health actors for increased MIYCN coverage
8. Advocate for a joint needs assessment through the coordination with other sectors (e.g. clusters and technical working groups)
9. By meeting with those who are involved with the proposal design, lobby for better integration at the proposal design stage
10. Prepare a brief to develop a more flexible mobile approach to programming that allows nutrition services to work with other sectors within the organization

STRATEGIC ACTION 9

Sustain research, information, monitoring and evaluation

9.1 Maternal, infant and young child nutrition indicators[87]

National nutrition surveillance and monitoring systems are currently fragmented, and only a handful of indicators are tracked systematically across countries. By providing a globally agreed upon framework, targets and indicators can serve as a benchmark for both countries, and the international community, to measure achievements, identify gaps, trigger corrective actions, and estimate global resource requirements.

All countries should report a core set of indicators to the

monitoring framework. To fit their specific epidemiological patterns and program decisions (Tables 33 and 34), an extended set of indicators will be available from which countries can use to design their national nutrition surveillance systems.

The monitoring framework needs to include four types of indicators that monitor the results' pathway towards global nutrition targets:

1. *primary outcome indicators* that measure the progress towards the six global nutrition targets;
2. *intermediate outcome indicators* that monitor how specific diseases and conditions on the causal pathways affect countries' trends towards the six targets;
3. *process indicators* that monitor programme and situation specific progress; and
4. *policy environment and capacity indicators* that measure the political economy and capacity within a country.

TABLE 33 Core set indicators

#	INDICATOR	DATA SOURCES	COLLECTION FREQUENCY	ANALYSIS	INDICATOR TYPE
	Primary outcome indicators, monitoring progress towards the six global nutrition targets				
1	Prevalence of low height-for-age in children under five years of age	DHS, MICS, NSS, NNS	3-5 years	Age, sex, u/r, region	WHA Target
2a	Prevalence of haemoglobin <11 g/dL in pregnant women	DHS, MICS, NSS, NNS	3-5 years	u/r, region	WHA Target
2b	Prevalence of haemoglobin <12 g/dL in non-pregnant women	DHS, MICS, NSS, NNS	3-5 years	u/r, region	WHA Target
3	Prevalence of infants born <2500 g	DHS, MICS, NSS, NNS	3-5 years	Sex	WHA Target
4	Prevalence of weight-for-height >2 SD in children under five years of age	DHS, NNS	3-5 years	Age, sex, u/r, region	WHA Target
5	Prevalence of exclusive breastfeeding in infants aged six months or less	DHS, MICS, NSS, NNS	3-5 years		WHA Target
6	Prevalence of low weight-for-height in children under five years or age	DHS, MICS, NSS, NNS	3-5 years	Age, sex, u/r, region	WHA Target
	Intermediate outcome indicators, monitoring conditions on the casual pathways to the targets				
7	Prevalence of diarrhoea in children under 5 years of age	DHS, MICS,			
8	Proportion of women aged 15-49 years with low body mass index (<18.5 kg/m^2)°	DHS, MICS,	3-5 years	u/r, region	Intermediate outcome indicator
9	Number of births during a given reference period to women aged 15-19 years / 1000 females aged 15-19 years	DHS, MICS,	3-5 years	u/r, region	Intermediate outcome indicator
10	Proportion of overweight and obese women 18-49 years of age (body mass index ≥ 25 kg/m^2)	DHS, MICS,	3-5 years	u/r, region	Intermediate outcome indicator
11	Proportion of overweight in school-age children and adolescents 5-18 years (BMI-for-age > + 1 SD)	School-surveys, NNS	at least every 5 years	Age, sex, u/r, region	Intermediate outcome indicator
	Process indicators, monitoring programmes and situation-specific progress				
12	Proportion of children aged 6-23 months who receive a minimum acceptable diet	DHS, MICS, NNS	3-5 years	Age, sex, u/r, region	Process indicator
13	Proportion of population using a safely managed drinking service	DHS, MICS, WHS	3-5 years	u/r, region	Process indicator
14	Proportion of population using a safely managed sanitation service	DHS, MICS, WHS	3-5 years	u/r, region	Process indicator

TABLE 33 Core set indicator (continued)

#	INDICATOR	DATA SOURCES	COLLECTION FREQUENCY	ANALYSIS	INDICATOR TYPE
15	Proportion of pregnant women receiving iron and folic acid supplements	DHS, MICS	3-5 years	u/r, region	Process indicator
16	Percentage of births in baby-friendly facilities	NutriDash, GINA	annual	u/r, region	Process indicator
17	Proportion of mothers of children 0-23 months who have received counselling, support or messages on optimal breastfeeding at least once in the last year"	NutriDash	annual	u/r, region	Process indicator
	Policy environment and capacity indicators, measuring political commitment				
18	Number of trained nutrition professionals/100,000 population	WHS	annual	region	Policy and capacity indicator
19	Number of countries with legislation/regulations fully implementing the International Code of Marketing of Breast-milk Substitutes (resolution WHA 34.22) and subsequent relevant resolutions adopted by the Health Assembly	NutriDash, GINA	annual		Policy and capacity indicator
20	Number of countries with maternity protection laws or regulations in place	NutriDash, GINA	annual		Policy and capacity indicator

°Less than 2 SD below the mean body mass index for age in women aged 15-18 years.
DHS: Demographic Health Surveys
MICS: Multiple Indicator Cluster Surveys
NSS: National Surveillance Systems
NNS: National Nutrition Surveys
WHS: World Health Statistics (http://www.who.int/_gho/publications/world_health_statistics/en/)
NutriDash: UNICEF internal data collection platform. Global report to be published early 2015.
GINA: Global database on the Implementation of Nutrition Action (http://www.who.int/nutrition/gina/en/) u/r: urban/rural

TABLE 34 Cut-off values for public health significance

INDICATOR	PREVALENCE CUT-OFF VALUES FOR PUBLIC HEALTH SIGNIFICANCE
Underweight	<10% Low prevalence 10-19% Medium Prevalence 20-29% High Prevalence >=30% Very High Prevalence
Stunting	<20% Low Prevalence 20-29% Medium Prevalence 30-39% High Prevalence >=40% Very High Prevalence
Wasting	<5% Acceptable 5-9% Poor 10-14% Serious >15% Critical >=30% Very Critical

Source: WHO. WHO Global Database for Child Growth and Malnutrition. Department of Nutrition and Health Development (NHD), Geneva, Switzerland. http://www.who.int/nutgrowthdb/en/.

INDICATOR	PREVALENCE CUT-OFF VALUES FOR PUBLIC HEALTH SIGNIFICANCE
Adult BMI < 18.5 (underweight)	5-9%: Low prevalence (warning sign, monitoring required) 10-19%: Medium Prevalence (poor situation) 20-39%: High Prevalence (serious situation) ≥ 40%: Very High Prevalence (critical situation)

Reference: WHO, 1995.
Source: WHO. WHO Global Database on Body Mass Index (BMI). Department of Nutrition for Health and Development (NHD), Geneva, Switzerland. http://who.int/bmi/index.jsp.

INDICATOR	PREVALENCE CUT-OFF VALUES FOR PUBLIC HEALTH SIGNIFICANCE
Anaemia	≤4.9: No public health problem 5.0-19.9 Mild public health problem 20.0-39.9: Moderate public health problem ≥ 40.0: Severe public health problem

Reference: WHO, 2008.
Source: WHO. Vitamin and Mineral Nutrition Information System (VMNIS). Department for Nutrition for Health and Development (NHD), Geneva, Switzerland. http://www.who.int/vmnis/en/.

TABLE 35 Association between indicators and target global targets

	INTERMEDIATE OUTCOME INDICATORS	PROCESS INDICATORS	POLICY INDICATORS
1 - Stunting	Prevalence of diarrhoea in children under 5 years of age Number of births during a given reference period to women · aged 15-19 years /1000 females · aged 15-19 years Proportion of women · aged 15-49 years with low body mass index (<18.5 kg/m2)	1. Proportion of children aged 6-23 months who receive a minimum acceptable diet 2. Proportion of population using a safely managed drinking service 3. Proportion of population using a safely managed sanitation service 4. Percentage of births in baby-friendly facilities 5. Proportion of mothers of children 0-23 months who have received counselling, support or messages on optimal breastfeeding at least once in the last year	Number of trained nutrition professionals per 100,000 population Number of countries with legislation/ regulations that fully implement the International Code of Marketing of Breast-milk Substitutes (resolution WHA34.22) and subsequent relevant resolutions adopted by the Health Assembly Number of countries with maternity protection laws or regulations in place
2 - Anaemia	Proportion of women aged 15-49 years with low body mass index (<18.5 kg/m2) Number of births during a given reference period to women aged 15-19 years /1000 females aged 15-19 years	1. Proportion of pregnant women receiving iron and folic acid supplements	Number of trained nutrition professionals per 100,000 population Number of countries with maternity protection laws or regulations in place
3 - Low birth weight	Proportion of women aged 15-49 years with low body mass index (<18.5 kg/m2)	1. Proportion of pregnant women receiving iron and folic acid supplements 2. Percentage of births in baby-friendly facilities	Number of trained nutrition professionals per 100,000 population
4 - Overweight	Proportion of overweight and obese women 18+-49 years of age (body mass index ≥25 kg/m2) Proportion of overweight in school	1. Proportion of children 6-23 months of age who received a minimum acceptable diet 2. Percentage of births in baby-friendly facilities	Number of trained nutrition professionals per 100,000 population Number of countries with legislation/ regulations that fully implement the International Code of Marketing of Breast-milk Substitutes (resolution WHA34.22) and subsequent relevant resolutions adopted by the Health Assembly

9.2 Infant and young child feeding indicators[88]

CORE INDICATORS

1. **Early initiation of breast-feeding:** Proportion of children born in the last 24 months who were put to the breast within one hour of birth.

Children born in the last 24 months who were put to the breast within one hour of birth

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Children born in the last 24 months

2. **Exclusive breastfeeding under 6 months:** Proportion of infants 0–5 months of age who are fed exclusively with breast milk.

"Exclusive breastfeeding" is defined as no other food or drink, not even water, except breast milk (including milk expressed or from a wet nurse) for 6 months of life, but allows the infant to receive ORS, drops and syrups (vitamins, minerals and medicines).

Infants 0–5 months of age who received only breast milk during the previous day

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Infants 0–5 months of age (* less than 6 months)

3. **Continued breastfeeding at 1 year:** Proportion of children between 12-15 months of age who are fed breast milk. This indicator includes breastfeeding by a wet nurse and feeding expressed breast milk.

Children 12–15 months of age who received breast milk during the previous day

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Children 12–15 months of age

4. **Introduction of solid, semi-solid or soft foods:** Proportion of infants 6–8 months of age who receive solid, semi-solid, or soft foods.

Infants 6–8 months of age who received solid, semi-solid or soft foods during the previous day

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Infants 6–8 months of age

5. **Minimum dietary diversity:** Proportion of children 6–23 months of age who receive foods from 4 or more food groups.

Children 6–23 months of age who received foods from ≥ 4 food groups during the previous day

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Children 6–23 months of age

6. **Minimum meal frequency:** Proportion of breastfed and non-breastfed children 6–23 months of age, who receive solid, semi-solid, or soft foods (but also including milk feeds for non-breastfed children) the minimum number of times or more.

This indicator is calculated from the following two fractions:

Breastfed children 6–23 months of age who received solid, semi-solid, or soft foods the minimum number of times or more during the previous day

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Breastfed children 6–23 months of age

and

Non-breastfed children 6–23 months of age who received at least 2 milk feedings and had at least the minimum dietary diversity, (not including milk feeds) and the minimum meal frequency during the previous day

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Non-breastfed children 6–23 months of age

7. Consumption of iron-rich or iron-fortified foods: Proportion of children 6–23 months of age who receive an iron-rich food or iron-fortified food that are specially designed for infants and young children, or that are fortified in the home.

Children 6–23 months of age who received an iron-rich food or a food specially designed for infants and young children and fortified with iron, or a food fortified in the home with a product that includes iron during the previous day

Children 6–23 months of age

OPTIONAL INDICATORS

8. Children ever breastfed: Proportion of children born in the last 24 months who were ever breastfed.

Children born in the last 24 months who were ever breastfed

Children born in the last 24 months

9. Continued breastfeeding at 2 years: Proportion of children 20–23 months of age who are fed breast milk.

Children 20–23 months of age who received breast milk during the previous day

Children 20–23 months of age

10. Bottle feeding: Proportion of children 0–23 months of age who are fed with a bottle.

"Bottle feeding": is defined as any liquid (including breast milk) or semi-solid food from a bottle with nipple/teat.

Children 0–23 months of age who were fed with a bottle during the previous day

Children 0–23 months of age

11. Infant formula: Proportion of infants 0–5 months of age who are being fed on infant formula

Infants 0–5 months of age who are being fed on infant formula the previous day

Infants 0–5 months of age

9.3 Template survey module(s) for survey (IYCF, DHS, MICS)[89]

The following is a globally recommended survey tool that measures MIYCN practices. It can be integrated into, or act as a module in, a national health and nutrition survey. Modules to assess the maternal nutrition and MIYCN practices are hereby recommended (Annexes 7, 8 and 9):

4.1.2 Multiple Indicator Cluster Survey (MICS)

4.1.2.1 Questionnaire for individual Women

4.1.2.2 Questionnaire for Children under five

4.1.3 Demographic and Health Survey

4.1.3.1 Questionnaire for Women

9.4 Template(s) for KAP module for IYCF practices

Several agencies have conducted KAP surveys related to nutrition, IYCF, and MIYCN related issues and concerns. The following are recommended for potential use in South Sudan's KAP surveys (Annex 10, 11, 12 and 13).

1. Concern Worldwide
2. ACF-AECDI
3. KAP SURVEY notes from Save the Children

These suggested tools are examples of modules used in other countries. It is recommended that South Sudan adapt these modules to generate one that is both responsive and sensitive to the local context.

9.5 Causal analysis[90]

A nutrition causal analysis (NCA) is a method for analyzing the multi-causality of under-nutrition. It is a starting point for improving the relevance and effectiveness of multi-sectoral nutrition security programming in a given context.

9.6 Indicators for field implementation

The MIYCN strategy proposed a set of MIYCN indicators. These indicators will need regular monitoring according to the activities and interventions being implemented in the different intervention settings. (Table 36)

Indicators collected at the health facility level can be integrated into the National Health Information System. The following indicators are recommended for inclusion:

1. # (%) of newborns that initiated breastfeeding in their first hour of life
2. # (%) of children 0 < 6 months EBF (male/female)
3. # (%) of children 6-23 months receiving micronutrient supplementation (male/female)
4. # (%) of pregnant women receiving micronutrient supplementation (IFA

9.7 Recording and reporting tool(s)

To capture key MIYCN field indicators, the following recording and reporting tool(s) are recommended:

9.5 Simple rapid assessment

9.6 Full assessment

9.7 Registry for MIYCN practices

9.8 Monthly reporting tool

Save the Children International developed a set of tool(s) to help identify women with infants and young children who are in need of additional support and assistance. This set of tools also helps in revealing the problems and challenges faced when ensuring appropriate infant and young child feeding practices.

9.7.1 SIMPLE RAPID ASSESSMENT IYCF (ANNEX 14)

See section 4.1.1 (a)

9.7.2 FULL ASSESSMENT FOR IYCF (ANNEX 15)

See section 4.1.1 (b)

9.7.3 TEMPLATE REGISTRY FOR MIYCN SERVICES (ANNEX 16)

It is suggested that a basic registry be used in every health facility and community based programme. The registry will record all the MIYCN services provided by a health facility (PHCU, PHCC, Hospitals in particular) for the pregnant and lactating mothers, and children aged 0-59 months, during a specific reference period in the geographic area served.

The registry focused on nutrition interventions offered will need to be harmonized and aligned with current efforts to strengthen the health information system at the national level. The training module on the proper use of the registry is part of the overall MIYCN training package, and can be offered as stand-alone training for surveillance office and information managers.

9.7.4 TEMPLATE REPORTING TOOL FOR MIYCN SERVICES (ANNEX 17)

A reporting tool is hereby suggested. Monthly reports will be submitted from the lowest administrative unit,

to the next level(s). The monthly report provides a summary of the key services offered, and the reach to date of each of the activities and interventions offered. The monthly report focused on nutrition interventions offered will need to be harmonized and aligned with the current efforts to strengthen the Health Information System at the national level. The training module on the proper use of the reporting tool is part of the overall MIYCN training package, and can be offered as a stand-alone training for surveillance office and information managers.

9.7.5 SESSIONS WITH MOTHERS/FATHERS/ OTHERS (ANNEX 18)

A template to record the number of MIYCN sessions and support group discussions is hereby provided. This form should be compiled at the end of every session, and on a monthly basis, a summary should be reported using the monthly report form.

9.7.6 CHECKLIST FOR SUPPORTIVE SUPERVISION MIYCN[91]

Supportive supervision is an important aspect of performance management, as well as an essential feature of a quality driven MIYCN support services. The main objective of supportive supervision is to motivate and support field implementers at different levels to improve their performance, and deliver quality and timely services that contribute to the overall goal and objectives of the strategy.

The supportive supervisory visit aims to:

1. Monitor and promote quality and standardized services
2. Assess performance in relation to quantity (i.e. reach = coverage, volume, and service utilization).
3. Technical support and mentorships
4. Data review, processing and analysis
5. Address potential administrative issues and concerns

Annex 19, a proposed MIYCN supervisory guide, has been developed to cover key MIYCN areas.

TABLE 36 MIIYCN indicators for health facilities and community-based interventions

#	INDICATORS	1ST	+1 TIME
A	HEALTH FACILITY		
1	# (%) of pregnant women counselled on MIYCN (1 on 1)		
2	# (%) of caregivers of children < 6 months counselled on MIYCN (1 on 1)		
3	# (%) of caregivers of children 6-23 months counselled on MIYCN (1 on 1)		
4	# (%) of children < 6 months exclusively breastfed (male/female)		
	# (%) of women who have received a MIYCN information session (not 1 on 1)		
5	# (%) of children < 6 months with special needs receiving breast milk substitute (male/female)		
6	# (%) of children 6-23 months receiving micronutrient supplementation (MNP) (male/female)		
7	# (%) of children 6-59 months receiving supplementary foods (MNP) (male/female)		
8	# (%) of mothers of children 0-6 months receiving supplementary foods (BSFP)		
9	# (%) of pregnant women receiving micronutrient supplementation (Iron-Folic Acid)		
10	# (%) of pregnant women receiving supplementary foods (BSFP)		
11	# (%) of health workers trained on MIYCN		
12	# of support supervision visits to community volunteers on MIYCN		
B	COMMUNITY		
1	# (%) of pregnant women counselled on MIYCN		
2	# (%) of caregivers of children 0 to < 6 months counselled on MIYCN		
3	# (%) of caregivers of children 6-23 months counselled on MIYCN		
4	# (%) of caregivers of children 0-23 months attending mother support groups		
5	# of fathers/males counselled with MIYCN		
6	# of other women; grandmothers, adolescent girls, attending mother support groups		
6	# mother-to-mother support groups established		
7	# of home health promoters trained on MIYCN		
8	# of community health workers trained on MIYCN		
9	# of health and nutrition volunteers trained on MIYCN		
10	# of Mother-Baby Friendly spaces set up in POCs/IDPs/Refugee camps		

STRATEGIC ACTION 10

Mobilize resources and support

10.1 Resource mobilization and support

Budgeting each component of the national strategy and its implementation plan is the next essential step that will help the process of mobilizing resources[92], whether external or internal to a country. It is also an essential component of planning for action. Costing a plan is key to the process of prioritization of key actions, and in which sequence they need to occur. A costed nutrition plan is not an end in itself, but a tool in the process of conceptualizing, planning, and initiating action.

Having reliable data is critical for policy makers to prioritize, plan, and make informed decisions on resource allocation for nutrition in national budgets. It is through this that the government can make fundamental choices about spending for improved nutrition, which can lay the groundwork for the nation's future. Tracking nutrition relevant investments is not an end in itself, but can help to bring stakeholders together in order to increase the performance, efficiency, and effectiveness of budget allocations and spending. In addition, it can empower governments to make evidence-based decisions on nutrition spending, inform the public, and allow civil society advocates to engage in meaningful debates.[93]

Figure 5 suggests a basic set of definitions and components that will need to be considered for resource mobilization in South Sudan.

The advantages of having an RM strategy and action plan are that it:

1. Focuses RM efforts on the higher-level results of the programme framework.
2. Coordinates the approach to resource partners.
3. Avoids sending confusing messages to resource partners.
4. Works to prevent in house competition for resources.
5. Avoids "piece meals" efforts, prioritizes the need to enhance RM capacities at all levels.
6. Creates joint ownership and accountability.

FIGURE 5 Definitions and components of resource mobilization[94]

RESOURCE MOBILIZATION (RM) – has come to replace the more traditional and narrow term "fundraising", where 'resource' refers not only to funds, but also to human resources, goods and services.		
RESOURCE PARTNER – replace 'donor', where 'partner' emphasizes the value of equal partnership/strategic alliance between resource provider and programme implementer.		
EXAMPLES OF DIFFERENT TYPES OF RESOURCES		
FINANCIAL RESOURCES	**HUMAN RESOURCES**	**GOODS AND SERVICES**
Government budget	Seconded from ministries and other government bodies	Vehicles, computer equipment, office space or event venues
The wider UN system	Recruited by international agencies	Event sponsorships
Grants from international development agencies	Associate professional officers (APOs), volunteers, or interns etc.	Design and print facilities, communication facilities, airtime (radio, tv)
Loans from international financial institutions (IFIs)	Local partners	Training or advice services
Foundations or the private sector		Specialist equipment and supplies

7. Leads to planned, upfront, and pipelines resources.
8. Allocates the resources where they are most needed.
9. Leads to comprehensive programme delivery and broad impact.
10. Avoid resource duplication.

Figure 6, presents the key steps towards resource mobilization in South Sudan that will be applied for the implementation of the MIYCN strategy.

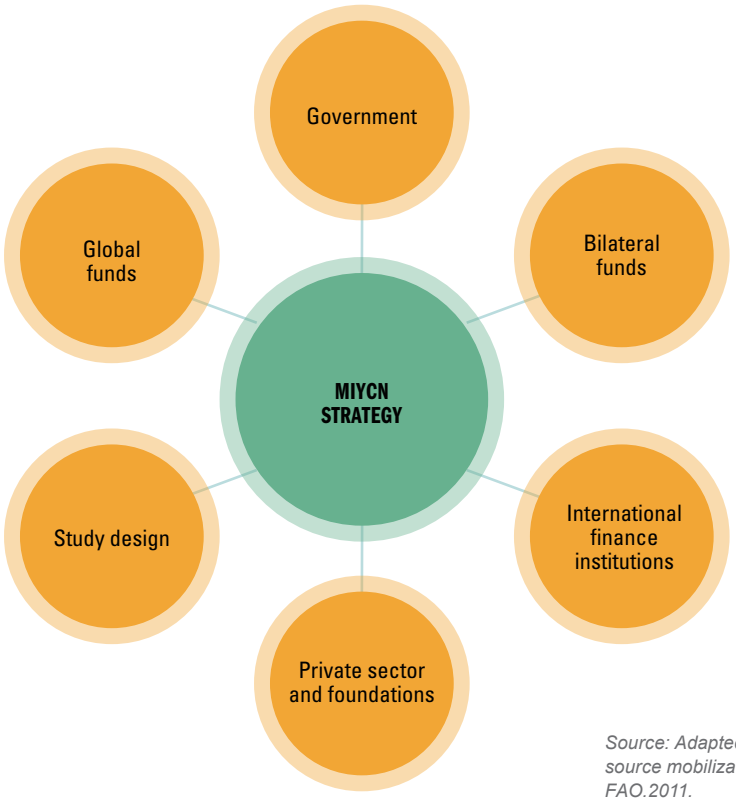
Figure 7, present a diagram that shows the possible sources of funding for the implementation and sustainability of the MIYCN strategy at the national level.

FIGURE 6 Resource mobilization steps can be applied to the MIYCN strategy for South Sudan

RESOURCE MOBILIZATION (RM) PRACTICAL STEPS				
IDENTIFY	**ENGAGE**	**NEGOTIATE**	**MANAGE AND REPORT**	**COMMUNICATE RESULTS**
Map resource partner interests	Resource partner meeting	Reach an agreement on joint interests	Acknowledge resource partner contribution	Disseminate lessons learned
Identify comparative advantage and proven track record in South Sudan	Develop advocacy tools	Agree on the conditions of partnerships	Ensure efficient and effective operations	Develop advocacy communication tools
Verify that resource partner is an acceptable source	Deliver presentations to partners	Develop and formalize legal agreement	Regularly report on partner's contribution	Advocate for continued support
	Foster individual contacts			

**COMMUNICATE RESULTS: radio talk shows, celebration of world breastfeeding week, TV programs, display of IEC materials in health and nutrition facilities.*

FIGURE 7 Potential funding sources at the country level



Source: Adapted from "FAO.A guide to resource mobilization. Promoting partnership with FAO.2011.

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REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025

Objectives	Outcomes	Baseline (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)	2021 (%)	2022 (%)	2023 (%)	2024 (%)	2025 (%)	Means of Verification	Assumptions	Lead Agency
GOAL: To strengthen the health status of the population by improving the health and nutritional status of mothers, infants, and young children and their wellbeing through an effective delivery of the basic package of health and nutrition services (BPHNS).	Early Initiation of Breastfeeding	48	51	54	57	60	63	66	69	72	75			
	Exclusive Breastfeeding (from 0 to less than 6 months)	45.0	47.8	50.6	53.3	56.1	58.9	61.7	64.4	67.2	70.0	1. National Health and Nutrition Survey 2. SMART surveys 3. KAP surveys	1. Country stability allows for the full implementation 2. Resources (financial and human) are available to meet requirements 3. MIYCN remains a Government priority	1. MOH and partner agencies
	Continued breastfeeding up to 2 years of age	38.0	40.4	42.9	45.3	47.8	50.2	52.7	55.1	57.6	60.0			
	Timely introduction of complementary foods	21.0	24.2	27.4	30.7	33.9	37.1	40.3	43.6	46.8	50.0			
	Minimum Dietary Diversity (6 to 23 months)	18.0	20.4	22.9	25.3	27.8	30.2	32.7	35.1	37.6	40.0			
MAIN OBJECTIVE: To reduce the burden of malnutrition in pregnant and lactating mothers by 20%, and stunting in children under five years of age by 10% by year 2025	Low Birth Weight	5.0	4.7	4.3	4.0	3.7	3.3	3.0	2.7	2.3	2.0			
	Childhood Stunting	31.0	29.9	28.8	27.7	26.6	25.4	24.3	23.2	22.1	21.0			
	Childhood wasting	23.0	21.9	20.8	19.7	18.6	17.4	16.3	15.2	14.1	13.0			
	Childhood obesity	-												
	Anemia in women of reproductive age	-												
	Body Mass Index for women	-												
Objective 1: To support policies, regulations, actions and interventions aiming at creating a coherent legal and policy framework for maternal, infant and young child nutrition	**Indicators**	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 1: Policies to protect, promote, and support optimal maternal, infant and young child nutrition.	All MICYN policies, regulations, and legislation are endorsed and implemented									1		Validated copy of the policies, regulations, and legislation documents	Available donor resources, government prioritization, and support of the legislative body	MoH
Output 1.1: National Nutrition Policy (NNP) and strategy	Endorse the National Nutrition Policy		1	1								Validated copy of the NNP and strategy		MoH
Output 1.2: Adopt the International Code of Marketing of Breast-Milk Substitutes and Related Relevant WHA Resolutions ("The Code")	"The Code" is fully enacted in to law			1	1	1						Validated copy of "The Code"		MoH
Output 1.3: Adopt the ILO Convention on Maternity Protection Convention	The ILO convention is fully enacted into law				1	1	1					Validated copy of the ILO convention		MoH with relevant ministries

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Output 1.4: Issue protocols and guidelines for all health facilities offering maternity services	Protocols and guidelines are issued		1				1					Validated copy of the protocols and guidelines		MoH
Output 1.5: Fortification of staple foods and oils, salt ionization	Staple foods are fortified					1	1	1	1	1		Copy of the official documentation of the biochemical tests indicating fortification of foods		MoH with relevant ministries
Output 1.6: Issuance of other food regulations and standards	Regulations/legislation enacted as per the Codex recommendations								1	1	1	Validated copy of the regulations/ legislation		MoH
Activities	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
1.1.1 Meet with high level key development partners to build a framework for the development of a national nutrition policy (NNP) and strategy	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 6 meetings /PAX: 10 + 1 int'l consultant)		1									$3,741.84		
1.1.2 All relevant partners should meet with MoH to review and comment on the progress of the NNP and strategy on a monthly basis (for the 1st year) and make changes during a 1-2 day workshop	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 10 meetings /PAX: 20 + 1 int'l consultant)		1	1								$9,236.40		
1.1.3 Finalize NNP and strategy ensuring MIYCN is one of the key components	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 10 meetings /PAX: 20 + 1 int'l consultant)			1								$9,236.40		
1.2.1 Drafting the recommendation for the legislative body to incorporates "the code" into law	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 2 meetings /PAX: 10 + 1 int'l consultant)		1									$1,847.28		
1.2.1 Submission of recommendations to the legislative body	Printing		1									$5.00		
1.2.2 Review of the proposed law to ensure that "the code" is properly embodied in the law	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 10 meetings /PAX: 20 + 1 int'l consultant)			1								$6,636.40		

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1.2.3 Run a media campaign promoting and explaining the new law with continuous media promotion	Venue, equipment, Involve PR from Government, and other agency involved. Launch of the media campaign (through radio and other sources) (T-shirts for the first 250 participants + 1 int'l consultant)				1	1	1	1	1	1	1	$3,523.64		
1.3.1 MoH to advocate for the drafting of legislation that incorporates the ILO Convention (#183) to the MoL	Venue, logistics/transportation, and focal points/consultant from UNICEF (meetings 3 PAX: 10 + 1 int'l consultant)		1									$4,120.90		
1.3.2 Review of the proposed law by UN agencies and nutrition partners to ensure that the ILO Convention (#183) is properly embodied in the law	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 3 meetings /PAX: 20 + 1 int'l consultant)		1									$4,420.00		
1.3.3 Run a media campaign promoting and explaining the new law with continuous media promotion	Involve PR from Government, and other agency involved. Launch of the media campaign (through radio spots (15,000/yr)			1	1	1	1	1	1	1	1	$120,000.00		
1.4.1 Development of health facility protocols ("10 Steps for Successful Breastfeeding") on the national and state levels	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 30 + 1 int'l consultant)		1									$4,268.20		
Hospital/PHCC level orientation of the BFHI protocols	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 135 + 1 int'l consultant)											$9,518.20		
1.4.2 Dissemination of health facility protocols ("10 Steps for Successful Breastfeeding")	Posters, documents, and other media (radio) incorporating the "10 Steps for Successful Breastfeeding" (posters and 1 pg. fact sheets for 1404 hospitals and health facilities)		1	1	1	1	1	1	1	1	1	$30,465.00		

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1.5.1 Preparing a proposal with MoA and relevant partners to develop "Regulation and Standards" guidelines for imported foods	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 30 + 1 int'l consultant)								1	1	1	$4,268.20		
1.5.2 Development of "Regulation and Standards" guidelines for imported foods	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 25 + 1 int'l consultant)									1		$4,018.20		
1.5.3 Importation of staple foods that are fortified according to the national approved regulations and standards, as well as including compliance monitoring	Trade agreements between those exporting these foods									1		$0.00		
1.6.1 Development of the document to guide the regulations to improve the nutritional quality of foods in line with "Codex Alimentarius"	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 4 meetings /PAX: 25 + 1 int'l consultant)										1	$3,394.56		
1.6.2 Finalization of the document to guide the regulations to improve the nutritional quality of foods in line with "Codex Alimentarius"	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 2 meetings /PAX: 25 + 1 int'l consultant)										1	$2,147.28		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 2: MIYCN is a key development agenda supported by all levels of Government	# of government development documents reflecting MIYCN				1							Validated copy of documents reflecting MIYCN	Available donor resources, government prioritization and validation	
Output 2.1: All government ministries relevant to nutrition are to incorporate MIYCN as one of the health and nutrition priorities into their development plan	Government development plans integrate MIYCN relevant topics				1							Validated copy of government development plans including MIYCN		
Output 2.2: Government officials to champion the MICYN strategy	Have a complete list of all key government officials that will act as the "champions"			1								Validated copy of list of "champions"		

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Activities	Inputs/resources	Target	2017	2018	2019	2020	2021	2022	2023	2024	2025	Cost		
2.1.1 Produce a development plan	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 30 + 1 int'l consultant)			1								$4,268.20		
2.1.2 Allow for stakeholders to review the plan so that they may build consensus and make changes accordingly	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 30 + 1 int'l consultant)			1								$4,268.20		
2.2.1 Hold advocacy workshops on the national, state level to allow for proper identification of the "champions". Once individuals from are identified, they should advocate for the integration and implementation of the MIYCN guidelines in their respective organization/ ministry/agency	Select motivated individuals from various relevant government departments and agencies and organizations (MEETINGS: 2 meetings /PAX: 40 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$14,825.52		
2.2.2 The "champions" to attend and meeting associated with MIYCN so that they may be involved in any updates or changes in the guidelines	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 1 meetings /PAX: 40 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$7,862.76		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 2.1: To increase MIYCN related interventions, resource allocations, and compliance with the strategy	Annual fund allocation for MICYN		1	1	1	1	1	1	1	1	1	Annual budget with fund allocations for MIYCN	Available donor resources, government prioritization and budget approval	
Output 2.1.1: MIYCN related interventions, resource allocations, and compliance with the strategy are increased	Completed/approved donors development plan						1					Validated copy of donors development plan		
Output 2.1.2: MOH Health Budget has specific amount dedicated to MIYCN	MoH contains a specific line item for MICYN dedicated funds						1					MOH Health budget		

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Activities	Inputs/resources	Target	2017	2018	2019	2020	2021	2022	2023	2024	2025	Cost		
2.1.1.1 High Level advocacy with key development partners and donors (donor's meeting)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 3 meetings /PAX: 20 + 1 int'l consultant)					1						$2,047.28		
2.1.1.2 Government to facilitate donor's meeting to launch the MIYCN strategy as a priority	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 2 meetings /PAX: 20 + 1 int'l consultant)		1				1					$3,070.92		
2.1.2.1 Orientation with the all relevant ministries (Senior Management Committee)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 2 meetings /PAX: 10 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$1,847.28		
2.1.2.2 Propose budget line for MIYCN to Ministry of Health Planning and Budget Department	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 1 meetings /PAX: 10 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$1,373.64		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 3: MIYCN related services in key health, nutrition, and non-health programme for example CMAM, HIV,WASH etc., are integrated .	Document outlining MIYCN integration into nutrition and non-nutrition programs					1						Validated copy of document outlining MIYCN integration	Available donor resources, government prioritization and involvement from other sectors	
Output 3.1: Key MIYCN guidelines are used by the different sectors	Reporting from other sectors (from their respective cluster meetings) indicate use of MIYCN guidelines					1						Report from other sectors showing use of MIYCN guidelines		
Output 3.2: the plan of the different sectors reflects relevant MIYCN intervention	MIYCN activities reflected in the other sectors' work plan					1						Other sectors' work plans		
Activities	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
3.1.1 Dissemination forums with all key sectors of the MIYCN strategy and guidelines	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 30 + 1 int'l consultant)					1						$4,268.20		

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3.1.2 Permanent participation of Nutrition focal person in relevant sectors discussions (interdepartmental meetings, clusters meeting)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings X year)		1	1	1	1	1	1	1	1	1	$4,268.20		
3.2.1 Participate in different planning and strategy development initiatives	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings x year)		1	1	1	1	1	1	1	1	1	$4,268.00		
3.2.1 Identify and develop key MIYCN messages for each relevant sector	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 3 meetings /PAX: 30 + 1 int'l consultant)		1			1		1			1	$11,683.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 4: Programming at the national and sub-national level, all international and national organizations, civil society organizations, religious groups, and others are guided by the strategy when planning interventions related to MIYCN	Number of meetings/ presentations/workshops used to inform all relevant partners		1	1	1	1	1	1	1	1	1	Copy of attendance sheets from all meetings	Available donor resources, government prioritization and involvement from all other relevant partners	
Output 4.1: The annual health and nutrition operational plans at the national and sub-national government levels support MIYCN relevant activities (by state/county)	Nutritional operational plan contains relevant MIYCN activities		1	1	1	1	1	1	1	1	1	Copy of health and nutrition plans		
Output 4.2: Annual/Bi-annual health and nutrition plans for INGOs/NGOs and civil society supports MIYCN interventions	Health and nutrition plans supports MIYCN interventions		1	1	1	1	1	1	1	1	1	Health and nutrition plans		
Activities	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
4.1.1 High level forum with national and state level to advocate for MIYCN inclusion in their annual budget and plan	Venue, logistics/transportation, and focal points/consultant (MEETINGS: 1 meetings /PAX: 40 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$201,969.00		

4.1.2 Key annual priorities and interventions included in a planning guide	Venue, logistics/transportation, and focal points/consultant (MEETINGS: 1 meetings /PAX: 40 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$201,969.00		
4.1.3 Facilitate national and state level annual reviews and planning and costing	Venue, logistics/transportation, and focal points/consultant (MEETINGS: 1 meetings /PAX: 40 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$201,969.00		
4.2.1 Orientation/Consultation with team leaders to review annual MIYCN priorities and targets to be (by county)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 1 meetings /PAX: 40 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$201,969.00		
4.2.2 Present the annual/bi annual plans to identify MIYCN support for the year	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 1 meetings /PAX: 40 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$201,969.00		
4.2.3 Mapping of MIYCN related interventions supported by INGOs/NGOs	Printouts, focal persons (MEETINGS: 1 meetings /PAX: 20 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$201,969.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 5: MIYCN indicators are integrated in national health and nutrition assessments, and surveys	1) MIYCN indicators integrated into assessments 2) MIYCN indicators integrated into surveys											1)Validated copy of the assessments 2) Validated copy of surveys	Governmental (prioritization) and donor (funding), and NIWG (technical) support	
Output 5.1: DHIS captures MIYCN indicators	MIYCN indicators included in the DHIS		1									Validated copy of DHIS		
Output 5.2: National Health and Nutrition surveys includes MIYCN Indicators	MIYCN indicators included in the National Health and Nutrition surveys		1				1				1	Validated copy of National Health and Nutrition surveys		
Activities	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
5.1.1 Consultations and building consensus with DHIS focal persons and the Nutrition Information Working Group (NIWG)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 10 + 1 int'l consultant)		1									$3,268.20		

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5.1.2 Review and finalization of the MIYCN indicators (definitions, method of collection)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 10 + 1 int'l consultant)		1									$3,268.20		
5.2.1 Provide complete list of MIYCN indicators with recommended questionnaires	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 10 + 1 int'l consultant)		1									$3,268.20		
5.2.2 Consultation and consensus building with focal persons and the Nutrition Information Working Group(NIWG)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 10 + 1 int'l consultant)		1									$3,268.20		
5.2.3 Review and finalization of questionnaires and indicators	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 10 + 1 int'l consultant)		1									$3,268.20		
5.2.4 Conduct of a National Health and Nutrition Survey with MIYCN indicators	Financial support for the nutrition component		1				1				1	$600,000.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 6: The MIYCN monitoring, supportive supervision and evaluation system for field based implementation is established	M&E tools and supervisory checklists indicate positive outcome for field-based implementation		1									Use of M&E tools and supervisory checklists	Governmental (prioritization) and donor (funding), and NIWG (technical) support	
Output 6.1: MIYCN monitoring framework	MIYCN monitoring framework has been endorsed and implemented		1									Approved MIYCN monitoring framework		
Output 6.2: Cadre of supervisors in place	Number of supervisors		1									List of supervisors		
Activities	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
6.1.1 Review and agree of key MIYCN process indicators for health facility and community interventions	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 3 meetings /PAX: 20 + 1 int'l consultant)		1									$2,620.92		

6.1.2 Review and finalize basic tools (recording and reporting) based on the MIYCN guidelines	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 3 /PAX: 20 + 1 int'l consultant)		1									$2,620.92		
6.1.3 Disseminate the MIYCN monitoring framework and tools at the different levels (national and state) at workshops	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 15 /PAX: 30 + 1 int'l consultant)		1				1			1		$43,800.00		
6.2.1 Finalization the supervisory tool	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 meetings /PAX: 20 + 1 int'l consultant)		1									$3,768.20		
6.2.2 Identify the potential supervisors (nutrition focal persons, others)	Logs, consultant/focal persons (MEETINGS: 2 meetings /PAX: 20 + 1 int'l consultant)		1	1								$2,047.28		
6.2.3 Capacity assessment (gaps, strengths etc)	Logs, consultant/focal persons (MEETINGS: 3 meetings /PAX: 30 + 1 int'l consultant)		1	1								$2,920.92		
6.2.4 Training on supervisory skills and tools	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 3 meetings /PAX: 30 + 1 int'l consultant)		1				1			1		$8,762.76		
6.2.5 Quarterly based feedback discussions with the supervisors (state level)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 4 /PAX: 20 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$28,661.00		
6.2.6 Annual reviews with nutrition focal person (national level)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 1 /PAX: 30 + 1 int'l consultant)		1	1	1	1	1	1	1	1	1	$25,625.00		

ANNEX 1

POLICY AND SYSTEMS

REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025

	Indicators	Baseline	2017	2018	2019	2020	2021	2022	2023	2024	2025	Means of Verification	Assumptions	Lead Agency
Output 7: MIYCN topics are integrated in the curriculum in all colleges and universities that educate health workers	MIYCN topics in all health-related curriculum					1	1	1				Approved copy of curriculum being implemented in all key institutions	Cooperation with MoE and other relevant institutions and organizations	
Output 7.1: Development curriculum for doctors, nurses and midwives includes relevant MIYCN topics	MIYCF topics incorporated into curriculum					1	1	1				Approved copy of curriculum being implemented in all key institutions		
Output 7.2: Develop curricula for mid-level cadres (teaching hospitals) programmes/curriculum include MIYCN relevant topics	MIYCF topics incorporated into curriculum					1	1	1				Approved copy of curriculum being implemented in all key institutions		
Activities	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
7.1.1 Meetings with MoE to advocate for the development of a proposed set of topics and materials (to be suggested by the MoE) for relevant colleges and universities	Send emails, provide print outs to all relevant stakeholders (MEETINGS: 2 /PAX: 15 + 1 int'l consultant)					1	1	1				$5,841.00		
7.1.2 Forums and consultations with relevant colleges and universities on the integration process	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5/PAX: 20 + 1 int'l consultant)					1	1	1				$11,304.00		
7.1.3 Support the integration MIYCN process (meetings)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 3 /PAX: 20 + 1 int'l consultant)					1	1	1				$7,860.00		
7.2.1 Development of Curriculum	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 /PAX: 20 + 1 int'l consultant)				1	1	1					$11,304.00		
7.2.2 Finalize the curriculum for the mid-level cadre (doctor, nurses and midwives)	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 /PAX: 20 + 1 int'l consultant)						1					$3,768.20		

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7.2.3 Launch the curriculum for each of the category	Venue, logistics/transportation, and focal points/consultant from UNICEF (MEETINGS: 5 /PAX: 20 + 1 int'l consultant)						1					$3,768.20		
7.2.4 Dissemination to all relevant colleges and universities	Send emails, provide print outs to all relevant stakeholders (MEETINGS: 5 /PAX: 20 + 1 int'l consultant)						1	1				$7,536.00		
7.2.5 Training of resources persons on MIYCN of colleges and universities	Venue, logistics/transportation, and focal points/consultant from UNICEF and send emails, provide print outs to all relevant stakeholders (MEETINGS: 5 /PAX: 20 + 1 int'l consultant)							1	1			$7,536.00		

ANNEX 1

MIYCN

REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025

Objectives	Outcomes	Baseline (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)	2021 (%)	2022 (%)	2023 (%)	2024 (%)	2025 (%)	Means of Verification	Assumptions	Lead Agency
GOAL: To strengthen the health status of the population by improving the health and nutritional status of mothers, infants, and young children and their wellbeing through an effective delivery of the basic package of health and nutrition services (BPHNS).	Early Initiation of Breastfeeding	48	51	54	57	60	63	66	69	72	75			
	Exclusive Breastfeeding (from 0 to less than 6 months)	45.0	47.8	50.6	53.3	56.1	58.9	61.7	64.4	67.2	70.0	1. National Health and Nutrition Survey 2. SMART surveys 3. KAP surveys	1. Country stability allows for the full implementation 2. Resources (financial and human) are available to meet requirements 3. MIYCN remains a Government priority	1. MOH and partner agencies
	Continued breastfeeding up to 2 years of age	38.0	40.4	42.9	45.3	47.8	50.2	52.7	55.1	57.6	60.0			
	Timely introduction of complementary foods	21.0	24.2	27.4	30.7	33.9	37.1	40.3	43.6	46.8	50.0			
	Minimum Dietary Diversity (6 to 23 months)	18.0	20.4	22.9	25.3	27.8	30.2	32.7	35.1	37.6	40.0			
MAIN OBJECTIVE: To reduce the burden of malnutrition in pregnant and lactating mothers by 20%, and stunting in children under five years of age by 10% by year 2025	Low Birth Weight	5.0	4.7	4.3	4.0	3.7	3.3	3.0	2.7	2.3	2.0			
	Childhood Stunting	31.0	29.9	28.8	27.7	26.6	25.4	24.3	23.2	22.1	21.0			
	Childhood wasting	23.0	21.9	20.8	19.7	18.6	17.4	16.3	15.2	14.1	13.0			
	Childhood obesity	-												
	Anemia in women of reproductive age	-												
	Body Mass Index for women	-												
Objective 1: To create a health and nutrition system with the minimum capacity to offer quality maternal, infant and young child nutrition services	**Indicators**	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 1: At least two (2) functional MIYCN mother support groups per village (1 every 2000 people). are established).	1173 MIYCN support groups established and trained	0	200	300	300	300	73					Reports, attendant list.	Funding available, Security stable	
Output 1.1: MIYCN advocacy sessions attended by members of the support groups	Number of sessions conducted for stakeholders on the importance of MIYCN to supports the activities implemented by the establishes groups (at 1 session per group per month)	0	2400	6000	9600	13200	14076	14076	14076	14076	14076	Monthly reports from the communities	Funding available, Security stable, political willingness to participate	

Output 1.2: MIYCN support groups MEMBERS are ACTIVE involved IN THE MIYCN ACTIVITIES IN THE COMMUNITY	At least 60% of the groups are meeting every month		120	300	480	660	704	704	704	704	704			
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
1.1.1 Community sensitization on MIYCN	Funds, Human/log resources, safety (50 USD per meeting at the Boma Level)	8368 sessions	1195	1267	1343	1423	1509	1599				$416,800.0		
1.1.2 identification of the members of the support group	Funds, Human/log resources, safety	17595	1955	1955	1955	1955	1955	1955	1955	1955	1955	$0.0		
1.1.3 Supportive monitoring Supervision by county and Boma health teams	Funds, Human/log resources, safety	2346	261	261	261	261	261	261	261	261	261	$160,210.7		
1.2.1 Conduct Refresher training	Venue, Resource speakers, Resource materials	1174 Community members	200	300	300	300	73					$360,000.0		
1.2.2 Provision of the visibility materials	Funds (1 kit per Boma) *50 USD per kit		2092				2092				2092	$313,800.0		
1.2.3 Provide incentives to the members of the support group	In kind support (10 USD per member)	17595	1955	1955	1955	1955	1955	1955	1955	1955	1955	$175,950.0		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 2: All Boma Health Teams are trained on MIYCN	Number of boma health teams trained on MIYCN	6276	1702905	1255	1256	1255	1255					Training reports with pre & post test results	Security, funding & HR, BHI policy remained permissive	
Output 2.1: Trained personnel carrying out MIYCN activities	70% of boma health teams trained applying correctly the MIYCN guideline		879	879	879	879	879					Activities report	Security, funding, BHI policy remained permissive	
Output 2.2: Deliver key MIYCN Messages in group and individual sessions in the community.	Number of individuals reached with MIYCN key messages.	99733316	11081480	11081480	11081480	11081480	11081480	11081480	11081480	11081480	11081480	Activities report		
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
2.1.2 Training of boma health teams on MIYCN	Funds, Human& Log and Safety	6276	1255	1255	1256	1255	1255					$1,722,059.00		
2.1.3 Conduct supportive supervision visits	Funds, Human& Log and Safety	4184	465	465	465	465	465	465	465	465	465	$285,006.06		
2.2.1 Refresher Training	Funds, Human & Log and Safety		42464	1883	3108	4363	5618	6873	6873	6873	6873	$1,937,652.00		

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MIYCN

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	Indicators	Baseline	2017	2018	2019	2020	2021	2022	2023	2024	2025	Means of Verification	Assumptions	Lead Agency
Output 3: All home health promoters (HHP) trained on MIYCN messages	Number of HHPs trained on MIYCN	67008	13402	13402	13402	13402	13402					Training reports, attendance sheets	Funding & HR available, Security stable	
Output 3.1: HHPs are trained on MIYCN	Number of HHPs trained on MIYCN	67008	13402	13402	13402	13402	13402					Training reports, attendance sheets	Funding & HR available, Security stable	
Output 3.2: HHPs are implementing the MIYCN protocols correctly.	90% of the HHPs are applying the correct MIYCN protocol	60307	12061	12061	12061	12061	12061					Supervision checklist & reports	Funding & HR available, Security stable	
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
3.1.1 Train of HHP on MIYCN messaging	Funds, HR & Log and Safety	67008	13402	13402	13402	13402	13402					$4,387,015.00		
3.1.2 Supportive supervision Visits	Funds, HR & Log and Safety	4184	465	465	465	465	465	465	465	465	465	$285,066.06		
3.1.3 Refresher training	Funds, HR & Log and Safety	455668		20103	33505	46907	60309	73711	73711	73711	73711	$4,988,369.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 4: Health workers at every level of the health system (i.e. doctors, nurses, mid-wives, and other health workers) are trained on MIYCN	Number of health workers who have successfully completed the MIYCN training.	5192	1029	1229	1317	1189	600	0	0	0	0	Training reports, attendance sheets	Funding & HR available, Security stable	
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 4.1: At least three (3) health workers trained in MIYCN in every Primary Health Care Unit (PHCU);	Number of health workers in PHCUs	3078	300	650	828	700	600					Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.1.1: health workers on MIYCN in PHCUs trained	Number of health workers trained	3078	300	650	828	700	600					Training reports, attendance sheets	Funding & HR available, Security stable	

Output 4.1.2:Health workers are implementing the MIYCN protocols correctly.	90% of the trained staffs are applying the correct MIYCN protocol	2770	270	585	745	630	540					Supervision checklist & reports	Funding & HR available, Security stable	
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
4.1.1.1 conduct training for health workers at the PHCU level	Funds, HR and logs, safety	Baseline	300	650	828	700	600					$853,902.00		
4.1.1.2 conduct supportive supervision visits (ON THE JOB) at the PHCU Level	Funds, HR and logs, safety	18468	2052	2052	2052	2052	2052	2052	2052	2052	2052	$558,225.14		
4.1.1.3 refresher training	Funds, HR and logs, safety	19207		625	1364	2128	2778	3078	3078	3078	3078	$961,827.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 4.2: At least six (6) health workers trained in MIYCN in every Primary Health Care Centers (PHCC)	No. PHCC staffs trained on MIYCN (1956)	1956	489	489	489	489						Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.2.1: 2 health workers from different departments (OPD, ANC, IPD, EPI) on MIYCN in PHCCs trained	Number of health workers trained on MIYCN at PHCC	2608	652	652	652	652						Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.2.2: Health workers are implementing the MIYCN protocols correctly.	90% of the trained staffs are applying the correct MIYCN protocol	2347	587	587	587	587						Supervision checklist and reports	Funding & HR available, Security stable	
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
4.2.1.1 Training of the PHHCC health staffs on MIYCN	Fund, HR & Log, and Safety	2608	652	652	652	652						$1,300,972.00		
4.2.1.2 Conduct Supportive Supervision Visits (ON THE JOB)	Fund, HR & Log, and Safety	5868	652	652	652	652	652	652	652	652	652	$442,614.35		
4.2.1.3 Refresher Training	Fund, HR & Log, and Safety	13449		980	1632	2284	2936	2936	2936	2936	2936	$1,949,757.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 4.3: At least five (5) health workers trained in MIYCN in every national hospital department in key relevant departments (ANC, maternity, OBGYN, pediatrics, OPD, and IPD)	Health staff from 5 national hospitals are trained on MIYCN	150	150									Training reports, attendance sheets	Funding & HR available, Security stable	

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Output 4.3.1: 5 Health staff per departments on MIYCN in national hospitals are trained	Number of staff trained at National hospital on MIYCN	150	150									Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.3.2: Health staff are implementing the MIYCN protocols correctly.	90% of the trained staffs are applying the correct MIYCN protocol	135	135									Supervision checklist and reports	Funding & HR available, Security stable	
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
4.3.1.1 Training of the National hospital staffs on MIYCN	Fund, HR & Log, and Safety	150	150									$69,393.00		
4.3.1.2 Conduct Supportive Supervision Visits	Fund, HR & Log, and Safety	90	10	10	10	10	10	10	10	10	10	$41,661.84		
4.3.1.3 Refresher Training	Fund, HR & Log, and Safety	1200		150	150	150	150	150	150	150	150	$325,493.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 4.4: At least three (3) health workers trained in MIYCN in every state hospital department in key relevant departments (ANC, maternity, OBGYN, pediatrics, OPD, and IPD)	Health staff from 10 state hospitals are trained on MIYCN	180	90	90								Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.4.1 : 3 Health staff per departments on MIYCN in state hospitals are trained	Number of staff trained at State hospital on MIYCN	180	90	90								Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.4.2: Health staff are implementing the MIYCN protocols correctly.	80% of the trained staffs are applying the correct MIYCN protocol	162	81	81	0	0	0	0	0	0	0	Supervision checklist and reports	Funding & HR available, Security stable	
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
4.4.1.1 Training of the state hospital staffs on MIYCN	Fund, HR & Log, and Safety	180	90	90								$88,770.00		
4.4.1.2 Conduct Supportive Supervision Visits	Fund, HR & Log, and Safety	180	20	20	20	20	20	20	20	20	20	$82,400.27		
4.4.1.3 Refresher Training	Fund, HR & Log, and Safety	1395		135	180	180	180	180	180	180	180	$197,319.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**

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Output 4.5: At least two (2) health workers trained in MIYCN in every county hospital department in key relevant departments (ANC, maternity, OBGYN, pediatrics, OPD, and IPD)	Health staff from 37 county hospitals are trained on MIYCN	444	148	148	148							Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.5.1 : 2 Health staff per departments on MIYCN in state hospitals are trained	Number of staff trained at county hospitals on MIYCN	444	148	148	148							Training reports, attendance sheets	Funding & HR available, Security stable	
Output 4.5.2: Health staff are implementing the MIYCN protocols correctly.	90% of the trained staffs are applying the correct MIYCN protocol	400	133	133	133							Supervision checklist and reports	Funding & HR available, Security stable	
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
4.5.1.1 Training of the county-hospital staffs on MIYCN	Fund, HR & Log, and Safety	444	148	148	148							$201,336.00		
4.5.1.2 Conduct Supportive Supervision Visits	Fund, HR & Log, and Safety	486	54	54	54	54	54	54	54	54	54	$302,387.79		
4.5.1.3 Refresher Training	Fund, HR & Log, and Safety	3256		222	370	444	444	444	444	444	444	$417,554.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 5: At least two (2) health workers trained in MIYCN In all health and nutrition outreach activities	# of health workers implementing outreach activities trained	0	300	300	300	300	300	300	300	300	300	1. Training reports 2. Training attendance sheets"	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/UNICEF
Output 5.1: All health workers(CHW, EPI, MW, nurses) implementing health and nutrition outreach facilities trained	# of health workers of HWs trained	0	300	300	300	300	300	300	300	300	300	1. Training reports 2. Training attendance sheets"	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/UNICEF
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		

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MIYCN REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025														
5.1.1 Mobilise resources for training health workers (proposals for donors)	1. Technical staff 2. Laptop 3. Communication costs 4. Transport and logistics"	9 proposals written every year	1	1	1	1	1	1	1	1	1	$217,000.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
5.1.2 Prepare training materials, allocate master trainers to states	1. Development of training guides costs 3. Communication costs	90	10	10	10	10	10	10	10	10	10	$202,500.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	
5.1.3 Train health workers	1. Accommodation 2. Allowances 3. Transport costs, 4. Venue costs"	2700	300	300	300	300	300	300	300	300	300	$7,665,300.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
5.1.4 Compilation of training reports and dissemination	1. Laptops 2. Human Resources(central coordinator focal person for reports). (charge to 5.1)"	90	10	10	10	10	10	10	10	10	10	$0.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
2. Funding is available														
3. Staff turnover is minimal"	MOH/ UNICEF													
5.1.5 Follow up and support supervision and mentorship to the trained health workers	1. Supervision check-lists development costs 2. Accommodation 3. Allowances 4. Transport costs 5. Communication costs"	25% of trained health workers followed up(1818)	75	75	75	75	75	75	75	75	75	$181,800.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF

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REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025

	Indicators	Baseline	2017	2018	2019	2020	2021	2022	2023	2024	2025	Means of Verification	Assumptions	Lead Agency
Output 6: At least 95% of the existing health facilities providing quality maternal health services (PHCCs and hospitals) practice the ten steps for successful breastfeeding (BFHI)	# of PHCC and Hospital practising the optimal BFHI	0	54	54	36	36	36	36	36	36	36	Supervision reports, Monthly reports	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
Output 6.1: PHCCs and Hospital staff trained and accredited in BFHI	# of PHCC and hospital trained and accredited in BFHI(All staff in the target facilities to receive training depending on roles and responsibilities)	0	1111	1111	740	740	740	740	740	740	740	Training reports	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
6.1.1 Mobilization of resources for training PHCC and Hospital staff on BFHI	1. Laptops 2. Human Resources 3. Logistics and transport costs 4. Communication/advocacy costs (charge to 5.1)"	9 proposals written every year	1	1	1	1	1	1	1	1	1	$0.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
6.1.2 Development and finalization of standards and requirements) that is in line with SSD situation	1. Laptops 2. Human Resources 3. Logistics and transport costs 4. Communication/advocacy costs	1 Guideline specifying accreditation standards for BFHI in SS	1	1								$47,176.18		
6.1.2 Assessment of PHCC and hospitals as BFHI	1. Laptops 2. Human Resources 3. Logistics and transport costs 4. Allowances"	360	54	54	36	36	36	36	36	36	36	$1,800,000.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF

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6.1.3 Preparation of training materials and solicit for trainers	1. Training guides 2. Transport costs 3. Communication costs"	7402 copies guides developed and printed	1111	1111	740	740	740	740	740	740	740	$148,040.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
6.1.4 Advocacy and orientation of senior hospital and PHCC staff	1. Human resources to liaise with PHCC and hospital senior staff 2. Communication costs 3. Logistics and transport costs"	360	54	54	36	36	36	36	36	36	36	$36,000.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
6.1.5 Follow up and monitoring and mentorships at HFs	1. Laptops 2. Human Resources 3. Logistics and transport costs"	25% of trained health workers followed up(1845)	275	275	185	185	185	185	185	185	185	$184,500.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	MOH/ UNICEF
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 7: At least one (1) functional mother-baby friendly space with psychosocial support services (1: in every block) is set up in all sectors (blocks) in (IDPs/ Refugees) camps	# of functional baby friendly spaces in IDP camps per every block	10	200	200	200	200	200	200	200	200	200	Donor reports	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
Output 7.1: All blocks have baby friendly spaces	# of functional baby friendly spaces in IDP camps per block	10	200	200	200	200	200	200	200	200	200	Donor reports	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"

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Activities:	Inputs/resources	Target	2017	2018	2019	2020	2021	2022	2023	2024	2025	Cost		
7.1.1 Mobilise and secure funds	1. Human Resources 2. Laptops 3. Communication costs 4. Transport and logistical costs (charge to 5.1.1)"	45 proposals(5 camps for 9 years)	5	5	5	5	5	5	5	5	5	$0.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
7.1.2 Recruit and train staff who will work in the baby friendly spaces	1. Salaries 2. Training costs	50 staff per year	50	50	50	50	50	50	50	50	50	$90,000.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
7.1.3 Conduct situational assessments in IDP camps to come up with specific baby friendly curricula for each region	1. Human Resources 2. Laptops 3. Communication costs 4. Transport and logistical costs (charge to 6.1.2)"	5	5										1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
7.1.4 Develop curricula for guiding activities in the baby friendly spaces	1. Human Resources 2. Laptops 3. Communication costs 4. Transport and logistical costs	1 curriculum	5									$33,750.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
7.1.5 Advocacy with block leaders' committees on establishment of baby friendly spaces	1. Communication costs 2. Transport and logistics costs 3. Human resources to conduct the advocacy"	200 Committees	200				200				200	$60,000.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"

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7.1.6 Establish Baby friendly spaces	1. Building supplies and services 2. Furniture 3. Running expenses(toys, stationery, IEC materials, counselling cards etc)	200 baby friendly spaces	200									$1,200,000.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
7.1.7 Supportive monitoring and supervision of baby friendly spaces	Supervision checklist, logistics, allowance and refreshment	12	12	12	12	12	12	12	12	12	12	$2,160,000.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 8: At least two (2) trained staff to support MIYCN services in all camps (IDPs/Refugees)	# of health workers trained in each IDP Camps	0	50	50	50	50	50	50	50	50	50	1. Training reports 2. Training attendance sheets"	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
Output 8.1:50 HF staff trained in MIYCN every year in IDP camps	# of health workers trained in each IDP Camps	0	50	50	50	50	50	50	50	50	50	1. Training reports 2. Training attendance sheets"		
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		

8.1.1: Preparation for training on MIYCN for HWs in IDP Camps	1. Training guides 2. Transport costs 3. Communication costs (same as 7.4.1)"	50 every year	50	50	50	50	50	50	50	50	50	$0.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
8.1.2 Training of HWs in IDPs on MIYCN	1. Training guides 2. Accommodation 3. Allowances 4. Transport costs (same as 7.1.2)	50 every year	50	50	50	50	50	50	50	50	50	$0.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
8.1.3: Conduct mentorship and follow up the IDP facilities on MIYCN	1. Laptops 2. Human Resources 3. Logistics and transport costs (same as 7.1.7)"	12	12	12	12	12	12	12	12	12	12	$0.00	1. There are still populations residing in IDP camps 2. Funding is available to support baby friendly spaces	1. Nutrition Cluster 2. IOM 3. NGOs 4. UNICEF"
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 9: At least 50% of infants and young children in difficult circumstances (Low birth weight, HIV positive mothers, with medical conditions, malformations, abandoned, nodding) receive support to achieve optimal infant and young child feeding practices.	# of infant and Young child in difficult circumstances provided with MIYCN services and support in all the 10 greater states	0	2,606	2,606	2,606	2,606	2,606	2,606	2,606	2,606	2,606	Monthly reports	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	
Output 9.1: Infant and young children with MIYCN difficulties received supports for optimal infant and young child feeding practices	# of infant and Young child in difficult circumstances provided with MIYCN services and supports	0	2,606	2,606	2,606	2,606	2,606	2,606	2,606	2,606	2,606	Monthly reports	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	

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Activities:	Inputs/resources	Target	2017	2018	2019	2020	2021	2022	2023	2024	2025	Cost		
9.1.1 Advocate that hospitals, PHCC and communities are BFHI accredited(SS standards)	1. Human Resources 2. Logistical and transport resources (charged to 6.1.4)	360	54	54	36	36	36	36	36	36	36	$0.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	
9.1.2 Equip and train health workers to be able to support children with difficulties	1. Human Resources 2. Logistical and transport resources 3. Accommodation 4. Training guides (charged to 5.1.3 and 6.1.5)	10102	1411	1411	1040	1040	1040	1040	1040	1040	1040	$0.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	
9.1.3 Community health workers trained to be able to counsel and refer mothers of babies with difficulties to PHCU/PHCC/Hospital	1. Human resources 2. Training costs (charge to MIYCN trainings in objective 4)	67008.00	7,445	7,445	7,445	7,445	7,445	7,445	7,445	7,445	7,445	$0.00	1. Security situation is stable 2. Funding is available 3. Staff turnover is minimal"	
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 10: 100% of pregnant and lactating mothers access to nutrition support and counselling services through the community, health promoters, mother support groups and health facilities, and any other group.	% of PLW accessing counselling and support through community health promoters, mother support groups, health facilities	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	1. Counselling reports 2. Donor reports	1. Security situation is favourable	MOH
Output 10.1: All PLW access support and counselling services through community health promoters, mother support groups, health facilities	% of PLW accessing counselling and support through community health promoters, mother support groups, health facilities	0	100%	100%	100%	100%	100%	100%	100%	100%	100%	1. Counselling reports 2. Donor reports	1. Security situation is favourable	MOH
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**		

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10.1.1 Train health facility workers how to counsel and support all PLW	1. Human Resources 2. Logistical and transport resources 3. Accommodation 4. Training guides(charged to 5.1.3 and 6.1.5)	10102	1411	1411	1040	1040	1040	1040	1040	1040	1040	$0.00	1. Security situation is favourable	MOH
10.1.1 Train community health promoters on how to counsel and support mothers	1. Human resources to conduct trainings 2. Training allowances for community health workers (charged to 9.1.3)	67,008	7,445	7,445	7,445	7,445	7,445	7,445	7,445	7,445	7,445	$0.00	1. Security situation is favourable	MOH
10.1.2 Develop IEC materials to be used for advocacy to promote and support optimal MIYCN	1. Human resources to develop IEC materials and media campaigns materials (Radio, TV, etc) 2. Trials, pretesting costs 3. Printing and publishing IEC materials"	Media campaign (1 media campaign every year)	1	1	1	1	1	1	1	1	1	$34,300,000.00	1. Security situation is favourable	MOH
10.1.3 Distribute IEC materials	1. Human resources (charge to 9.1.3)	6,939,900	771,100	771,100	771,100	771,100	771,100	771,100	771,100	771,100	771,100	0	1. Security situation is favourable	MOH
10.1.4 Commemorate World breastfeeding week in each 80 counties of the greater 10 states	1. WBW IEC materials 2. Communication costs for WBW 3. Costs for campaigns"	720	80	80	80	80	80	80	80	80	80	$7,200,000.00	1. Security situation is favourable	MOH
10.2.1 Procure counselling cards and other job aids for community health workers	1. Printing counselling cards and job aids for community health workers	77,110	8,562	8,562	8,562	8,562	8,562	8,562	8,562	8,562	8,562	$377,839.00	1. Security situation is favourable	MOH

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Objectives	Outcomes	Baseline (%)	2017 (%)	2018 (%)	2019 (%)	2020 (%)	2021 (%)	2022 (%)	2023 (%)	2024 (%)	2025 (%)	Means of Verification	Assumptions	Lead Agency
GOAL: To strengthen the health status of the population by improving the health and nutritional status of mothers, infants, and young children and their wellbeing through an effective delivery of the basic package of health and nutrition services (BPHNS).	Early Initiation of Breastfeeding	48	51	54	57	60	63	66	69	72	75			
	Exclusive Breastfeeding (from 0 to less than 6 months)	45.0	47.8	50.6	53.3	56.1	58.9	61.7	64.4	67.2	70.0	1. National Health and Nutrition Survey 2. SMART surveys 3. KAP surveys	1. Country stability allows for the full implementation 2. Resources (financial and human) are available to meet requirements 3. MIYCN remains a Government priority	1. MOH and partner agencies
	Continued breastfeeding up to 2 years of age	38.0	40.4	42.9	45.3	47.8	50.2	52.7	55.1	57.6	60.0			
	Timely introduction of complementary foods	21.0	24.2	27.4	30.7	33.9	37.1	40.3	43.6	46.8	50.0			
	Minimum Dietary Diversity (6 to 23 months)	18.0	20.4	22.9	25.3	27.8	30.2	32.7	35.1	37.6	40.0			
MAIN OBJECTIVE: To reduce the burden of malnutrition in pregnant and lactating mothers by 20%, and stunting in children under five years of age by 10% by year 2025	Low Birth Weight	5.0	4.7	4.3	4.0	3.7	3.3	3.0	2.7	2.3	2.0			
	Childhood Stunting	31.0	29.9	28.8	27.7	26.6	25.4	24.3	23.2	22.1	21.0			
	Childhood wasting	23.0	21.9	20.8	19.7	18.6	17.4	16.3	15.2	14.1	13.0			
	Childhood obesity	-												
	Anemia in women of reproductive age	-												
	Body Mass Index for women	-												
Objective 3: To provide essential micronutrient supplementation support to the population at risks	**Indicators**	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 1: At least 25% of the total number of adolescent girls, pregnant and lactating women receives fortified food	Number of adolescent girls and PLW received fortified food .		62,540	64,418	66,296	68,174	70,052	71,930	73,808	75,686	77,564	Monthly nutrition reports	Security is okay to allow activities to take place	WFP
Output 1.1 Community and local leaders enlightened about services for PLWs	Advocacy meetings held with community and local leaders	0	160	160	160	160	160	160	160	160	160	Bi-annual MIYCN meeting reports	Security is okay to allow activities to take place	IPS

Output 1.2: Capacity of community health workers enhanced to provided quality services to PLWs	Number of health/ Nutrition workers trained on micronutrient supplementation for PLWs and adolescents	0	160 ToTs then roll to county= 2610 Doctors, nurses, midwives and CO)	2610	2106	2106	160	2610	2610	2106	2106	Training report		
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
1.1.1 Mobilization communities and hold advocacy meetings on MIYCN (1 meeting each with local leaders the county level)	Cash/HR/Logistic support	720	80	80	80	80	80	80	80	80	80	$720,000.00		
1.1.3 Procurement and distribution of CSB++	Cash/HR/Logistic support	28371.06	2814.3	2898.81	2983.32	3067.83	3152.34	3236.85	3321.36	3405.87	3490.38			WFP
1.1.4 Monitoring and reporting	Data collection and reporting tools (charge to supportive supervision for health facilities in the MIYCN sections)	54= 378 hospital and PHCC	52	378	378	378	378	378	378	378	378	$0.00		
1.2.1 Training of health care providers on CSB++ distribution we recommend package it in MIYCN	Cash and HR (charge to MIYCN, objective 4)	4212	468	468	468	468	468	468	468	468	468	$0.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 2: All children aged six to 59 months receive the recommended dosage of Vitamin A every six months	No of children 6-59 months supplemented with vitamin A twice a year		179,415	184,797	190,341	196,052	201,933	207,991	214,231	220,658	227,278	NID reports		
Output 2.1:Children 6-59 months received vitamin A supplementation twice a year	No of children 6-59 months supplemented with vitamin A twice a year		179,415	184,797	190,341	196,052	201,933	207,991	214,231	220,658	227,278	NID reports		
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
2.1.1 Procurement of vitamin A capsules (tins) for 6 to 11 months	Cash/Logistics	4665	518	518	518	518	518	518	518	518	518	$39,745.00		
2.1.2 Procurement of vitamin A capsules (12 to 59 months)	Cash/Logistics	63324	7036	7036	7036	7036	7036	7036	7036	7036	7036	$663,002.00		
2.1.3 community mobilization (2 per county)	Cash/HR (charge to MIYCN section)	1440	160	160	160	160	160	160	160	160	160	$0.00		

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2.1.3 Training of community health volunteers of vitamin A supplementation	Cash/HR (charge to MIYCN section)	43398	4272	4400	4532	4668	4808	4952	5101	5254	5411	$0.00		
2.1.3 Transportation and distribution of vitamin A capsules (per state/year)	Cash	90	10	10	10	10	10	10	10	10	10	$90,000.00		
2.2.1 Monitoring and supportive supervision during implementation	Cash/HR (charge to MIYCN section)	18	2	2	2	2	2	2	2	2	2	$0.00		
2.2.2 Reporting on vitamin A	Cash/HR (charge to MIYCN section)	18	2	2	2	2	2	2	2	2	2	$0.00		
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 3: All children aged 12 to 59 months receive at least two doses of deworming medication every six months	# of children 12 to 59 months who received deworming tablets		1,583,069	1,630,561	1,679,478	1,729,862	1,781,758	1,835,211	1,890,267	1,946,975	2,005,385			
Output 3.1:Children 12-59 months received deworming tablets twice a year six months apart	# of children 12 to 59 months who received deworming tablets		1,583,069	1,630,561	1,679,478	1,729,862	1,781,758	1,835,211	1,890,267	1,946,975	2,005,385	NID reports		
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
3.1.1 Procurement of deworming tablets(Albendazole)	Cash	321,651	31,661	32,611	33,590	34,597	35,635	36,704	37,805	38,940	40,108	$800,910.00		
3.1.2 Training of community health workers	Cash (charge to MIYCN section)	69,924	6,883	7,089	7,302	7,521	7,747	7,979	8,219	8,465	8,719	$0.00		
3.1.3 Transportation and distribution of the tablets	Cash	90	10	10	10	10	10	10	10	10	10	$9,000.00		
3.2.1 Community mobilization and advocacy		18	2	2	2	2	2	2	2	2	2			
3.2.2 Reporting and monitoring and supportive supervision		18	2	2	2	2	2	2	2	2	2			
	Indicators	**Baseline**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Means of Verification**	**Assumptions**	**Lead Agency**
Output 4: All children, aged six to 59 months , in the high-burden areas receive micronutrient supplementation (MNPs)	Number of children 6-59 months that received MNPs	4064405	422152	434816	435196	447872	448632	461331	462472	475205	476728			

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Output 4.1: Children living in high burden areas receive MNPs	Number of baseline survey conducted on MIYCN- national wide (Integrated in the national health and nutrition survey)	1	1				1				1			
Output 4.2: All children (60% of Children 6-23)months in high burden states received MNPS	No of children 6-23 months supplemented with MNPs	4064405	422152	434816	435196	447872	448632	461331	462472	475205	476728			
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
4.1.1 Conduct a baseline survey for micronutrients deficiency	Cash, HR, Logistics (charge to policies and systems line for surveys)	1	1									$0.00		
4.1.2 Advocacy and community mobilization meetings	Cash, HR, Logistics (charge to MIYCN section)	18	2	2	2	2	2	2	2	2	2	$0.00		
4.1.3 Training of community Health workers on MNP supplementation	Cash, HR, Logistics (charge to MIYCN section, objective 4)	4,212	468	468	468	468	468	468	468	468	468	$0.00		
4.1.4 Monitoring and supervision (what is 2?)		18	2	2	2	2	2	2	2	2	2	$0.00		
4.1.5 Procurement of MNPs	Cash and logistic	16257620	1688606	1739265	1740784	1791488	1794529	1845324	1849889	1900821	1906913	$11,542,000.00		
4.1.6 Distribution of MNPs (distribution by pack? Or by state? By county?)	Trained staff, cash, logistics	16257620	1688606	1739265	1740784	1791488	1794529	1845324	1849889	1900821	1906913	$0.00		
4.1.6 Develop IEC materials	Technical team, cash (charge to MIYCN section on development of IEC)	45	5	5	5	5	5	5	5	5	5	$0.00		
4.3.2 Micronutrient survey to establish impact of MNPs	Cash, HR, Logistics (charge to policies and systems line for surveys)	1	1									$0.00		

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	Indicators	Baseline	2017	2018	2019	2020	2021	2022	2023	2024	2025	Means of Verification	Assumptions	Lead Agency
Output 5: All pregnant women receive Iron/Folic Acid supplementation for the duration of pregnancy	Number of PLWs received MNTs	0	562869	562869	562869	562869	562869	562869	562869	562869	562869			
Output 5.1:At least 60% PLW are supplemented with MNTs	Number of PLWs received MNTs	0	562869	562869	562869	562869	562869	562869	562869	562869	562869			
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
5.1.1 Supplement PLW with MNT	MNTs, cash,logistics		562,869	562,869	562,869	562,869	562,869	562,869	562,869	562,869	562,869	$0.00		
5.1.2 Procurement of Iron/ Folic/MNTS	Cash and logistics	455,924	50,658	50,658	50,658	50,658	50,658	50,658	50,658	50,658	50,658	$5,927,000.00		
5.1.3 Distribution of MNT to the state	Cash and logistics	90	10	10	10	10	10	10	10	10	10	$90,000.00		
5.1.4 Training of Community health workers on MNT	Trainers, Cash, Logistics (charge to MIYCN section, objective 4)	4,212	468	468	468	468	468	468	468	468	468	$0.00		
5.1.5 Monitoring and supervision	Supervision forms, HR, cash and logistics (charge it to MIYCN section)	36	4	4	4	4	4	4	4	4	4	$0.00		
5.1.6 Develop IEC materials	Technical team & cash, logis-tics (charge it to MIYCN section 4 under devel-opment of IEC materials)	45	5	5	5	5	5	5	5	5	5	$0.00		
5.1.7 Micronutrient survey to establish impact of MNT supplementation	Cash, trained team, logistics (charge it to poli-cies and systems) integrated in the national health and nutrition survey	3	1				1				1	$0.00		

MICRONUTRIENT

REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025

	Indicators	Baseline	2017	2018	2019	2020	2021	2022	2023	2024	2025	Means of Verification	Assumptions	Lead Agency
Output 6: National fortification and importation regulations of fortified staple products are developed	Number of fortified food checked and satisfied by Bureau of standards													
Output 6.1: staple products fortified	# of sample products fortified	0	0	0	0	0	10	10	10	10	1	Report from survey		
Output 6.2:90% Household in south Sudan utilise iodized salt	% of HHs utilizing iodised salt	0												
Activities:	**Inputs/resources**	**Target**	**2017**	**2018**	**2019**	**2020**	**2021**	**2022**	**2023**	**2024**	**2025**	**Cost**		
6.1.1 see activities under policies and systems														
6.2.1 train each state in conducting salt iodization test (10 inspectors per state)	Cash, resource persons, logistics,	90	10	10	10	10	10	10	10	10	10	$450,000.00		
6.2.2 Produce IEC materials and other campaign materials to sensitize people on the use of iodized salt	Charge to MIYCN section under the development of IEC materials and campaign materials											$0.00		
6.2.3 inspections in markets and store (12 inspections per year per county)	Cash, logistics,tools	8640	960	960	960	960	960	960	960	960	960	$864,000.00		
6.2.3 Annual review and planning at the state level with the inspectors	Cash, logistics,tools, venue	90	10	10	10	10	10	10	10	10	10	$180,000.00		

ANNEX 1

SUMMARY OF IMPLEMENTATION PLAN

REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025

COMPONENT	AVERAGE COST BY YEAR (USD)									TOTAL COST (USD)
	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Objective 1:POLICY AND SYSTEMS										
Output 1	$24,539	$24,539	$24,539	$24,539	$24,539	$24,539	$24,539	$24,539	$24,539	$220,848
Output 2	$3,469	$3,469	$3,469	$3,469	$3,469	$3,469	$3,469	$3,469	$3,469	$31,225
Output 2.1	$927	$927	$927	$927	$927	$927	$927	$927	$927	$8,339
Output 3	$2,721	$2,721	$2,721	$2,721	$2,721	$2,721	$2,721	$2,721	$2,721	$24,487
Output 4	$134,646	$134,646	$134,646	$134,646	$134,646	$134,646	$134,646	$134,646	$134,646	$1,211,814
Output 5	$68,482	$68,482	$68,482	$68,482	$68,482	$68,482	$68,482	$68,482	$68,482	$616,341
Output 6	$13,425	$13,425	$13,425	$13,425	$13,425	$13,425	$13,425	$13,425	$13,425	$120,827
Output 7	$6,546	$6,546	$6,546	$6,546	$6,546	$6,546	$6,546	$6,546	$6,546	$58,917
SUBTOTAL	**$248,209**	**$248,209**	**$248,209**	**$248,209**	**$248,209**	**$248,209**	**$248,209**	**$248,209**	**$248,209**	**$2,233,881**

COMPONENT	AVERAGE COST BY YEAR (USD)									TOTAL COST (USD)
	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Objective 2: MIYCN										
Output 1	$158,529	$158,529	$158,529	$158,529	$158,529	$158,529	$158,529	$158,529	$158,529	$1,426,761
Output 2	$438,302	$438,302	$438,302	$438,302	$438,302	$438,302	$438,302	$438,302	$438,302	$3,944,717
Output 3	$1,073,383	$1,073,383	$1,073,383	$1,073,383	$1,073,383	$1,073,383	$1,073,383	$1,073,383	$1,073,383	$9,660,450
Output 4	$0	$0	$0	$0	$0	$0	$0	$0	$0	
Output 4.1	$263,773	$263,773	$263,773	$263,773	$263,773	$263,773	$263,773	$263,773	$263,773	$2,373,954
Output 4.2	$410,371	$410,371	$410,371	$410,371	$410,371	$410,371	$410,371	$410,371	$410,371	$3,693,343
Output 4.3	$48,505	$48,505	$48,505	$48,505	$48,505	$48,505	$48,505	$48,505	$48,505	$436,548
Output 4.4	$40,943	$40,943	$40,943	$40,943	$40,943	$40,943	$40,943	$40,943	$40,943	$368,489
Output 4.5	$102,364	$102,364	$102,364	$102,364	$102,364	$102,364	$102,364	$102,364	$102,364	$921,278
Output 5	$918,511	$918,511	$918,511	$918,511	$918,511	$918,511	$918,511	$918,511	$918,511	$8,266,600
Output 6	$246,191	$246,191	$246,191	$246,191	$246,191	$246,191	$246,191	$246,191	$246,191	$2,215,716
Output 7	$393,750	$393,750	$393,750	$393,750	$393,750	$393,750	$393,750	$393,750	$393,750	$3,543,750
Output 8	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Output 9	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Output 10	$4,653,093	$4,653,093	$4,653,093	$4,653,093	$4,653,093	$4,653,093	$4,653,093	$4,653,093	$4,653,093	$41,877,839
SUBTOTAL	**$8,747,716**	**$8,747,716**	**$8,747,716**	**$8,747,716**	**$8,747,716**	**$8,747,716**	**$8,747,716**	**$8,747,716**	**$8,747,716**	**$78,729,445**

SUMMARY OF IMPLEMENTATION PLAN

REPUBLIC OF SOUTH SUDAN - MATERNAL, INFANT AND YOUNG CHILD NUTRITION - COSTED IMPLEMENTATION PLAN 2017-2025

COMPONENT	AVERAGE COST BY YEAR (USD)									TOTAL COST (USD)
	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Objective 3: MICRONUTRIENTS										
Output 1	$80,000	$80,000	$80,000	$80,000	$80,000	$80,000	$80,000	$80,000	$80,000	$720,000
Output 2	$88,083	$88,083	$88,083	$88,083	$88,083	$88,083	$88,083	$88,083	$88,083	$792,747
Output 3	$89,990	$89,990	$89,990	$89,990	$89,990	$89,990	$89,990	$89,990	$89,990	$809,910
Output 4	$1,282,444	$1,282,444	$1,282,444	$1,282,444	$1,282,444	$1,282,444	$1,282,444	$1,282,444	$1,282,444	$11,542,000
Output 5	$668,556	$668,556	$668,556	$668,556	$668,556	$668,556	$668,556	$668,556	$668,556	$6,017,000
Output 6	$166,000	$166,000	$166,000	$166,000	$166,000	$166,000	$166,000	$166,000	$166,000	$1,494,000
SUBTOTAL	$2,375,073	$2,375,073	$2,375,073	$2,375,073	$2,375,073	$2,375,073	$2,375,073	$2,375,073	$2,375,073	$21,375,657

Total for the 9 years	**$102,338,983**
Annual requirement	**$11,370,998**
Cost person per person/year (ToT Population)	**$0.97**
Investment per Pregnant woman, mother of infant less than 6 months and child less than 5/year (27 % of the Total Population)	**$3.59**

NOTES

Big Yellow Taxi was
responsible for art
direction and design.
www.bigyellowtaxi.com


unicef
for every child


WFP
wfp.org
World Food
Programme