REPUBLIC OF KENYA

MINISTRY OF HEALTH

POINT-OF-USE FORTIFICATION WITH MICRONUTRIENT POWDERS (MNP)

IMPROVING THE NUTRITION OF INFANTS AND YOUNG CHILDREN AGED 6-23 MONTHS

PARTICIPANTS' MANUAL | HEALTHCARE PROVIDERS

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Foreword

Kenya is experiencing the triple burden of malnutrition, with co-existence of undernutrition (stunting, underweight and wasting), over nutrition (overweight and obesity), and micronutrient deficiencies. One in four children under five years are stunted, 4% are wasted while 11% are underweight. Further, 28% of adults 18-69 years and 4% of children under 5 years are overweight and obese. Additionally, micronutrient deficiencies of iron, folate, iodine, vitamin A and zinc are widespread. About 42% of pregnant women, 22% of non-pregnant women, 9% of men and 26% of preschool children are anaemic, while 32% of pregnant women have folate deficiency. Overall, 24% of the population have marginal Vitamin A Deficiency (VAD) and preschool children are the worst affected with a prevalence of 53%. Besides, zinc deficiency is an emerging public health concern affecting at least 70% of the population.

Malnutrition increases the risk of morbidity and mortality and contributes close to half of all deaths in children under five years. It is also associated with lower educational achievement and cognitive development during childhood and leads to long-term impairment, including increased risk of chronic diseases and lower productivity during adulthood. The Cost of Hunger in Africa (COHA) Study conducted in Kenya in 2019 revealed that Ksh 374 billion shillings or equivalent to 6.9% of the Gross Domestic Product was lost in 2014 due to child undernutrition. The economic impact of undernutrition in the health sector alone was estimated at Ksh 18.6 billion.

The Ministry of Health is committed to addressing the triple burden of malnutrition as outlined in the Kenya Health Policy (2014-2030) and National Food and Nutrition Security Policy, 2012. One of the objectives of the Kenya Health Policy is to minimize exposure to health risk factors and promotion of control of micronutrient deficiencies is one of the interventions. The Ministry is implementing the Kenya Nutrition Action Plan (KNAP) 2018-2020 which is aligned to both the Kenya Health Policy and the National Food and Nutrition Security Policy, 2012.

The harmonized training package for Point-of-use-fortification using micronutrient powders has been developed to guide in training frontline health workers. The micronutrient powders will be distributed at the health facilities where instructions on use will be provided by Health Care Providers. Community Health Volunteers will educate, counsel, and mobilize caregivers at the community level to visit health facilities for nutrition assessment and provision of the micronutrient powders.

Dr. Patrick Amoth
Ag. Director General for Health

Acknowledgement

The Point-of-Use Fortification with Micronutrient Powders Trainers' Guide and participants' manual for Healthcare Providers was developed through wide consultation with expertise drawn from government and partner organizations, under the leadership of Ministry of Health (MOH) through the Division of Nutrition and Dietetics (DND).

Sincere appreciation to the members of the Micronutrient Technical Working Group for their commitment and dedication in developing the manual. Special compliments go to Julia Rotich (DND) for leading the process. Further, DND appreciates the invaluable inputs from technical officers from Kenyatta National Hospital (KNH), University of Nairobi (UON), Division of Health promotion (MOH), UNICEF, Action Against Hunger (ACF), DSM, Kenya Red Cross, World Food Programme (WFP), Elgeyo Marakwet and Nairobi Counties. Much thanks to County Nutrition Coordinators from Kwale, Kilifi, Nakuru, Bomet and Nandi counties for pre-testing the manual and providing inputs for improvement.

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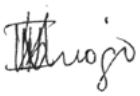

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Acronyms and Abbreviations

BCC	Behaviour Change Communication
BF	Breastfeeding
BFCI	Baby Friendly Community Initiative
CF	Complementary feeding
CHA	Community Health Assistants
CHC	Community Health Committees
CHV	Community Health Volunteers
DAR	Daily Activity Register
DND	Division of Nutrition and Dietetics
DNI	Drug-Nutrient Interaction
FBF	Fortified Blended Flours
F-CDRR	Facility Consumption Data and Request Report
FHC	Facility Health Committee
HCP	Healthcare Provider
HCW	Healthcare Worker
HF	Health facilities
HINI	High Impact Nutrition Interventions
HIV	Human Immunodeficiency Virus
IDA	Iron Deficiency Anaemia
IEC	Information Education and Communication
IYCF	Infant and Young Child Feeding
IYCN	Infant and Young Child Nutrition

KEMSA	Kenya Medical Supply Agency
KNAP	Kenya Nutrition Action Plan
KNH	Kenyatta National Hospital
KRA	Key Result Area
LNS	Lipid-based Nutrient Supplements
MAD	Minimum Acceptable Diet
MCH	Maternal and Child Health
MDD	Minimum Dietary Diversity
MIYCN	Maternal, Infant and Young Child Nutrition
MN	Micronutrient
MND	Micronutrient Deficiency
MNP	Micronutrient Powders
RH	Reproductive Health
RNI	Recommended Nutrient Intake
RUSF	Ready-to-Use Supplementary Foods
RUTF	Ready-to-Use Therapeutic foods
SBCC	Social and Behaviour Change Communication
SUN	Scaling Up Nutrition
UON	University of Nairobi
VAD	Vitamin A Deficiency
VMP	Vitamin and Mineral Powders
WHO	World Health Organization

Operational Definitions

Adverse effects:
The body's undesired response to MNPs which is unintended and harmful

Advocacy:
An activity by an individual or group that aims to influence decision within political, economic, and social systems and institutions.

Behaviour change communication:
An interactive process with communities to develop tailored messages and approaches using a variety of communication channels to develop positive behaviours to promote and sustain individual, community and societal behaviour change and maintenance.

Capacity strengthening:
A process that improves the ability of an individual or group to enhance and develop new knowledge, skills, attitudes, systems and structures to function effectively.

Community Health Volunteer:
Any person within the community willing to work on voluntary basis, is able to read and write, is a permanent resident in the community, has served and/or is committed to the service of neighbours.

Complementary feeding:
The process of introducing age-appropriate solid or semi-solid foods at six months of age with continued breastfeeding up to 2 years or beyond.

Complementary food:
Any food, whether manufactured or locally prepared, suitable as a complement to breastmilk and introduced from six months of age.

First 1,000 days:
Period between conception and a child's second birthday.

Indicator:
These are signs or markers that inform the relevant parties whether the programme objectives are being achieved.

Micronutrient Powder:
A dry powder in a single-dose sachet comprising 15 micronutrients (minerals and vitamins) used for fortification of complementary foods at the point of use. It's also referred to as Vitamin and Mineral Powders.

Minimum acceptable diet:
A measure of both the minimum feeding frequency and minimum dietary diversity among children aged 6-23 months, as appropriate for various age groups.

Minimum dietary diversity:
The percentage of children aged 6-23 months who receive foods from four or more food groups out of the recommended seven groups. This reflects the quality of the complementary food diet.

Point-of-use fortification:
Addition of MNPs to already prepared/cooked complementary or other foods just before consumption

Responsive feeding:
Feeding infants and young children slowly and patiently, encouraging them to eat without forcing them, talking to the child, and maintaining eye contact. The caregiver provides the food, and is responsive to the cues provided by the child, creating a positive feeding experience.

Social Mobilization:
Process of bringing together all society and persons with influence to raise awareness of and demand for healthcare, assist in delivery of resources and services and cultivate sustainable individual and community involvement.

Stunting:
Is when a child has a low height for their age compared to other children of the same age, usually due to undernutrition from before birth and repeated infections.

Underweight:
Is when a child has a low weight for their age compared to other children of the same age, an indication of wasting or stunting, or a combination of both.

Wasting:
Is when a child has a low weight for their height compared to other children of the same age. An indication of an acute period of malnutrition and/or illness.

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Background

Improving nutritional status and reducing vitamin and mineral deficiencies are integral to achieving Kenya's Vision 2030 and the Sustainable Development Goals. In 2012, Kenya became the 30th country to sign up to "Scaling Up Nutrition" (SUN), demonstrating the Government's commitment to eradicating hunger and malnutrition. The Government is also committed to ensuring equitable access to and uptake of High Impact Nutrition Interventions (HINI) as is clearly stipulated in the National Food and Nutrition Security Policy that was gazetted in 2012. Similarly, the Kenya Nutrition Action Plan (KNAP) 2018-2022, outlines 19 key result areas (KRAs) including prevention, control and management of micronutrient deficiencies. Point-of-Use fortification with Micronutrient Powders (MNPs) is one of the identified strategies to reduce micronutrient deficiencies among children aged 6-23 months. Micronutrient powders have been integrated into the National Maternal, Infant and Young Child Nutrition (MIYCN) strategy and guidelines as a component of complementary feeding.

The World Health Organization (WHO) recommends point-of-use fortification of complementary foods with iron-containing micronutrient powders (MNPs) in populations where anaemia is a public health problem, at a prevalence of 20% or higher among infants and young children aged 6–23months[1] . The national policy guideline on the use of MNPs[2] and the operational guideline for healthcare providers[3] offer direction for the implementation of the MNP programme. The overall objective of the point-of-use fortification with MNPs is to improve the micronutrient status of children aged 6-23 months by improving the quality of their complementary foods.

About this training

This two-day training is designed to equip healthcare providers with knowledge and skills for planning, delivery, monitoring and reporting on MNPs.

Course Participants

This training is designed for healthcare providers who deliver services to caregivers of children aged 6-23 months. They include nutritionists, nurses, community health strategy coordinators, health promotion officers, public health officers, pharmacists, health information records officers and other health professionals.

1 WHO guideline: Use of multiple micronutrient powders for point-of-use fortification of foods consumed by infants and young children aged 6–23 months and children aged 2–12 years. Geneva: World Health Organization; 2016. Licence: CC BY-NC-SA 3.0 IGO.
2 National Policy Guideline on Home Fortification with Micronutrient Powders (MNPs) for Children aged 6-23 months in Kenya
3 Operational Guidelines for Health workers in Kenya: Home Fortification with Multiple Micronutrient Powders

Session 1: Course Introduction

Handout 1.1: Course Objectives Course Objectives

By the end of the course, the participants will be able to;

- Demonstrate an understanding of Micronutrient Deficiency (MND) situation and approaches to address the deficiencies in Kenya
- Explain the evidence on efficacy and effectiveness of MNPs, including their use in Malaria Endemic areas
- Describe the role of point-of-use fortification using MNPs in Infant and Young Child Nutrition
- Explain the benefits, dosage, frequency, administration, and safety of MNPs for children aged 6-23 months
- Demonstrate the point-of-use fortification using MNPs to improve the quality of complementary foods
- Explain the MNPs commodity management and reporting
- Demonstrate skills in MNP programme monitoring and reporting
- Explain the role of social and behaviour change communication in improving the uptake of MNPs
- Demonstrate the appropriate client-service provider interaction skills
- Develop County and sub-county Plans of Action.

Handout 1.2: Training Programme

Time	Sessions
Day One	
8.00 – 8.30 a.m.	Introduction and welcome remarks
8.30 – 9.30 a.m.	**SESSION 1: Course Introduction** • Pre-test assessment • Objectives and workshop approach
9.30 – 10:30 a.m.	**SESSION 2: Background on Micronutrient Deficiencies** • Background on micronutrient deficiencies • The current situation and approaches to address Micronutrient deficiencies (MNDs) in Kenya and County • Overview of research findings on MNPs • Use of MNPs in malaria endemic areas
10.30 – 11.00 a.m.	BREAK
11.00 a.m – 12.00 p.m.	**SESSION 3: Role of Point-of-Use Fortification with MNPs in Infant and Young Child Nutrition** • Importance of Optimal Infant and Young Child Nutrition (IYCN) • IYCN Indicators and Criteria for complementary feeding • Reasons for addition of MNPs to Complementary foods
12.00 – 1.00 p.m.	**SESSION 4: Point-of-use Fortification with MNPS** • Purpose and benefits of point-of-use fortification with MNPs • MNP Formulation • The target group for point-of-use fortification • The dosage and frequency of use • Safety of MNPs and Adverse Effects
1.00 – 2.00 p.m.	LUNCH BREAK
2.00 – 3.00 p.m.	**Demonstration:** How to use the MNPs to fortify complementary food
3.00 – 4.30 p.m.	**SESSION 5: Commodity Management and Reporting on MNPs** • Importance of MNPs logistics management • MNP Supply Chain and Stock Management Cycle • MNPs storage conditions, shelf life and distribution • MNP ordering and needs determination • MNPs inventory management measurements
4:30 – 5:00 p.m.	Tea and Departure

Time	Sessions
Day Two	
8.00 – 8.30 a.m.	Participants arrival and registration
8.30 – 9.30 a.m.	**SESSION 5: Commodity Management and Reporting (cont'd)** • How to calculate MNPs indicators • Utilization, Coverage, and Access indicators • Tools used to document and report MNPs
9.30 – 10:30 a.m.	**SESSION 6: Role of Social and Behaviour Change Communication in improving the uptake of MNPs** • Introduction to SBCC • The primary, secondary and tertiary audiences for MNP and how they influence change • The desired changes and obstacles that are real barriers to those changes.
10.30 – 11.00 a.m.	BREAK
11.00 a.m – 1.00 p.m.	**SESSION 6: Role of Social and Behaviour Change Communication in improving the uptake of MNPs (cont'd)** • The key messages for the different target audiences • The social and behaviour change strategies that will be used in the MNP programme • Role plays with generic case scenarios
1.00 – 2.00 p.m.	LUNCH BREAK
2.00 – 3.45 p.m.	**SESSION 7: Action Planning for MNP Activities**
3.45 – 4.30 p.m.	• Post-test assessment • Way forward
4:30 – 5:00 p.m.	Tea and Departure

Session 2:
Background on Micronutrient Powders

Handout 2.1: Background on Micronutrient Deficiencies

Micronutrient Deficiencies (MND) are widespread globally but are more pronounced in developing countries. Although they affect all age groups, infants, young children and women of reproductive age are at higher risk of developing micronutrient deficiencies. MND has many adverse effects on human health some of which are not evident. Even moderate levels of deficiency (only detectable through biochemical or clinical measurements) can have serious detrimental effects on the overall wellbeing of an individual.

It is estimated that nutritional risk factors, including being underweight, suboptimal breastfeeding, and vitamin and mineral deficiencies, particularly of vitamin A, iron and zinc, are responsible for 3.9 million deaths (35% of total deaths) in children aged less than 5 years[4].

Worldwide, the common forms of MND are Iron, Vitamin A, Zinc, Folate and Iodine deficiency. Together, these affect at least one third of the world's population with Iron deficiency being the most prevalent micronutrient deficiency. Approximately 300 million children globally had anaemia in 2011[5].

The African, South-East Asia and Eastern Mediterranean Regions have the highest burden of anaemia, with approximately 62%, 54% and 48%, respectively, of children aged 6–59 months suffering from anaemia (Stevens GA et al, 2015).

It is also estimated that 29% of preschool-age children in low- and middle-income countries are affected by vitamin A deficiency with the highest burden in Sub-Saharan Africa and South Asia, with approximately 48% and 44% of children aged 6–59 months, respectively, being vitamin A deficient.

Globally, zinc deficiency is very common, particularly in lower-income countries where diets are cereal-dominant and typically lower in protein. Zinc is an essential nutrient for growth and recovery and deficiency can therefore stunt growth; increase susceptibility to disease and infection; increase recovery time, or in some cases, impair recovery; reduce mental capacity; and increase the prevalence of maternal, neonatal and child complications.

Even mild to moderate deficiencies of micronutrients lead to impaired physical and cognitive development, poor physical growth, and increased morbidity from infectious diseases in childhood and decreased work productivity in adulthood.

4 Global health risk. Mortality and burden of disease attributable to selected major risks [Internet]. Geneva: World Health Organization; 2009
5 The global prevalence of anaemia in 2011. Geneva: World Health Organization; 2015

MNDs are caused by undernutrition due to lack of dietary diversity, in some cases food shortages and other factors such as recurrent illnesses and infection. Typically, the diet of most vulnerable groups constitutes of cereals and tend to be low in proteins and micronutrients. These populations consume few animal-source foods and thus may suffer from a high prevalence of micronutrient deficiencies (WHO, 2006).

Micronutrient deficiency affects mainly women and children during the first 1,000 days of life due to the high nutrient requirements. Infants and children are most vulnerable to micronutrient deficiency, given the high vitamin and mineral intake they need to support their rapid growth and adequate development (Dewey KG & Brown KH, 2003).

Diets that are predominantly plant based generally provide insufficient amounts of key micronutrients (particularly vitamin A, zinc and iron) to meet the recommended nutrient intakes. The inclusion of animal-source foods that could meet the nutrient gap increases the cost and may not be affordable for the lowest-income groups (WHO, 2003).

The World Health Organization (WHO) recommends point-of-use fortification of complementary foods with iron-containing micronutrient powders (MNPs) in populations where anaemia is a public health problem, at a prevalence of 20% or higher among infants and young children aged 6–23 months[6].

Micronutrient powders (MNPs) have been integrated in the National Maternal, Infant and Young Child Nutrition strategy, 2017 and Baby Friendly Community Initiative (BFCI) 2018 as a component of complementary feeding.

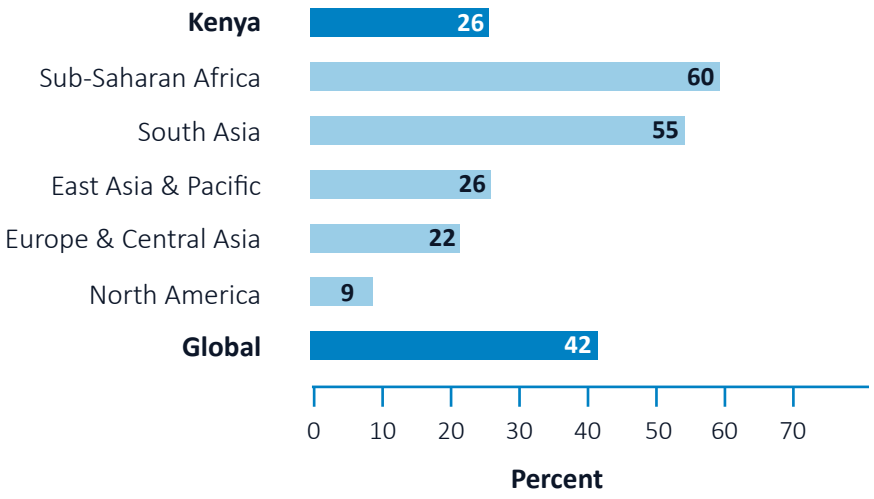


Figure 2.1: Estimated anaemia prevalence among children under five by world region, global and Kenya

6 WHO guideline: Use of multiple micronutrient powders for point-of-use fortification of foods consumed by infants and young children aged 6–23 months and children aged 2–12 years. Geneva: World Health Organization; 2016. Licence: CC BY-NC-SA 3.0 IGO.

Global Hunger Index in Pre-school Children

The Hidden Hunger Index (HHI-PD) for preschool-age children is calculated as the average of three deficiency prevalence estimates[7]:

- Pre-school children affected by stunting,
- Anaemia due to iron deficiency, and
- Vitamin A deficiency

During the period 1999-2009, the HHI-PD score ranged between the best and worst possible scores of 0 and 100, respectively. Applying arbitrary cut-offs, HHI-PD scores between 0-19.9 were considered mild, 20-34.9 as moderate, 35-44.9 as severe, and 45-100 as alarmingly high

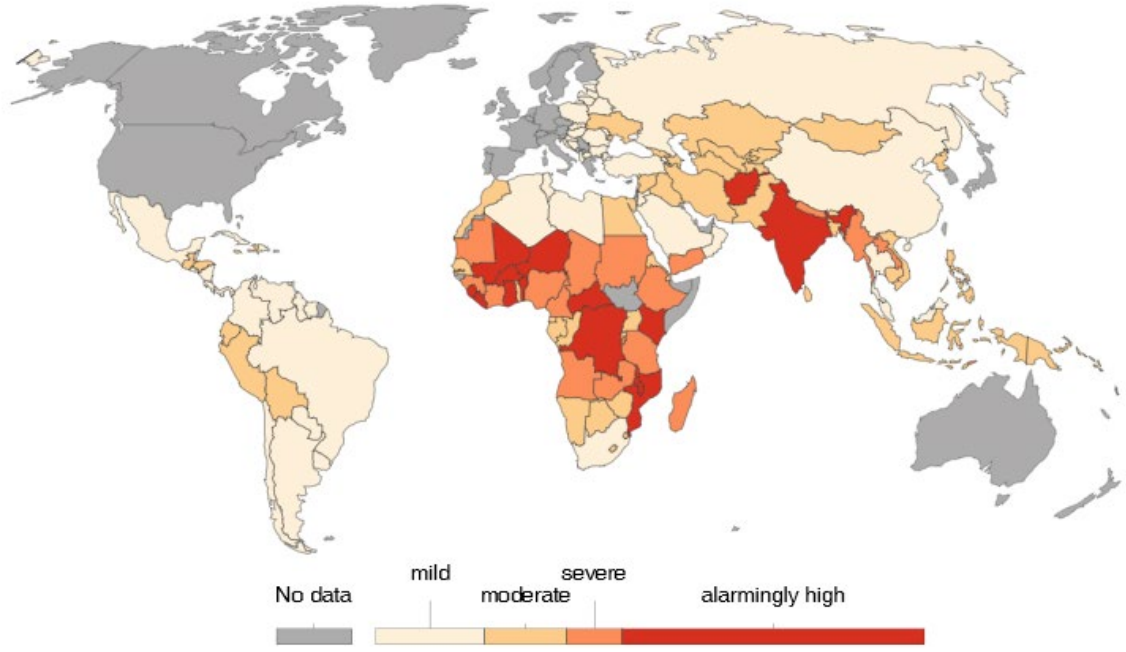


Figure 2.2: Global Hunger Index in pre-School Children (<5 years), 2009 to 2019)
Source: *https://ourworldindata.org/micronutrient-deficiency*

7 Micronutrient Deficiency from https://ourworldindata.org/grapher/global-hidden-hunger-index-in-pre-school-children

Handout 2.2: Current Situation and Approaches to Address Micronutrient Deficiencies in Kenya

Micronutrient Deficiencies in Kenya

The most common MNDs include iron, vitamin A and zinc deficiency[8].

- The prevalence of anaemia among 6-59 months old children is 26.3% while in pregnant women it is 41.6%
- VAD and Marginal VAD among preschool children was 9.2% (highest compared to other cohorts) and 52.6%, respectively
- Zinc deficiency was 81.6% among children 6-59 months old and 67.9% for pregnant women

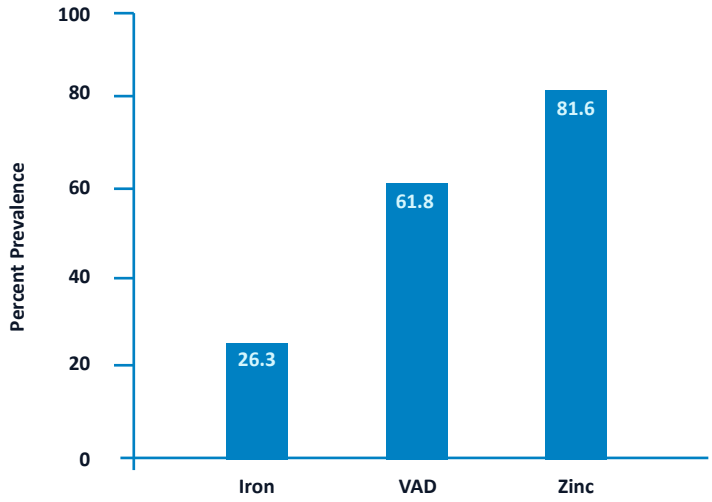


Figure 2.3: Prevalence of Micronutrient Deficiency in Pre-school Children in Kenya

Note: Percentage for VAD also includes those at risk of severe VAD (marginal VAD)

Consequences of Undernutrition in Kenya

In 2019, the Cost of Hunger in Africa (COHA) Kenya study estimated that the annual cost associated with child undernutrition in Kenya was estimated at Kshs 374 Billion (6.92% of GDP)[9].

The economic impact associated with underweight and stunted children is quite significant with far reaching effects on Health, Education and Productivity

Effects on health

- Undernourished children have a higher risk of illness and death associated with diarrhoea, acute respiratory infections, malaria and anaemia

8 Kenya National Micronutrient Survey, 2011
9 GOK Cost of Hunger in Africa (COHA) Kenya Study, 2019

Effects on Education

- Children who are stunted before the age of five years are more likely to underperform in school (attaining lower grades & repeating classes)

Effects on Productivity

- Undernutrition in children, specifically stunting, has a negative impact on their productivity at later stages in life

  Undernutrition related deaths result in the loss of potential income

Approaches to Address Micronutrient Deficiencies

There are several approaches that have been utilized at different times and in different populations to address micronutrient deficiencies[10].

Strategy	Description
Dietary diversification	This entails the consumption of a variety of food groups that provides the necessary micronutrients in adequate amounts
Supplementation	It is the periodic administration of pharmacologic preparations of nutrients as capsules, tablets, oil solutions or food, as well as by injection when substantial or immediate benefits are necessary for the group at risk. Example: Vitamin A supplementation for children aged 6-59 months; Iron and folate supplementation for pregnant women during ANC
Food Fortification:	**Mass fortification:** This involves addition of micronutrients to commonly consumed foods such as salt, maize flour, wheat flour, fats and oils during processing **Point-of-Use or Home fortification:** This involves the addition of micronutrient powder to already prepared foods **Bio-fortification:** It involves improvement of nutritional quality of food crops through conventional plant breeding or the use of biotechnology. Example: Orange-fleshed sweet potatoes
Public Health Measures	Public health plays a critical role in micronutrient deficiency control through different avenues, including improved sanitation, malaria control and treatment, routine deworming of children, nutrition and health education

Table 2.1: Approaches to Address Micronutrient Deficiencies

10 Operational Guidelines for Health Workers in Kenya: Home Fortification with Micronutrient Powders, 2016

Handout 2.3: Supportive Policy Environment and Legal Framework

There are a number of documents, both legal frameworks and policies, that support, promote and provide guidelines towards the implementation of point-of-use fortification with MNPs. These include:

- World Health Organization (WHO) guidelines on point-of-use fortification with MNPs
- The Constitution of Kenya, 2010 (Articles 43 & 53)
- The Kenya Nutrition Action Plan (KNAP), 2018-2022
- National Social Marketing and communication strategy for food fortification (2015)
- National Policy Guideline on Home Fortification with MNP for Children 6-23 Months in Kenya, 2013
- Operational Guidelines for Health Workers in Kenya: Home Fortification with Multiple Micronutrient Powders, 2016
- National Baby Friendly Community Initiative (BFCI) Trainers' Guide, 2018
- National MIYCN Policy Guidelines (Draft, 2020)

Handout 2.4: Overview of research findings on MNPS

Global evidence shows that point-of-use fortification of foods with MNPs is an effective intervention to reduce anaemia and iron deficiency in children 6 to 23 months of age[11]. The following are findings from some studies that have been conducted to assess the efficacy and effectiveness as well as acceptability of MNPs

Study 1 Multiple Cochrane Systematic Reviews

The following Cochrane Systematic Reviews were conducted to assess the effects and safety of point-of-use fortification of foods with multiple micronutrient powders for infants and young children from 6-23 months in several countries across the continents. The studies reviewed were Randomised Controlled Trials (RCTs)

11 De-Regil LM, Suchdev PS, Vist GE, Walleser S, & Peña-Rosas JP. Home fortification of foods with multiple micronutrient powders for health and nutrition in children under two years of age. Cochrane Database of Systematic Reviews 2011, Issue 9

Review Year	Number of trials	Number of children	Age cohort	Intervention duration	Anaemia reduction (%)	Iron-deficiency reduction (%)
2011	8	3,748	6-23 months	2-12 months	31	51
2011 updated	15	12,239	6-23 months	2-18 months	26	52
2020	24	26,486	6-23 months	2-44 months	18	53

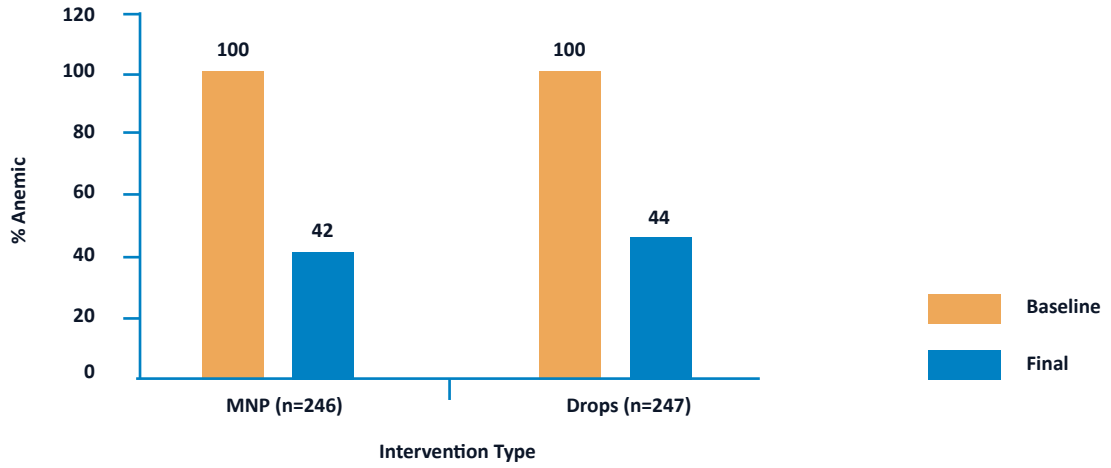
Table 2.2: Summary Evidence on Effectiveness from 3 Cochrane Reviews

Conclusion:

Point-of-use (Home) fortification of foods with MNP is an effective intervention for reducing anaemia and iron deficiency in children younger than two years of age. Providing MNP is better than providing no intervention or placebo and may be comparable to using daily iron supplementation.

Study 2 in Ghana

Anemia Prevalence before and After Receiving 60 Sachets Over 2 Months in 6-18 Month Old Infants



(Modified from Zlotkin et al. AJCN 2001; 74:791-5)

Figure 2.4: Anaemia Prevalence before and after receiving 60 sachets over 2 months in 6-18 months old infants in Ghana

Conclusion:

Anaemia prevalence reduced by over 50 percent for both MNP and iron drops. Therefore MNP is as effective as single supplement with the added advantage of other essential micronutrients

Study 3 in Tanzania

A community-based, randomized longitudinal study was conducted in 2019 to determine efficacy of different doses of multiple micronutrient powders on haemoglobin concentrations in children aged 6-59 months in Arusha District, Tanzania[12].

Results:

- A reduction in anaemia prevalence with about 52%, 67%, and 79% of the children in the groups who received 2/week, 3/week, and 5/week sachets, respectively, moved from being anaemic to having normal Hb levels >11 g/dL
- At the end of intervention, % of children with symptoms of diarrhoea, fever, cough, and other illnesses decreased from 65% (baseline) to 30.6%
- Haemoglobin levels significantly higher among those who received 3 or 5 sachets/week

	Treatment groups (Number of sachets per week)					
Duration	5/week	3/week	2/week	1/week	p value*	51
Baseline	9.0 ± 0.70	9.2 ± 0.78	9.0 ± 0.79	9.0 ± 0.67	0.5	52
Midline	10.02 ± 0.60	9.8 ± 0.78	9.6 ± 0.90	9.3 ± 0.71	0.00	
End line	11.32 ± 0.52	11.10 ± 0.8	10.80 ± 1.02	9.60 ± 0.70	0.00	53

Table 2.3: Comparison of Haemoglobin levels at baseline and after 6 months intervention

Conclusion:

The more frequent dosage in terms of number of sachets per week, the higher the haemoglobin levels after 6 months intervention and a reduction of >50% reduction in anaemia prevalence

Study 4 in Kenya

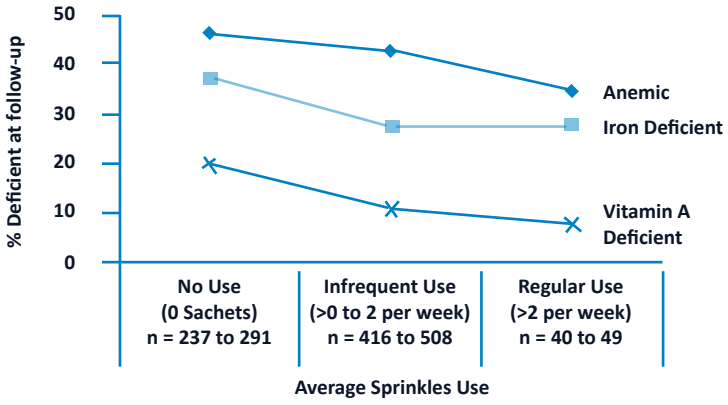


Figure 2.5: Percentage of children with anaemia, iron deficiency, and vitamin A deficiency at follow-up by category of use of Sprinkles MNP in Kenya

Source: *https://pubmed.ncbi.nlm.nih.gov/22492366/#&gid=article-figures&pid=figure-3-uid-2*

12 Efficacy of Different Doses of Multiple Micronutrient Powder on Haemoglobin Concentration in Children Aged 6–59 Months in Arusha District, 2019

Conclusion:

Even with relatively low and infrequent use, Sprinkles MNP sales through community vendors were associated with decreased rates of anaemia and iron and vitamin A deficiency in children in a resource-poor setting (Suchdev et al. 2012)

Handout 2.5: Use of MNPs in Malaria Endemic Areas

- Childhood anaemia is a major public health problem in malaria endemic regions.
- Due to the potential adverse effects of iron intake among children affected by malaria, considerations should be made when implementing point-of-use fortification interventions among children.
- Efforts between malaria control and nutrition programmes providing MNP can help ensure increased health benefit for children.

> *"In malaria-endemic areas, the provision of iron in any form, including micronutrient powders for point-of-use fortification, should be implemented in conjunction with measures to prevent, diagnose and treat malaria. Provision of iron through these interventions should not be made to children who do not have access to malaria-prevention strategies (e.g. provision of insecticide-treated bed nets or other vector-control measures), prompt diagnosis of malaria illness, and treatment with effective antimalarial drug therapy[13]."*

- Anaemia has many causes with both malaria and iron deficiency as major contributing factors.
- In malaria-endemic areas, MNPs (and other measures that provide iron such as syrup and drops) can be given; however, other measures to prevent, diagnose and treat malaria should also be implemented.
- All children, including those receiving MNP, should sleep under an Insecticide Treated Net.
- Children with a fever should be tested for malaria without delay
- Children who test positive should be treated with the first line of therapy (context specific).
- If testing is not available and the child has a fever with no signs of other childhood conditions like pneumonia or gastroenteritis, the child should also be treated with first line of therapy (context specific).

13 WHO Guideline: Use of multiple micronutrient powders for point-of-use fortification of foods consumed by infants and young children aged 6–23 months and children aged 2–12 years. November 2016

Key Health Messages[14]:

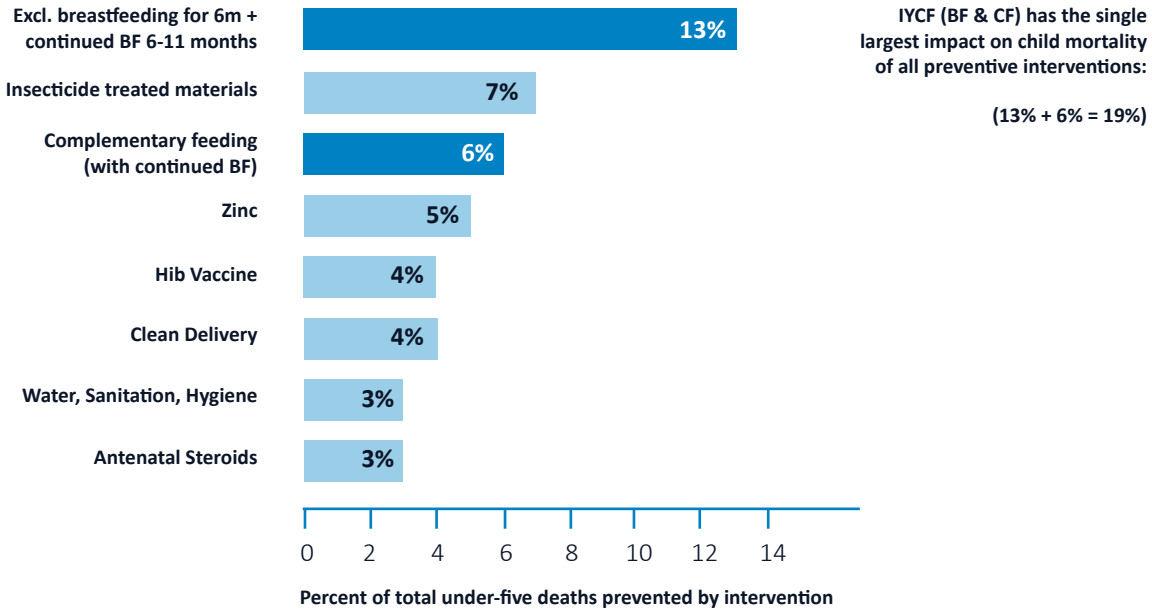
- Taking iron does not make a child more likely to be infected with malaria
- However, children taking iron may get sicker than children not taking iron:
    - » **IF** they become infected and;
    - » **IF** they do not receive treatment promptly
- Iron supplementation is important in treating anaemia
- Providing iron in the context of malaria control will have a greater impact on anaemia than malaria control alone
- Therefore, iron-containing MNP must always be provided in the context of an active malaria control program. Coordination of efforts between malaria control and nutrition programs providing MNP can help to ensure improved health outcomes for children

14 Home Fortification Technical Advisory Group. Key messages for developing training materials for health workers implementing Micronutrient Powders (MNP) in malaria endemic areas. Home Fortification Technical Advisory Group, 2018.

Session 3:
Role of Point-of-Use Fortification With MNPs in Infant and Young Child Nutrition

Handout 3.1: Importance of Optimal Infant and Young Child Nutrition

Optimal breastfeeding and complementary feeding practices are essential to meet the nutritional needs of children in the first years of life. Exclusive breastfeeding for the first six months of life and continued breastfeeding through the first two years of age with additional and appropriate complementary foods can increase child survival by 19%[15]. Appropriate feeding practices are of fundamental importance for health, nutrition, survival and development of infants and children.



Source: *Lancet Child Survival Series 2003*

Figure 3.1: Impact of Infant and Young Child Feeding (BF & CF) on Child Survival

Undernutrition is estimated to be associated with 2.7 million child deaths annually or 45% of all child deaths globally. Infant and young child feeding is a key area to improve child survival and promote healthy growth and development. The first 2 years of a child's life are particularly important, as optimal nutrition during this period lowers morbidity and mortality, reduces the risk of chronic disease, and fosters better development overall.

15 Lancet Child Survival Series 2003

Key facts[16]

- Every infant and child has the right to good nutrition according to the "Convention on the Rights of the Child".
- Undernutrition is associated with 45% of child deaths.
- Globally in 2018, 149 million children under 5 years were estimated to be stunted (too short for age), 49 million were estimated to be wasted (too thin for height), and 40 million were overweight or obese.
- About 40% of infants 0–6 months old are exclusively breastfed.
- Over 820,000 children's lives could be saved every year among children under 5 years if all children aged 0–23 months were optimally breastfed. Breastfeeding improves IQ, school attendance, and is associated with higher income in adult life[17].
- Improving child development and reducing health costs through breastfeeding results in economic gains for individual families as well as at the national level.
- Few children receive nutritionally adequate and safe complementary foods. In many countries less than a fourth of infants 6–23 months of age meet the criteria of dietary diversity and feeding frequency that are appropriate for their age.

The WHO and UNICEF recommend:

- Early initiation of breastfeeding within 1 hour of birth;
- Exclusive breastfeeding for the first 6 months of life; and
- Introduction of nutritionally-adequate and safe complementary (solid) foods at 6 months together with continued breastfeeding up to 2 years of age or beyond
- Dietary diversity is very important in complementary feeding, as is animal source foods for optimum growth and development.

In Kenya, the complementary feeding practices among young children are sub-optimal as demonstrated by the following findings on IYCF practices 24 hours prior to the survey according to the latest national Demographic and Health Survey[18]

- 41% had an adequately diverse diet, that is, they had been given foods from the appropriate number of food groups, also referred to as the Minimum Dietary Diversity (MDD)
- 51% had been fed the minimum number of times appropriate for their age, also referred to as the minimum meal (feeding) frequency, and
- Only 22% of the children 6-23 months old received the Minimum Acceptable Diet (MAD) which measures the proportion of children aged 6-23 months who meet age-appropriate minimum meal (feeding) frequency as well as minimum dietary diversity.
- 72% of children age 6-23 months consumed foods rich in vitamin A the day or night preceding the survey.
- 33% of children age 6-23 months consumed foods rich in iron the day or night preceding the survey.

16 WHO Infant and young child feeding fact sheet, 2018. Available at https://www.who.int/news-room/fact-sheets/detail/infant-and-young-child-feeding
17 The Lancet Breastfeeding Series papers available at www.thelancet.com/series/breastfeeding
18 Kenya Demographic and Health Survey (KDHS), 2014

Handout 3.2: IYCN Indicators and Criteria for Complementary Feeding

Infant and young child feeding practices directly affect the nutritional status of children under two years of age and, ultimately, impact child survival. Continuous assessment of individual/ community child feeding is important for timely decision making and interventions.

Globally, Infant and Young Child Nutrition indicators focus on selected food-related aspects of child feeding and point to whether children are receiving optimal age specific feeding practices. There are 15 indicators used to track IYCN practice. Eight of these are considered core while the other seven are optional as laid out in Table 3.1

Core Indicators	Optional Indicators
» Early initiation of breastfeeding » Exclusive breastfeeding under 6 months » Continued breastfeeding at 2 years » Introduction of solid, semi-solid or soft foods » Minimum dietary diversity » Minimum meal frequency » Minimum acceptable diet » Consumption of iron-rich or iron-fortified foods	» Children ever breastfeed » Continued breastfeeding at 1 year » Age-appropriate breastfeeding » Predominant breastfeeding under 6 months » Duration of breastfeeding » Bottle feeding » Milk feeding frequency for non-breastfed children

Table 3.1: Indicators of IYCN

Criteria for complementary Feeding

Foods should meet the basic criteria for complementary feeding which includes Frequency, Amount, Texture (thickness), Variety, Active/responsive feeding and Hygiene (FATVAH)[19]

Frequency: The meal frequency should be based on age appropriate recommendations.

Amount: The amount of food given to the young child at each meal should be adequate for the age and provide sufficient energy, protein and micronutrients to meet the growing child's nutritional needs.

Texture: The food consistency should be age appropriate and adapted to the child's requirements and abilities.

Variety: A child should eat a variety of foods that provide different nutrients to meet the child's nutritional needs.

19 GoK-MOH National Baby-Friendly Community Initiative Trainers' Guide, 2018

Active feeding: Supervising and encouraging a child to eat enough food at each meal.

Hygiene: Foods should be hygienically prepared, stored and fed with clean hands using clean utensils – bowls, cups and spoons.

THINK! Hygiene, Frequency, Amount, Thickness, Variety, and Active/responsive feeding

Note:
Use fortified complementary foods or vitamin-mineral supplements, including point-of-use fortification with MNPs as needed and during illness, increase fluid intake including more breastfeeding, and offer soft, favourite foods

Handout 3.3: Reasons for Addition of MNPs to Complementary Foods

- The first 1,000 days of life offer a critical window of opportunity to effectively prevent any form of malnutrition as the consequences are irreversible after the second year of life.
- Highest prevalence of micronutrient deficiencies are due to low dietary diversity (affordability and availability)
- Most of the complementary foods do not provide enough micronutrients due to low nutrient content and density
- Poor bioavailability of micronutrients due to absorption inhibitors, especially in plant source based diet.
- Use of MNPs for point-of-use fortification have been shown to have an impact on the micronutrient status of children 6-23 months and helps to:
    - » Improve the body's immune system
    - » Improve the child's appetite
    - » Improve a child's ability to learn and develop
    - » Make children healthy, strong and active
    - » Prevent vitamin and mineral deficiencies

Session 4:
Point-of-Use Fortification with MNPs

Handout 4.1 Purpose and Benefits of Point-of-Use Fortification with MNPs

Point-of-use fortification also called home fortification, aims to improve the nutritional quality of the diet (micronutrient intake) for nutritionally vulnerable children aged 6 months and older by adding specific nutrients immediately before consumption. It can also occur outside the home in places such as at schools, health facilities or childcare facilities.

Micronutrient Powder (MNP) is a dry powder in single-dose sachets comprising 15 micronutrients (vitamins and minerals) used for fortification of complementary foods at the point of use.

The significance of point-of-use fortification with MNPs for children aged 6-23 months is that the 1,000 days between conception (pregnancy) and age two years offer a critical period of intervention to establish a lasting foundation for health through adequate nutrition.

Point-of-use fortification is recommended where complementary foods do not provide enough essential nutrients. This mainly occurs where:

- Dietary diversity is low (due to limited food availability or affordability);
- Complementary foods prepared for the young child have insufficient nutrient content and density (for example, watery porridges and foods low in micronutrients);
- The bioavailability of micronutrients is poor due to absorption inhibitors in the diet (fibre, phytate, tannin), which is especially the case in plant-based meals.

MNPs are a food-based, rather than a medicinal (curative), approach, which is more in line with the long-term sustainable goal of a population-wide preventative approach.

The relative ease of use of MNPs compared with other interventions such as iron drops and tablets has been shown to result in improved acceptability and compliance among users.

Studies have reported improved appetite, health, immunity, and development amongst children using MNPs.

Handout 4.2 Micronutrient Powder Formulation

MNP is packaged in a one-gram sachet (Figure 4.1) that contains 15 micronutrients (vitamins and minerals) as detailed in Table 4.1 below. The composition is based on the Recommended Nutrient Intake (RNI) of each micronutrient per dose for children 6-23 months old.

Front side

Back side

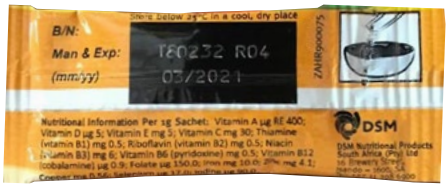


Figure 4.1: Kenya Government Approved MNP Package

Micronutrient	Quantity
Vitamin A	400 µg RE
Vitamin D	5 µg
Vitamin E	5 mg
Vitamin C	30 mg
Vitamin B1 (Thiamine)	0.5 mg
Vitamin B2 (Riboflavin)	0.5 mg
Vitamin B3 (Niacin)	6 mg
Vitamin B6 (Pyridoxine)	0.5 mg
Vitamin B12 (Cobalamin)	0.9 µg
Folate	150 µg
Iron	10 mg
Zinc	4.1 mg
Copper	0.56 mg
Selenium	17 µg
Iodine	90 µg

Table 4.1: Nutrient Composition of Micronutrient Powders (MNPs)[20]

20 WHO/WFP/UNICEF Joint Statement. Preventing and controlling micronutrient deficiency (2007)

Handout 4.3: Target Group for Point-of-use Fortification with MNPs

The target group are children aged 6-23 months, starting at the time when complementary foods are introduced into their diet.

Reasons for targeting children aged 6-23 months

- The 1,000 days between pregnancy and two years of age offer a critical window of opportunity to establish a lasting foundation for health through adequate nutrition.
    - » This is the most crucial stage of growth in a child where correction of any deficiency is most effective
    - » Proper nutrition at this stage has profound impact on a child's general growth and development
- Most of the complementary foods provided to children aged 6-23 months do not provide enough micronutrients to meet their nutrient needs,
- Therefore, point-of-use fortification with MNPs is a strategy to improve the nutrient content of complementary foods by compensating for the lack of dietary diversity.
    - » Its aim is to ensure that the diet (complementary foods and breast milk) meet the micronutrient needs of young children.
    - » MNPs are also essential for increasing immunity, physical strength and productivity and promoting good cognitive development.
- Global evidence has shown that point-of-use fortification of foods with multiple micronutrient powders (MNPs) is an effective intervention to reduce anaemia and iron deficiency in children 6-23 months of age[21].

Dosage and Frequency of MNPs

Refer to Annex I, National Policy Guidelines on Home Fortification with MNP for Children 6-23 months in Kenya for reference regarding the recommendation that specifies 60 sachets for 6 months.

It provides for each eligible child to consume 10 sachets of MNPs per month and therefore, the health worker should distribute 10/sachets per child/month to their caregiver along with instructions on their use.

Each child should receive a minimum of 60 sachets within 6 months. A child may receive another dose of 60 sachets if the healthcare provider recommends.

The mother/caregiver should administer one sachet of MNPs every third day (Figure 4.2).

21 De-Regil LM, Suchdev PS, Vist GE, Walleser S, & Peña-Rosas JP. Home fortification of foods with multiple micronutrient powders for health and nutrition in children under two years of age. Cochrane Database of Systematic Reviews 2011, Issue 9

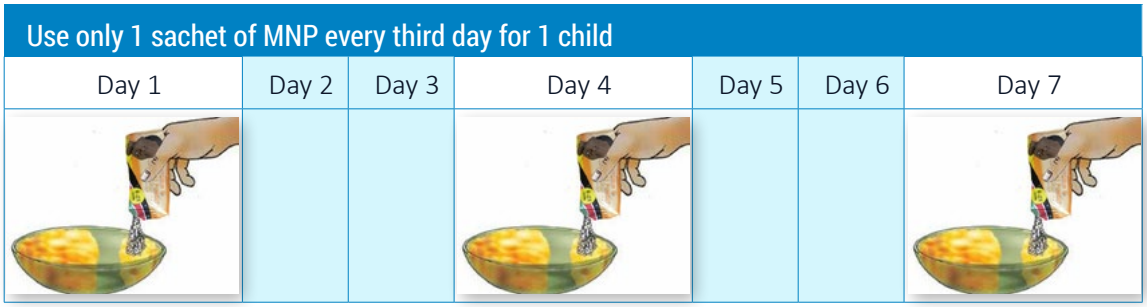


Figure 4.2: Dosage and Frequency of Micronutrient Powder

Handout 4.4: How to use Micronutrient Powders

Key points on using MNPs

- Always wash hands with soap and running water
- Once the food is ready, serve the child's portion in a separate plate and mix with one sachet of micronutrient powder (MNP).
- The powder can be added to warm or cool solid and semi-solid foods.
- At no time should the MNP be added to HOT food.
- If MNPs are added to food hotter than 60ºC, the lipid coating around the Iron particles in the powder will melt and will change the taste and colour of the food.
- Similarly, MNPs should not be added to liquid foods or drinks. If added to liquid, the powder will float to the top and stick to the sides of the cup/bowl hence losing some of the nutrients.

Directions for Use of MNPs

STEP 1:	Tear open the sachet
STEP 2:	For one child, mix one sachet of Micronutrient Powders (MNPs) with food. Use one sachet every third day.
STEP 3:	Mix into warm solid or semi-solid food. **DO NOT** add MNPs to hot food or liquid foods.
STEP 4:	Mix the powder in a small amount of food which a child can consume at a single sitting; when s/he is most likely to eat and finish the food. (See the illustrations below)
STEP 5:	Food mixed with MNPs should be fed to a child within half an hour of mixing. **DO NOT** reuse or reheat food into which MNP has been added after the 30 minutes **DO NOT add MNPs to food while cooking**

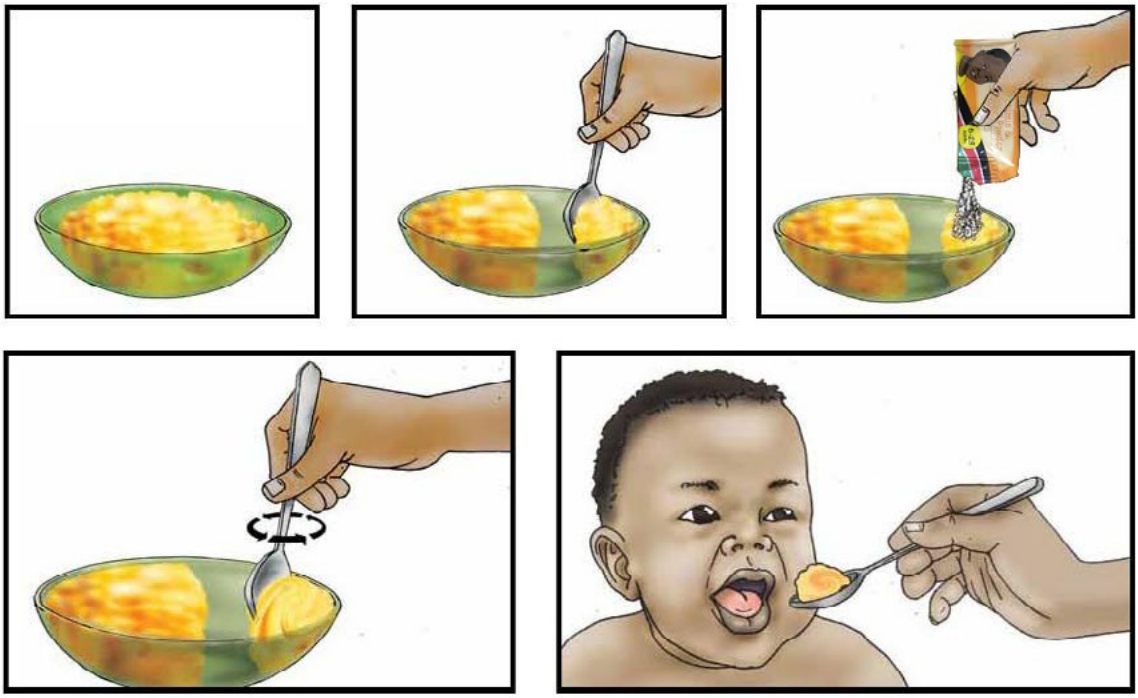


Figure 4.3: How to add Micronutrient Powders (MNP) to Complementary Foods

Handout 4.5: Safety of Micronutrient Powders

- The single serving sachets allow families to fortify a young child's food at an appropriate and safe level.
- MNPs have a bland taste which discourages children from accidental over-consumption
- Accidental overdosing is highly unlikely because as many as 20 sachets would have to be consumed in order to reach toxicity levels,
- Children aged 6–23 months receiving ready-to-use therapeutic and supplementary foods or fortified blended food such as a wheat-soy blend, corn-soy blend and lipid-based nutrient supplements should not receive MNPs because they are already receiving high doses of additional micronutrients through these products.
- Children with specific conditions such as HIV or Tuberculosis (TB) can benefit and should be given MNPs which have been shown to be effective in managing the conditions. However, this should proceed with caution as such children may already be receiving RUTF or RUSF.
- It is safe to give MNP to children who are receiving their age-appropriate Vitamin A supplements every six months
- Drug-Nutrient Interaction (DNI) refers to interaction between a drug and a (micro)nutrient which can result in malnutrition or therapy failure, adverse effects or a life-threatening situation.
    - » Each case should be addressed independently based on available evidence on interaction with nutrients contained in MNPs
    - » If a child is sick, the caregiver should inform the HCP whenever their child is using MNPs to avoid adverse effects from DNI

Side Effects of MNPs

Any side effects are minimal and usually transient in nature (don't last long). Examples include:

- Colour of Stool: Dark stool indicates the presence of unabsorbed iron. This is harmless and supplementation with MNP should continue.
- Consistency of stool: the child may have softer stools or a mild form of constipation during the first 4-5 days of using MNPs. Continue giving the child MNPs

Adverse Effects

Despite reports of diarrhoea and vomiting occurring in children using MNPs, there is insufficient evidence or inadequate information linking these symptoms to MNP use.

- Diarrhoea and stomach upset are sometimes reported by caretakers when children start using vitamin and mineral powder, usually by <1% of the population.
- No adverse events were reported in over 800 children between the ages of 6-59 months from 7 community-based trials in 4 countries.

If a child suffers from diarrhoea, caregivers should:

- take him/her to the nearest health facility for treatment that includes zinc tablets and oral rehydration salt (ORS)
- continue giving increased fluids
- continue giving the child the MNPs as recommended

Session 5: Commodity Management and Reporting on MNPs

Handout 5.1: Importance of MNP Logistics Management

The success of the MNP program will depend on the availability of the commodity, a well-managed supply chain and accurate documentation and reporting from the time of receipt until the issuance of the sachets to the beneficiaries. In addition to the Maternal and Child Health (MCH) point of issue, MNPs will be issued during integrated outreaches within the catchment areas. Distribution will also occur during the national health campaign days such as breastfeeding week, Malezi Bora, polio, measles among others and MNPs should be included in the package. However, prior planning for the additional supplies that will be required should be done in time to avoid stock outs.

Importance of MNP logistic monitoring

1. To ensure that children aged between 6-23months get the right MNPs when they need them.
2. To ensure that the planned integrated health activities are carried out as planned and MNPs are available
3. To ensure that the records are correctly maintained, and reports submitted on time
4. For timely and accurate replenishment of MNP stocks.

Handout 5.2: MNP Supply Chain and Stock Management Cycle

Supply Chain for MNPs

Supply chain is the movement of commodities, in this case MNPs, from the point of manufacture to the point of consumption.

MNPs have been incorporated into the Kenya Essential Medicines List (KEML)[22] and procurement and delivery will follow the Universal Health Coverage (UHC) approach where all commodities move from the Kenya Medical Supply Agency (KEMSA) upon request from counties.

The process is however determined by availability of stocks at KEMSA and availability of funds in counties.

Report on utilization is documented in MOH 734 CDRR and uploaded to the Kenya Health Information System (KHIS).

22 GoK-MOH Kenya Essential Medicines List, 2019

Stock management cycle

The steps of the MNP stock management cycle are as outlined in Figure 5.1 below. They are described in some detail in the next sections

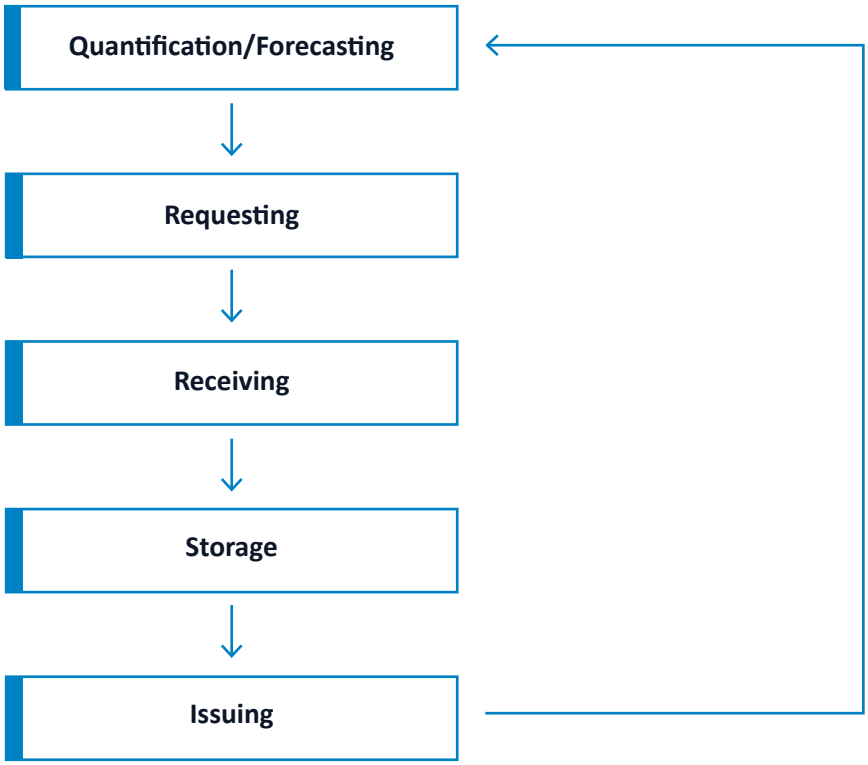


Figure 5.1: Stock management cycle

Exercise 5.1: Needs determination and ordering

- Nakuru County has a population of 1,000,000.
- Determine the MNP requirement for the month of December 2019.

Receipt and Storage of MNPs

Steps in Receipt of MNPs

- Check the physical condition of the consignment. Is it damaged, rained on or torn?
- Check the delivery notes: the date, source and consignee, the batch numbers and expiry dates.
- Check the quantity. Does it tally with your order?
- Receive the supply if you are satisfied
- Count them physically and arrange the items in different shelves with their batch numbers and expiry dates clearly visible.
- Update your bin cards or stock ledgers or your Excel sheet.
- Sign the delivery notes and file your copy.

- The bin card should be filled appropriately every time stock is received or issued.
- S11 should always be filled when stock transfers are carried out within or between facilities.

MNP storage condition

The storage area at all levels of the supply chain should meet the following conditions:

- Be free from rodents
- Have proper drainage
- Be secure
- Be clean and dry
- Have pallets for placing MNPs cartons
- Be well ventilated with windows situated away from direct sunlight

Note:
MNPs can be stored for up to two years (from the date of production to the best-before date or expiry date), even in hot conditions (although it is best to avoid long-term exposure above 40°C)

Do not store MNPs in the same place as poisonous or toxic substances or chemicals such as kerosene or petrol.

Handout 5.3: Key MNP Inventory Management Measures

Average Monthly Consumption

This is the average number of MNP dispensed to users in a health facility in one month.

Exercise:
Way Bridge health centre received 3,200 sachets of (MNPs) in January, 2,600 in February, 2,400 in March, 2,500 in April, 2,300 in May and 2,000 in June and by the end of June they had 600 Sachets remaining

- What is Way Bridge health centre's Average Monthly Consumption of MNPs sachets?

Months of Supply

It is the actual amount of MNP sachets on hand expressed in months computed as the actual physical count of MNPs divided by Average Monthly Consumption (AMC).

Example:
Tewa health centre average monthly consumption is 2,500 sachets. By the end of September 2019, they had 7,500 sachets.

- What are their months of supply?

Minimum MNPs Stock Level

This is the least amount of MNP sachets that a facility should have and should ideally never be allowed to reach.

- It is the amount used during the time of placing an order and receiving the order. It is usually expressed in months.
- For MNPs at facility level they should always have a one month's supply as the minimum stock and for districts at least three months' supply.

NB:
Going below this level may affect the program adversely.

Maximum MNPs Stock Level

It is defined as the largest amount of stocks a program or a County, sub-county or even a facility should have in stock expressed as the months of supply plus the minimum stock.

Example:
The MNPs maximum stock for 4 months should be;
(The average monthly consumption x 4 months) + the minimum stock

Wastage

Wastage of MNPs happens at multiple levels during transportation, storage (service delivery levels) & supply chain level

MNPs wastage rate = Amount supplied (100%)- (Amount distributed + stock balance)

Example:
Wetu dispensary received a supply of 12,000 sachets over a period of 3 months between July and September 2019. At the end of September, they had distributed 10,500 sachets and had zero stock in their stores.

- Calculate the wastage rate during the said period

Exercise 5.2: How to Calculate MNP Indicators

Refer to MOH 713 IMAM Consumption Tool (Annex V)

1. Sachets in stock at the beginning of the month were 500
2. No. of MNPs sachets supplied to health facility during the month of December 2019 were 5,000 sachets
3. They supplemented 450 children during the month
4. At the end of the month when they did the physical balancing there were no MNPs sachets left
5. What was their MNPs consumption rate?
6. What was their wastage rate?

Utilization, Coverage and Access Indicators

Types of indicators		
Question	**Measure**	**Indicator**
1. Utilization: Are MNPs being consumed by the target population?	Increased proportion of children aged 6-23 months regularly consuming MNPs. No of children consuming 10 MNPs monthly	Proportion of children aged 6-23 months consuming MNPs as per the schedule
2. Coverage: Are MNPs being distributed/ provided to the target population?	Increased distribution of MNPS to the target population.	Proportion of children aged 6-23 months provided with MNPs.
3. Access: Are MNPs available to the target population in H/F?	Increased supply of MNPs to the H/facilities. No stock out of MNPs in each level	Proportion of H/F with no Stock-out. Proportion of Counties with adequate stock

Handout 5.4 Tools for Documenting and Reporting MNP

- MOH 511 – CWC Register
- MOH 704 – CHANIS tally sheet
- MOH 711 – Integrated RH, Child Health and Nutrition Summary
- MOH 713 – Nutrition Summary
- MOH 734 – F-CDRR for Nutrition commodities
- MOH 409 – DAR for Nutrition commodities
- MOH 733 – Nutrition service summary tool
- MOH 407A – Children nutrition service register
- MOH 407B – Facility DAR for Nutrition Services
- MOH S11 – Requisition forms, bin cards

Proposed/Improvised Tools for Community/Household Level Distribution

- CHV Commodity report and request register
- CHV service register

These two are improvised tools and could be used as examples for community or household level distribution. The tools maybe used to collect information/data that can feed into the MOH tools at the facility level i.e. MOH 711 and 734

Sample CHV MNP Service Register from Elgeyo Marakwet County

Sub County _____ Name of the Community Unit _____

Village _____ Name of CHV _____

Date	CWC No.	Full Names	Age in Months	Sex	Weight During Previous HF Visit	MNP Sachets Given	Did He/She Receive Last Month Yes/No	Remarks

Session 6: Role of Social and Behaviour Change Communication in Improving the Uptake of Mnps

Handout 6.1: Target Audiences for MNPS for Children aged 6-23 Months

Primary audience:
The primary audience (the person most affected by the problem) is the mother /caregiver of an infant aged 6 – 23 months. Although the child is directly affected by the problem, it is recognized that the caregiver who is the primary target is responsible for addressing its needs.

Secondary audience:
These are people who have close contact with the caregiver and bear influence on them including: Husbands, extended family, Community Health Assistances, Community Health Volunteers, Chama members, Religious and Community leaders, Healthcare Providers

Tertiary audience:
These are audience who have indirect influence on the primary audience (caregivers) including: Policy makers, Media

Handout 6.2: Desired Changes, Facilitating Factors and Obstacles

Decision makers at county level:

They are critical audience who should be targeted to:

- Develop a sound understanding of the County MND situation and its implications.
- Support dissemination of information to the SCHMT, health workers, and community leaders.
- Provide institutional support, commitment, and finances for MNP programming.

Caregivers:

They should be targeted for:

- Knowledge of optimal complementary feeding practices and dietary diversity.
- Increased knowledge and skills to create demand for MNPs within the context of complementary feeding.
- Adherence to recommended MNP dosage and usage.
- Knowledge and skills on consuming balanced diets using locally available resources.

Husbands:

They are a vital target to:

- Support caregiver's knowledge on complementary feeding practices and dietary diversity.
- Support food purchasing/consumption decisions that enhance optimal complementary feeding practices and dietary diversity.

- Support the caregiver in adherence to recommended MNP dosage and usage.
- Support positive health seeking behaviour.

Community Health Workers:

They are a vital link for community mobilization to support improved infant feeding practices and referrals to health facilities: They should therefore be targeted for:

- Improved/reinforced knowledge on optimal complementary feeding practices and dietary diversity.
- Community mobilization for optimal complementary feeding practices and dietary diversity.
- Increased knowledge and skills to create demand for MNPs and ensure caregiver adherence to recommended usage within the context of complementary feeding.
- Support for MNP programme particularly in disseminating the information during community activities and household visits.
- Promote community knowledge and skills on consumption of balanced diets using locally available resources.
- Promote positive health seeking behaviour.

Health Workers

- Improved knowledge and skills to facilitate precise counselling and dispensing of MNPs.
- Improved knowledge and practices on stock management.
- Improved skills to facilitate reporting.
- Greater use of IEC materials.

Opinion Leaders

- Awareness and increased knowledge on the challenges in nutrition status of children aged 6 – 23 months.
- Support the programme particularly in disseminating information during community activities.
- Serve as ambassadors of the programme.
- Myths and misconceptions

Facilitating Factors and Barriers to MNP Uptake

Some of the behavioural factors that may facilitate or act as barriers to MNP uptake are the following:

Facilitating factors

- Increased level of knowledge by the caregivers and positive attitudes towards the product.
- Improved health seeking behaviour by caregivers.
- Increased understanding, acceptance, and adoption of IYCN practices by caregiver.
- Information seeking attitude and practice by health providers.
- Improved quality of information and counselling support provided to caregivers by health workers.
- Ease of using MNP by caregiver once the procedure is understood.
- MNP does not alter the colour or taste of food; this can enhance acceptance.

- Motivation and willingness of CHW to mobilize and educate the community as well as make referrals to health facilities.
- Continuous supply of MNPs.

Barriers at the Individual level

- Low levels of awareness of MNP.
- MNP is a new product on the Kenyan health scene and it may take some time before the population gains adequate knowledge of its benefits to facilitate uptake. This is expected to improve with increased information dissemination and improved knowledge.
- Poor health seeking behaviour by mothers/caregivers.
- Non-adherence to procedures on preparation and use of MNPs by caregivers may result in undesirable outcomes.
- Food sharing habits within the community may impact on the required quantity for each child.
- Unhealthy attitudes may be occasioned by misgivings of the product by caregivers and opinion leaders which may affect uptake.
- Non-compliance to IYCN practices may result in health benefits of MNP not being realized.
- CHWs have not received training hence lack knowledge to support community mobilization.
- Most health providers have not received training and may not have the requisite information to support caregiver counselling.

Barriers related to facility level

- Many health workers have not received training on MNPs.
- Limited access to the MNP operational guidelines for health workers to support information and operational practices.
- Attitude of health workers towards the products.
- Heavy workload of frontline health workers may result in lack of adequate time for counselling mothers on MNP use and thus inappropriate usage.
- The reporting process may be hindered by heavy workloads at facilities.
- Intangible support by decision makers at county level may affect sustainability of the programme.
- MNPs stock-outs.

Barriers among the decision makers

- Limited information.
- Limited access to the MNP guideline.
- Limited funding for MNP Programme.

Myths and Misconceptions across different audiences

Myth: A widely held but false belief or idea about a product or service

Misconception: A view or opinion that is incorrect because it is based on a faulty thinking or understanding

Myths and misconception are major barriers to social and behaviour change and can occur at any level of influence. However, they are more common within the community and at individual level influenced by religious affiliation and culture.

Therefore, in the context of MNPs, myths and misconceptions will be addressed guided by those identified in the different settings in which the MNP programme implementation is taking place e.g. county, community level etc.

This may be obtained through a formative assessment to enable tailoring messages to context-specific myths and misconceptions that are relevant to a given population

Handout 6.3: Social and Behaviour Change Strategies for MNP Message Dissemination

Group 1: Advocacy:

What do you see as the value of Advocacy for the MNP programme and how are you going to apply it in your context to improve the uptake of MNPs for children aged 6-23 months?

Group 2: Social mobilization:

What do you see as the value of Social mobilization for the MNP programme and how are you going to apply it in your context to improve the uptake of MNPs for children aged 6-23 months?

Group 3: Behaviour change communication:

What do you see as the value of BCC for the MNP programme and how are you going to apply it in your context to improve the uptake of MNPs for children aged 6-23 months?

Group 4: Capacity strengthening:

What do you see as the value of capacity strengthening of health workers for the MNP programme and how are you going to apply it in your context to improve the uptake of MNPs for children aged 6-23 months?

Handout 6.4: Case Study Scenarios on MNP Message Dissemination

Group 1 Primary audience: Caregivers of children aged 6-23 months

Case study scenario 1

Mary is 29 years old and is a mother of three children; Kevin who is 5 years old, Brian 3 years and Consolata 9 months old. She resides in Khwisero and always visits the health facility for routine growth monitoring and immunization for her children. She is currently at the health facility for routine follow up and immunization for Consolata. Using the MNPs leaflet provide information and guidance to Mary on use of MNPs.

The role play will assess sharing of key messages; what MNPs are, why MNPs are needed, the target for MNPs, dosage and frequency, where to get MNPs and how to use MNPs

Group 2 Secondary audience: Health workers

Case study scenario 2

Muli who is a County Nutrition Coordinator in Bomet is conducting a support supervision visit in Sotik Sub-county. During this visit he finds out that the MNPs sachets are not being issued as they should to caregivers of children aged 6-23 months. After consultations he finds out that most of the health workers lack information on MNPs. Simulate a Continuing Medical Education (CME) session with health workers on MNPs using the MNP Health workers fact sheet.

The role play will assess sharing of key messages; what MNPs are, why MNPs are needed, the target for MNPs, dosage and frequency, where to get MNPs and how to use MNPs.

Group 3 Secondary audience: Community Health Volunteers

Case study scenario 3

Halima who is the community strategy officer in Naivasha Sub-County is attending a community health workers feedback session taking place at Gilgil. The health facilities in Naivasha Sub-county were recently issued with a 4 months' supply of MNP commodities. Apart from the health providers, the CHVs and community members do not know about MNPs. The CHVs are discussing other health issues in this meeting. Simulate a feedback session integrating MNPs in the CHV feedback session.

The role play will assess sharing of key messages; what MNPs are, why MNPs are needed, the target for MNPs, dosage and frequency, where to get MNPs, how to use MNPs and the CHW's role in educating the community.

Group 4 Tertiary audience: Community leaders

Case study scenario 4

Leshan who is the Kamobo chief has mobilised the community to attend a baraza at Namgoi that will be taking place during the market day to discuss the women and youth fund matters. He has specifically invited the community leaders because crucial direction is needed on various issues that are important for the community. Leshan has invited Kibet the public health officer to update the community leaders on the recent campaign on water, hygiene, and sanitation in the area. Simulate a baraza session where you integrate MNPs messages in the baraza agenda.

> *The role play will assess sharing of key messages; what MNPs are, why MNPs are needed, the target for MNPs, dosage and frequency, where to get MNPs, how to use MNPs and the Community leaders' role in educating the community.*

Key Messages for Caregivers

1. Ensure that your child is fed with clean and fresh food
2. Introduce complementary foods at six months with continued breastfeeding for up to 2 years and beyond
3. Commonly used complementary foods lack some key essential nutrients (vitamins and minerals) required for young children's growth and development
4. Include foods from different groups that are easy to find locally to ensure a wide range of nutrients are available for the growing child
5. Add MNPs to solid or semi-solid warm complementary foods of children aged 6-23 months just before feeding. DO NOT add to hot or liquid foods
6. Add MNPs to regular complementary food of target children every third day
7. DO NOT share MNPs with other children

Session 7: Action Planning

What is Action Planning?

- It is a process through which a team or individual organizes strategies or ideas then sets out the steps involved in achieving them.
- The process enables one to focus on the goals and objectives as well as the requirements to achieve them.

Importance of action plans

- An action plan helps an organization to realize its goals by organizing time effectively, identifying steps needed to reach a goal and preparing contingency plans.
- An action plan should be reviewed in line with changing dynamics.

Handout 7.1: Sample Action Plan for MNP Implementation

Strategic objective

Increase uptake of MNP from 6% to 20% by 2021 and to 80% by 2024

Objective	Activity	Responsible	Resources	Timelines	Indicators
1). Advocacy for MNP implement-ation	Sensitization of stakeholders	County Nutrition coordinator	MNP Fact sheet	May 2020	No. of stakeholders sensitized
2). Capacity building of healthcare providers	Sensitization and target setting for HCPs	County/ sub County HMT	Conference package and allowances	May 2020	No of HCW sensitized
3). Support supervision, OJT and mentorship	Support supervision/ OJT, CMEs, Scheduled supervision	County/ sub County HMT	Fuel, lunch allowance and stationery	Mid June and ongoing	- No. of support supervisions done - No. of OJTs conducted - No. of CMEs conducted - No. of HCW with capacity to counsel caregivers on MNPs

Objective	Activity	Responsible	Resources	Timelines	Indicators
4). Social Mobilization for BCC	- Identification of effective channels of communications - Dissemination of MNP messages	County HMT	Tea & snacks - Stationery - BCC materials - Airtime - Lunch allowance	Mid-February 2021	- No. of health talks - No. of radio sessions - No. of mothers reached with the key messages - No. of materials disseminated
5). Monitoring & Evaluation	- Timely & accurate reporting - Feedback meetings	CHMT HMT	M&E tools - Teas & snacks - Transport reimburse-ments	End of June & ongoing	No. of facilities submitting timely & accurate reports to DHIS

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Annexes

Annex I: National Policy Guidelines on Fortification with MNPs for Children aged 6-23 months

Ministry of Health

NATIONAL POLICY GUIDELINE ON HOME FORTIFICATION WITH MICRONUTRIENT POWDER (MNP) FOR CHILDREN 6-23 MONTHS IN KENYA

Purpose of Micronutrient Powder (MNP) Supplementation

To improve the micronutrient status of children 6-23 months by improving the quality of their complementary feeding

Target Group	6-23 months
Dose and Frequency	Each child should receive 10 sachets per month to be consumed every third day and no more than one sachet per day
Duration	Each child should receive 60 sachets within 6 months
Delivery System	Health facility

Sachet formulation (1gram)	Vitamin A: 400µg RE, Vitamin D : 5µg, Vitamin E: 5mg, Vitamin C: 30 mg, Thiamine (Vitamin B1): 0.5 mg, Riboflavin (Vitamin B2) : 0.5 mg, Niacin (Vitamin B2) : 0.5mg, Nicin (Vitamin B3) : 6mg, Vitamin B6 (pyridoxine): 0.5mg, Vitamin B12 (Cobalamine): 0.9µg, Folate: 150µg, Iron: 10mg, Zinc: 4.1 mg, Copper: 0.56mg, Selenium: 17µg, Iodine: 90.0µg

Note:

1. Do not combine MNPs with other specially formulated products, such as RUTF (Ready-to-use therapeutic food) for treatment of SAM (Severe Acute Malnutrition) and RUSF (Ready-to-Use Supplementary Food) or fortified blended foods such as WSB++ (wheat-soy-blend) or CSB++(corn-soy-blend) for treatment MAM (Moderate Acute Malnutrition)
2. MNPs should also be given in malaria endemic areas
3. Behavior change communication strategy should promote awareness and correct use of MNP alongside the recommended breastfeeding practices and commencement of complementary foods at 6 months.

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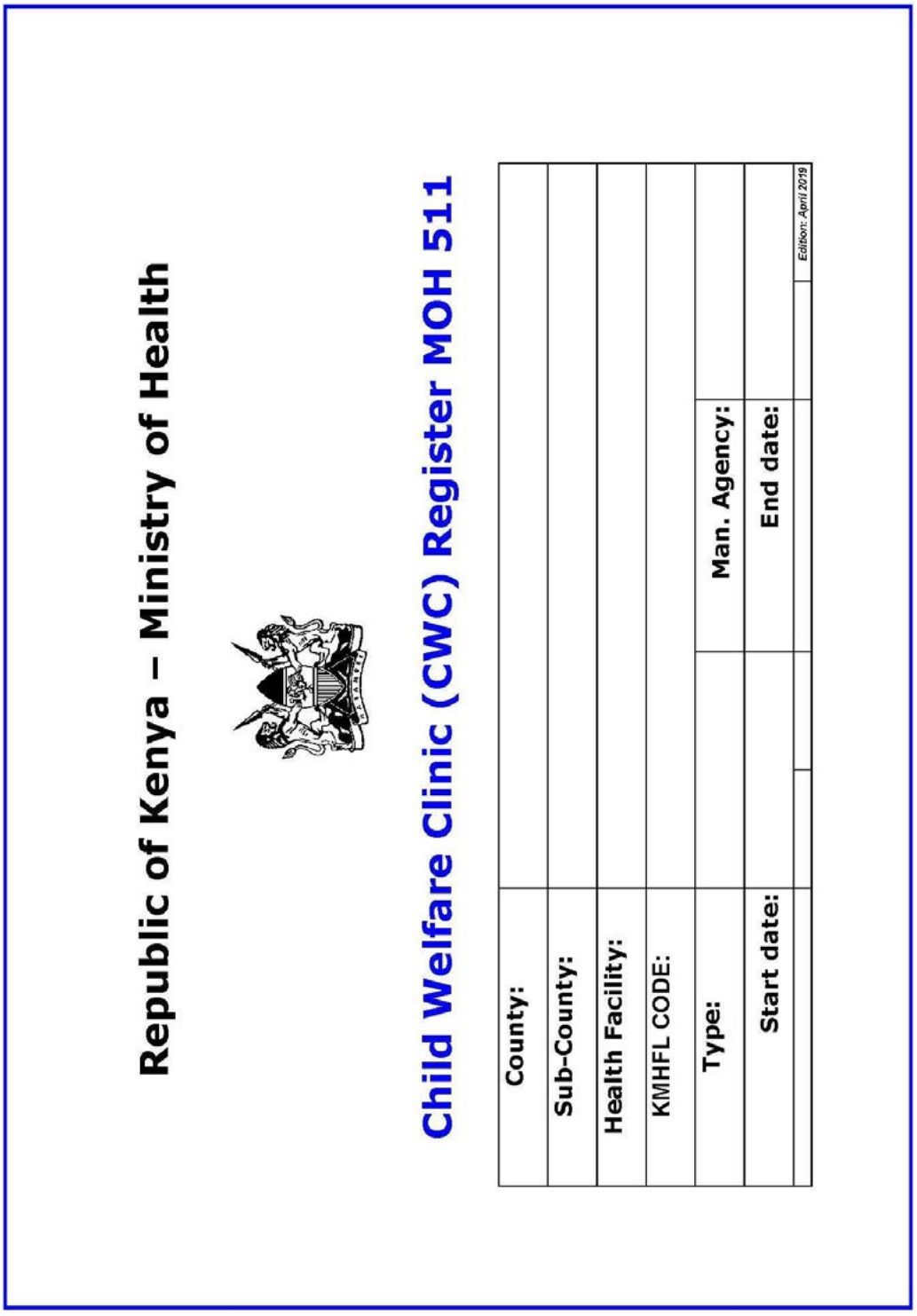
Director of Public Health and Sanitation
Ministry of Health, Kenya
9th August 2013

Annex II MOH 511 Child Welfare Clinic (CWC) Register

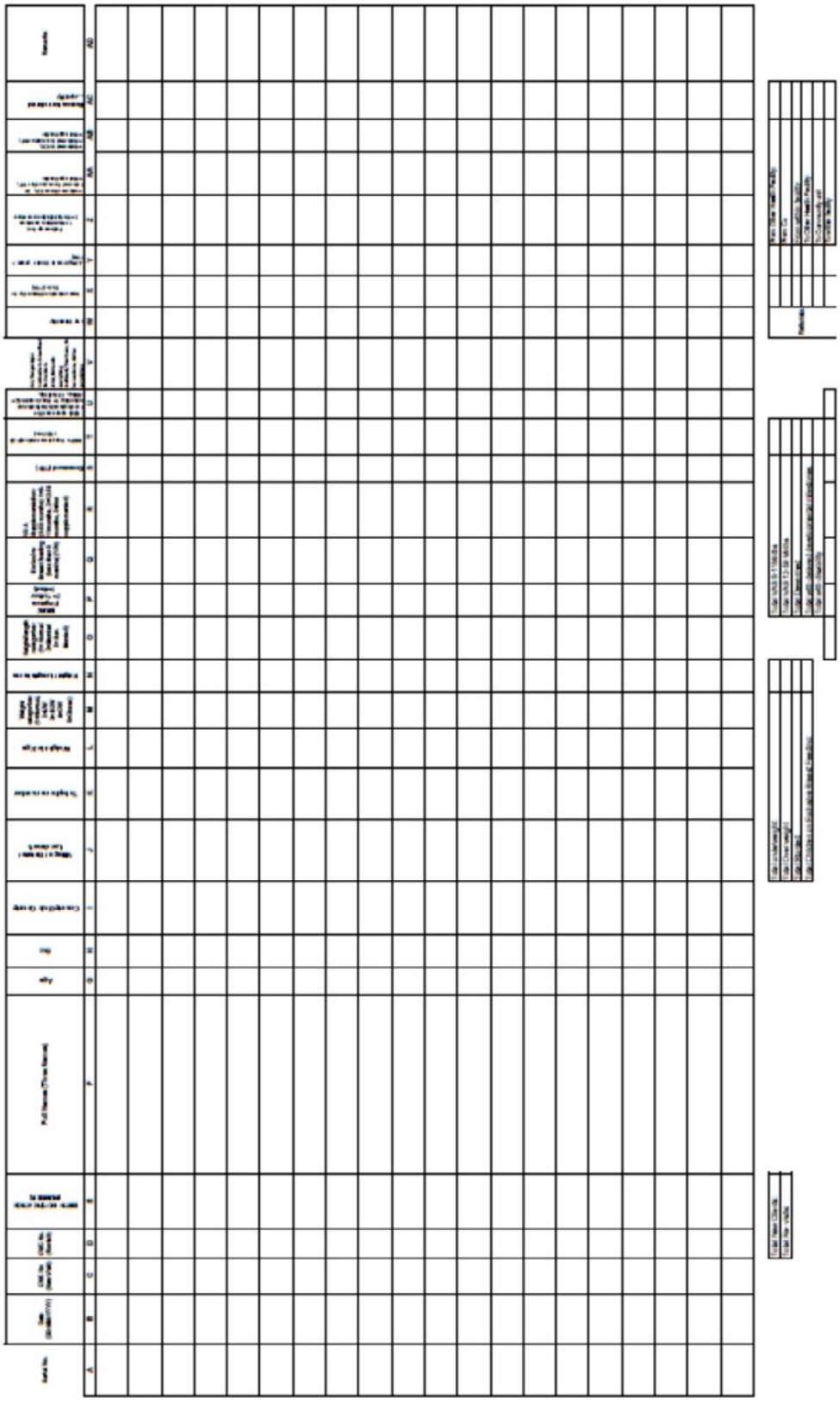


Republic of Kenya – Ministry of Health

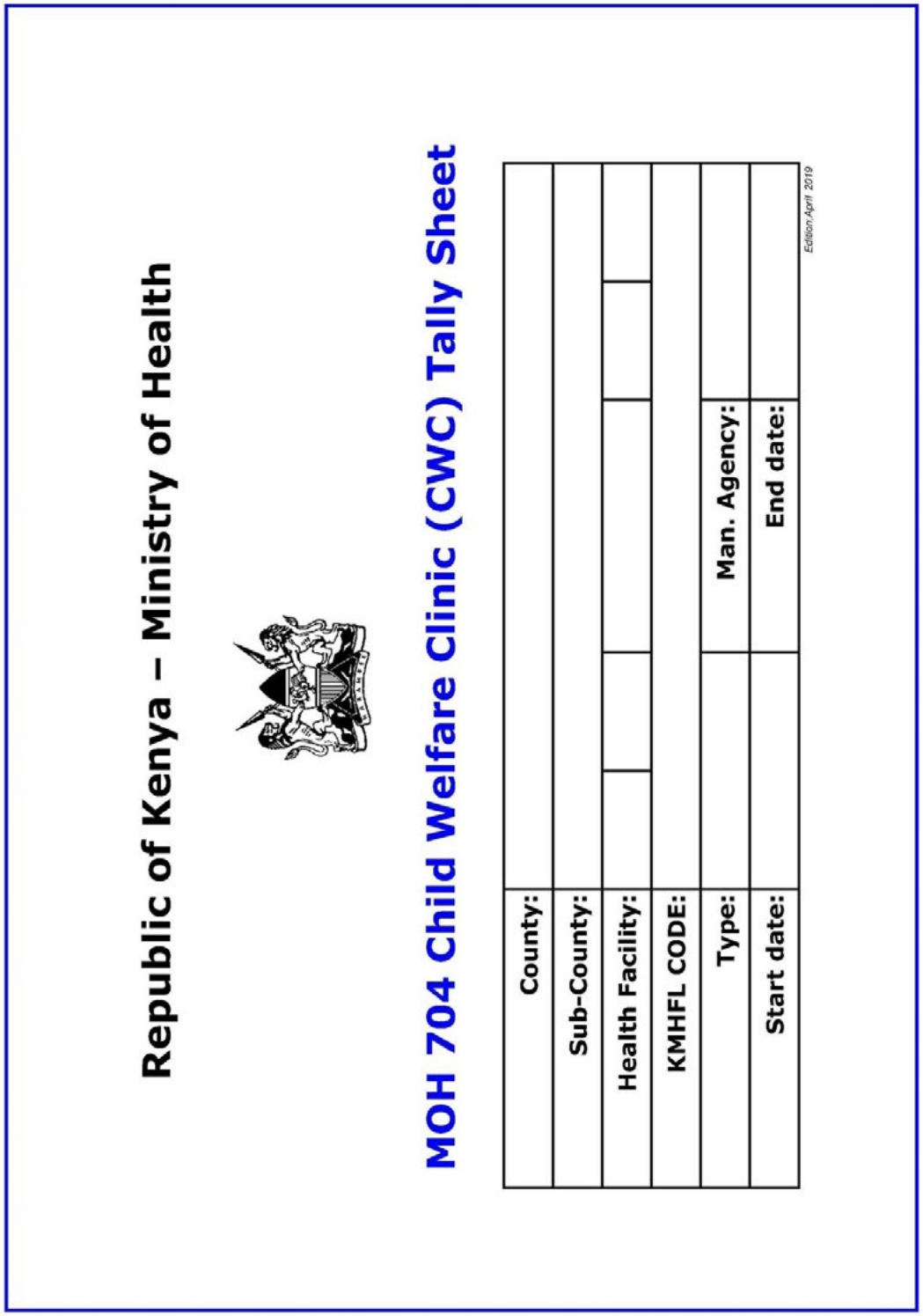
Child Welfare Clinic (CWC) Register MOH 511

County:			
Sub-County:			
Health Facility:			
KMHFL CODE:			
Type:		Man. Agency:	
Start date:		End date:	

Edition: April 2019



Annex III: MOH 704 Child Welfare Clinic (CWC) Tally Sheet



Republic of Kenya – Ministry of Health

MOH 704 Child Welfare Clinic (CWC) Tally Sheet

County:	
Sub-County:	
Health Facility:	
KMHFL CODE:	
Type:	Man. Agency:
Start date:	End date:

Edition April 2019

REPUBLIC OF KENYA - MINISTRY OF HEALTH

CHILD HEALTH AND NUTRITION INFORMATION SYSTEM TALLY SHEET FOR CHILD HEALTH WELFARE CLINICS

MOH 704

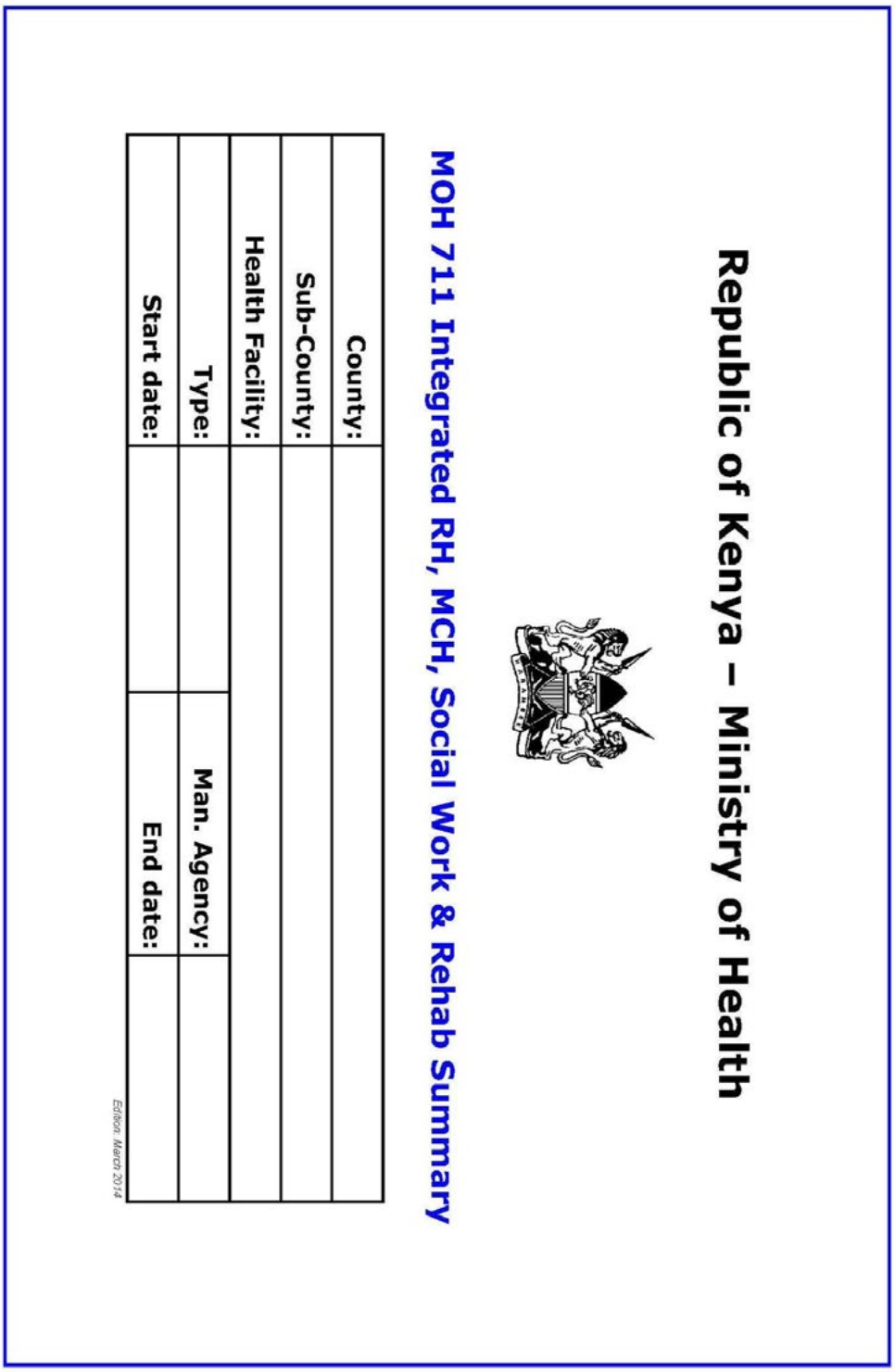
Revised April 2019

FACILITY NAME: _____ SUB COUNTY_____ MONTH: _____ YEAR: _____

Date Sheet started: _____ Date sheet finished: _____ (Remember to make only ONE TALLY per child per month)

Age Cohorts	WEIGHT FOR AGE Nutrition Status	FEMALE	TOTAL	MALE	TOTAL
0- <6 months	Normal Weight for Age	00000 00000 00000

Annex IV: MOH 711 Integrated Summary Reporting Form



Republic of Kenya – Ministry of Health

MOH 711 Integrated RH, MCH, Social Work & Rehab Summary

County:			
Sub-County:			
Health Facility:			
Type:		Man. Agency:	
Start date:		End date:	

Edition: March 2014

MINISTRY OF HEALTH — MOH 711

INTEGRATED PROGRAMME SUMMARY REPORT FORM: REPRODUCTIVE & CHILD HEALTH, MEDICAL & REHABILITATION SERVICES

Facility Name: _____ County: _____ Sub County: _____ Month: _____ Year: _____

A. ANC / PMCT			Total
1	No. of ANC Clients	New	
2		Re-visit	
3	No. of Clients given IPT (1st dose)		
4	No. of Clients given IPT (2nd dose)		
5	No. of Clients with Hb < 11 g/dl		
6	No. of Clients completed 4 Antenatal Visits		
7	No.LLITNs distributed to under 1 year		
8	No. of LLITNs distributed to ANC clients		
9	No. of clients	Tested for Syphilis	
10		Positive (+ve)	
11	No. of mothers counselled on infant feeding options		
12	Total women done breast examination		
13	Total women given exercise		
14	No. of adolescents (10-14 years) presenting with pregnancy		
15	No. of adolescents (15-19 years) presenting with pregnancy		
16	No. of clients issued with Iron		
17	No. of clients issued with Folic		
18	No. of clients issued with Combined Ferrous Folate		

C. Sexual and Gender Based Violence (SGBV)		0-9 yrs	10-17 yrs	18-49yrs	50+yrs
1	No. of Rape Cases presenting within 72 hrs				
2	No. of Rape Cases initiating PEP				
3	No. Completed PEP				
4	No. of Survivors Pregrant 4weeks after Exposure				
5	No. of survivors seroconverting 3months after exposure				
6	Total Survivors seen				

D. Family Planning (Number of clients issued with contraceptives)			NEW	RE-VISITS
1	Pills	Progestin only pills		
2		Combined Oral Contraceptive pills		
3		Emergency contraceptive pill		
4	Injections	Injectables		
5		Insertion		
6	I.U.C.D.	Insertion		
7	Implants	BTL		
8	Sterilization	Vasectomy		
9	Condoms	No.of clients received (Male condoms)		
10		No.of clients received (Female condoms)		
11	Natural Family Planning			
12	Total number of clients			
13	Total adolescent clients (10-14YRS) receiving FP Services			
14	Total adolescent clients (15-19YRS) receiving FP Services			
15	Total youth clients (20-24YRS) receiving FP Services			
16	Removals	I.U.C.D.		
17		Implants		

G. Cervical cancer screening		<25yrs	25-49yrs	50+yrs
1	No. of Client receiving VIA /VILI /HPV VILI / HPV:			
2	No.Screened for Pap smear			
3	No.Screened for HPV test			
4	Number of clients with Positive VIA/VILI result			
5	Number of clients with Positive Cytology result			
6	Number of clients with Positive HPV result			
7	Number of clients with suspicious cancer lesions			
8	Number of clients treated using Cryotherapy			
9	Number of clients treated using LEEP			
10	Number of HIV positive clients screened			

H. Post Natal Care (PNC)			Total
1	Breast Exam		
2	No of Women counselled		
3	Number of Cases of Fistula		
4	PNC Given Exercise	Negative	
5		Positive	
6	Cervical cancer screening	Suspect Cancer	
7	No. of Mothers received Postpartum Care	Within 2-3 days	
8		Within 6 days	
9	No. of Infants received Postpartum Care	Within 2-3 days	
10		Within 6 days	
11	No. of Referrals	From Other Health Facility	
12		From Community Unit	
13		To Other Health Facility	
14		To Community Unit	

I. Rehabilitation Services		Total
1	Number Assessed	
2	Number Treated	
3	Number Rehabilitated	
4	Number Referred for further Interventions	
5	Number Integrated to Communities	

J. Medical Social Work		Total
1	Psycho-Social Counselling	
2	Alcohol and Drug Abuse	
3	Mental Illness	
4	Adolescent Issues	
5	Psycho-Social Assessments (psycho, social and economic)	
6	Social investigations (Home visits / Follow ups)	
7	Social Rehabilitation	
8	Outreach Services / Health Talks	
9	Referrals	
10	Number of waived patients.	

Report Compiled by:	
Name:	
Designation:	
Date:	
Signature:	

B. Maternity and Delivery		Total
1	Normal Deliveries	
2	Caesarean Sections	
3	Breech Delivery	
4	Assisted Vaginal Deliveries (Vacuum Extraction)	
5	**TOTAL DELIVERIES**	
6	Live Births	
7	Fresh still Birth	
8	Macerated Still Births	
9	Birth with Deformities	
10	No. with Low APGAR Score	
11	No. of Low birth weight Babies (below 2500 grams)	
12	No. of babies given tetracycline at birth	
13	Pre-Term babies	
14	No. of babies discharged alive	
15	No. of Infants initiated on breastfeeding within 1 hour after birth	
16	Total Deliveries from HIV +ve women	
17	Neonatal Deaths	
18	No. of adolescents (10-19YRS) Maternal Deaths	
19	Maternal Deaths	
20	Maternal deaths audited	

Maternal complications		Alive	Deaths
21	A.P.H. (Ante Partum Haemorrhage)		
22	P.P.H. (Post Partum Haemorrhage)		
23	Eclampsia		
24	Ruptured Uterus		
25	Obstructed labour		
26	Sepsis		

			Total
27	No. of Referrals	From Other Health Facility	
28		From Community Unit	
29		To Other Health Facility	
30		To Community Unit	

E. Post Abortal Care (PAC) Services		Total
1	Adolescent (10-19 years) Accessing PAC Services	
2	Total Receiving PAC Services	

F. Child Health and Nutrition Information System(CHANIS)					
	Weight for Age		F	M	TOTAL
1	0 - <6 months	Normal Weight for Age			
2		Underweight			
3		Severe Underweight			
4		Overweight			
5		Obese			
6		**Total Weighed**			
7	6-23 months	Normal Weight for Age			
8		Underweight			
9		Severe Underweight			
10		Overweight			
11		Obese			
12		**Total Weighed**			
13	24-59 months	Normal Weight for Age			
14		Underweight			
15		Severe Underweight			
13		Overweight			
14		Obese			
15		**Total Weighed**			
16	MUAC 6 - 59 months	Normal (Green)			
17		Moderate (Yellow)			
18		Severe (Red)			
19		**Total Measured**			
	Height for Age		F	M	TOTAL
20	0 - <6 months	Normal Height for Age			
21		Stunted			
22		Severely Stunted			
23		**Total Measured**			
24	6 - 23 months	Normal Height for Age			
25		Stunted			
26		Severely Stunted			
27		**Total Measured**			
28	24 - 59 months	Normal Height for Age			
29		Stunted			
30		Severely Stunted			
31		**Total Measured**			
	OTHER		F	M	TOTAL
32	0 - 59 months	New Visits			
33		Kwashiorkor			
34		Marasmus			
35		Faltering Growth			
36		**Total**			
37	0 - <6 months	Exclusive breast feeding			
38	12 - 59 months	Dewormed			
39	6 - 23 months	MNPs Supplementation			
40	0 - 59 months	Any Disability			

K. Physiotherapy Service			< 5 yrs	5-19 yrs	20 yrs +
1	Number of PWDs identified and receiving physiotherapy	OPD			
2		In-Patient			
3	Number of other clients/patients receiving physiotherapy	OPD			
4		In-Patient			
5	Total Number of treatments				
6	PWDs assessed for registration				
7	Number of clients receiving out/in reach services				
8	Number of pregnant women attending ANC receiving counselling				
9	WRA receiving prenatal/postnatal exercises				
10	Amount of FIF collected				
11	Amount of FIF Waived				
12	Amount of FIF exempted				
13	Number of Disability committee meetings held				

Revised Jul-2015

Annex V: MOH 713 IMAM Consumption Summary Tool

REPUBLIC OF KENYA

MINISTRY OF HEALTH

INTERGRATED MANAGEMENT OF ACUTE MULNUTRITION PROGRAM

MOH 713

COUNTY _____

SUB COUNTY _____

HEALTH FACILITY _____

HEALTH FACILITY CODE (MFL) _____

REPUBLIC OF KENYA

MINISTRY OF HEALTH

INTERGRATED MANAGEMENT OF ACUTE MULNUTRITION (IMAM) SUMMARY TOOL

MOH 713

COUNTY _____ FACILITY CODE _____

SUB COUNTY _____ YEAR _____

HEALTH FACILITY/SITE _____ MONTH _____

	SECTION A					SECTION B					SECTION C				
	Inpatient register					Outpatient register					Supplementary register				
Data element	Under 6 months (A)	(Male 6-59 Months) (B)	(Female 6-59 Months) (C)	(> 5 years) (D)	Total (E)= (A+B+C+D)	Under 6 months (F)	(Male 6-59 Months) (G)	(Female 6-59 Months) (H)	(> 5 years) (I)	Total J=(F+G+H+I)	(Male 6-59 Months) (K)	(Female 6-59 Months) (L)	(> 5 years) (M)	(Pregnant & Lactating mothers) (N)	Total O= (K+L+M+N)
Beneficiaries at the begining of the month															
New admission cases															
Old Admission relapses															
Old Admission return defaulters															
Old Admission transfer from other OTP/SC															
Total admissions															
Discharge Cured															
Discharge Death															
Discharge Defaulters															
Discharge Non Recovered															
Transfer out to OTP/SFP/SC															
Transfer to other OTP/SFP/SC sites															
Total Exits															
OBD (Cummulative number of days for all Patients)-Nutrition															
Average Length of Stay in Days -Nutrition															
In household food security Programme															
Recovery rate %															
Death rate %															
Default rate %															
Non response rate %															
Beneficiaries who Received CSB/Unimix															
Beneficiaries who Received veg Oil															
Beneficiaries who Received RUSF Sachet															
Beneficiaries who Received RUTF Sachet															
Beneficiaries who Received F-100 Sachet															
Beneficiaries who Received F-75 Sachet															

Section D: Nutrition Logistics Management								
Commodity	(Beginning Balance)	(Stock Received)	(Issued/Dispensed)	(Losses)	(Positive Adjustment (Receipt from other HF))	(Negative Adjustment (Issued to Other HF))	(Ending Balance)	(Quantity Needed/ Requested)
F-75 (Sachets)								
Resumol (Sachet)								
RUSF (Sachets)								
RUTF (Sachets) [Stock]								
Oil (lit)								
CSB/UNIMIX (kg)								
F-100 (Sachets)								
Multiple Micro nutrients powders								

REPORTING OFFICER _____ DESIGNATION _____ CELL PHONE _____

SIGNATURE _____ DATE _____

Formula for computing average length of stay
ALOS= sum of total number of days for cured client/total number of cured clients.
RECOVERY RATE = Number Cured(Total exits -Transfer outs)*100
DEATH RATE = Number Died(Total exits -Transfer outs)*100
DEFAULTER RATE = Number Defaulted (Total exits -Transfer outs)*100
NON RESPONSE RATE = Number Non cured(Total exits -Transfer outs)*100

Target Outcomes			
	inpatients	OTP	SFP
Recovery rate % >75%		>75%	>75%
Death rate <3%	<10%	<10%	<3%
Deafault rate<15%		<15%	<15%

Annex VI: MOH 734 Facility Consumption Data Report and Request (F-CDRR) for Nutrition Commodities

REPUBLIC OF KENYA

MINISTRY OF HEALTH

FACILITY CONSUMPTION DATA REPORT AND REQUEST (F-CDRR) FOR NUTRITION COMMODITIES

MOH 734

September 2017 Version

FACILITY NAME _____

FACILITY'S MFL CODE _____

SUB-COUNTY _____

REGION _____

COUNTY _____

REPUBLIC OF KENYA

MINISTRY OF HEALTH

MOH 734 B

September 2017 version

FACILITY CONSUMPTION DATA REPORT AND REQUEST (F-CDRR) FOR NUTRITION COMMODITIES

NAME OF FACILITY _____ FACILITY' MFL CODE _____ COUNTY _____ SUB COUNTY _____

Period of Reporting: Beginning (Day/Month/Year) _____ Ending (Day/Month/Year) _____

Section A Commodities

Commodity Name	Unit of Issue	Beginning Balance	Quantity Received this Month	Total Quantity Dispensed	Losses (damages, expiries, missing)	Positive Adjustments (borrowed from out to other facilities)	Negative Adjustments (Issued out to other facilities)	Physical count	Commodities with less than 6 months to expiry		Days out of Stock this month	Quantity Required for Re-Supply
									Quantity	Expiry Date		
		A	B	C	D	E	F	G			H	K
Therapeutic Food Products												
Therapeutic diet milk (F-75) 75kcal/100ml	102.5g sachet											
Therapeutic diet milk (F-75) 75kcal/100ml	400g Tin											
Therapeutic diet milk (F-100) 100kcal/100ml	114g sachet											
Therapeutic diet milk (F-100) 100kcal/100ml	400g Tin											
Ready to use therapeutic food (RUTF) paste 500kcal/92g	92g Sachet											
Ready to use therapeutic food (RUTF) bar 500kcal/100g	100g bar											
Resomal	Sachets											
Supplemental Food Products												
Ready to use supplemental food (RUSF) paste 500kcal/92g	92g Sachet											
Fort Corn Soya Blend (Unimix) 25kgs 100Kcal/250g	Kgs											
Vegetable Oil 221Kcal/25gms	Kgs											
Fortified Blended Food (FBF) flour 415kcal/100g [for Children aged 6 months – 9 years]	200g Sachet											
Fortified Blended Food (FBF) flour 435kcal/100g [for Adults and Adolescents (10-17 years)]	300g Sachet											
Fortified Blended Food (FBF) flour 450kcal/100g [for Pregnant Women and Post-partum mothers]	300g Sachet											
Super Cereals Plus (CSB++) 1.5kg Packet	1.5 Kg packet											
Super Cereals Plus (CSB++) 300grms Sachet	Sachets											
Multiple Micronutrients												
Micronutrient powder (Vitamin and mineral powder)	1g Sachet											
Multiple Vitamin and Mineral mix (tablets/capsules)	Sachets											
Therapeutic Vitamin A 50 000 IU	Capsules (50,000 iu)											
Combined Iron (60mg) Folic Acid (400µg)	1 Tablet/ capsule											
Others												
Point of use Water treatment solution (1.2% Sodium hypochlorite[NaOCl])	150ml bottle											

Section B Clients

Code	Client Category	No of Clients who Received	Data Source
N001	Clients (=<5 Years) on F-75		MOH368,MOH407A/B
N002	Clients (=<5 Years) on F-100		MOH368,MOH407A/B
N003	Clients (=<5 Years) on RUTF		MOH409,MOH407A/B
N004	Clients (=<5 Years) on Resumol		MOH368,MOH407A/B
N005	Clients (=<5 Years) on RUSF		MOH410A,MOH407A/B
N006	Clients (=<5 Years) on FBF		MOH407A/B
N007	Clients (6-23 Months) on MNP		MOH704
N008	Clients (=<5 Years) on Vit A (Therapeutic)		MOH407A/B
N009	Clients (5-9 Years) on F-75		MOH409,MOH407A/B
N010	Clients (5-9 Years) on F-100		MOH409,MOH407A/B
N011	Clients (5-9 Years) on RUTF		MOH409,MOH407A/B
N012	Clients (5-9 Years) on RUSF		MOH409,MOH407A/B
N013	Clients (5-9 Years) on FBF		MOH409,MOH407A/B
N032	Clients (5-9 Years) on CSB		MOH409,MOH407A/B
N033	Clients (5-9 Years) on Veg Oil		MOH409,MOH407A/B
N015	Clients (10-17 Years) on F-75		MOH409,MOH407A/B
N016	Clients (10-17 Years) on F-100		MOH409,MOH407A/B
N017	Clients (10-17 Years) on RUTF		MOH409,MOH407A/B
N018	Clients (10-17 Years) on RUSF		MOH409,MOH407A/B
N019	Clients (10-17 Years) on FBF		MOH409,MOH407A/B
N034	Clients (10-17 Years) on CSB		MOH409,MOH407A/B
N035	Clients (10-17 Years) on Veg Oil		MOH409,MOH407A/B
N021	Clients (18 and above) on F-75		MOH409,MOH407A/B
N022	Clients (18 and above) on CSB++ (Packet)		MOH409,MOH407A/B
N023	Clients (18 and above) on CSB++ (Sachet)		MOH409,MOH407A/B
N024	Clients (18 and above) on F-100		MOH409,MOH407A/B
N025	Clients (18 and above) on RUTF		MOH409,MOH407A/B
N026	Clients (18 and above) on RUSF		MOH409,MOH407A/B
N027	Clients (18 and above) on FBF		MOH409,MOH407A/B
N028	Clients (18 and above) on CSB		MOH409,MOH407A/B
N029	Clients (18 and above) on Veg Oil		MOH409,MOH407A/B
N030	Pregnant & Postpartum on RUTF		MOH409,MOH407A/B
N031	Pregnant & Postpartum on RUSF		MOH409,MOH407A/B
N038	Pregnant & Postpartum on CSB		MOH409,MOH410B,MOH407A/B
N039	Pregnant & Postpartum on FBF		MOH409,MOH410B,MOH407A/B
N040	Pregnant & Postpartum on Veg Oil		MOH409,MOH410B,MOH407A/B

ORDER FOR ADDITIONAL TOOLS

Order for extra LMIS & Service Data collection tools:-

(1) Daily Activity Register for Nutrition commodities MOH 409 ☐ (2) F-CDRR for Nutrition commodities MOH 734 (Satellite sites): ☐ (3) Facility Prescription form for Nutrition Commodities MOH 732 ☐

(4) Nutrition Services Register (Adult) MOH 407A ☐ (5) Nutrition Services Register (Children) MOH 407B ☐ (6) In Patient Nutrition Register (MOH 368) ☐

(7) Outpatient Therapeutic Register MOH 409 ☐ (8) Supplementary feeding program Register for children 6 to 59 months MOH 410A ☐ (9) Supplementary feeding program Register for PLWs MOH 410B ☐

To be requested only when your Data collection or reporting Tools are nearly full. Indicate quantity required for each tool type.

Comments (on Commodity logistics and clinical issues, including explanation of Losses & Adjustments):

Report prepared by:

Name of Reporting officer _____ Designation: _____ Contact Tel.: _____ Signature: _____

Report approved by:

Name of Approving officer _____ Designation: _____ Contact Tel.: _____ Signature: _____

Date report sent to Sub county(dd/mm/yyyy) _____/_____/_____

Annex VII: MOH 409 Daily Activity Register (DAR) for Nutrition Commodities

MOH 409

REPUBLIC OF KENYA

MINISTRY OF HEALTH

FACILITY

DAILY ACTIVITY REGISTER FOR NUTRITION COMMODITIES

(DAR – NUTRITION COMMODITIES)

Version October 2015

Facility name: _____

Facility's MFL code: _____

Sub-County: _____

Region: _____

County: _____

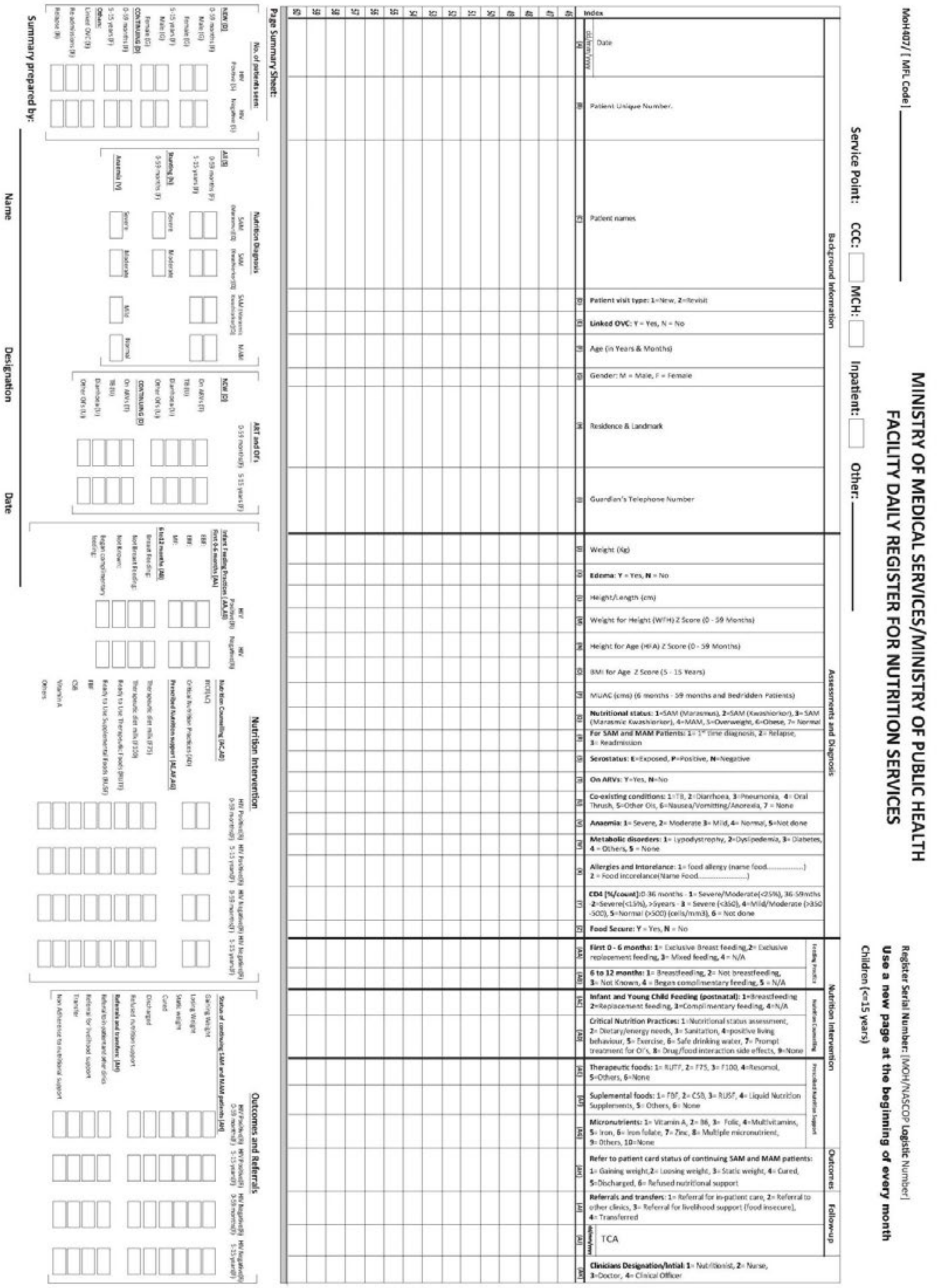
Funding Source (Please tick correct box): KEMSA/GoK ☐ NHP (USG) ☐ WFP ☐ Other (Please specify) ☐

Service Delivery Point (Please tick correct box): MCH ☐ CCC ☐ Ward ☐ TB Clinic ☐

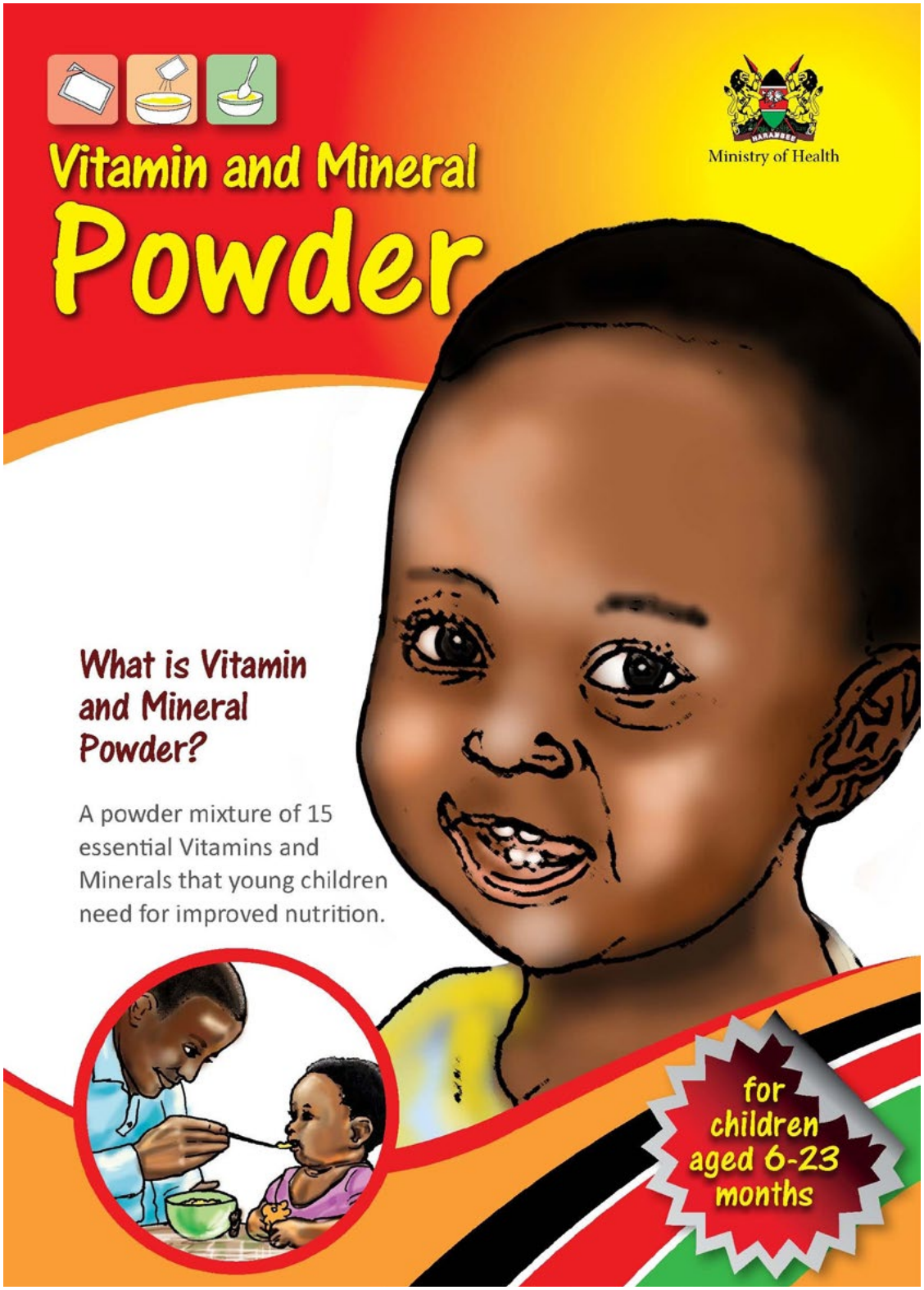
MONTH: YEAR:

				Therapeutic food products						Supplemental food products								Micronutrients								Others		
				Therapeutic diet milk (F-75), 75kcal/100g	Therapeutic diet milk (F-100), 100kcal/100g	Ready to use therapeutic food (RUTF) paste, 500kcal/92g (e.g. *Plumpy Nut*)	Ready to use therapeutic food (RUTF) bar, 500kcal/100g			Ready to use supplemental food (RUSF) paste, 500kcal/92g (e.g. *Plumpy Soy*)	Corn Soy Blend flour, 390kcal/100g	Fortified Blended Food (FBF) flour, 415kcal/100g [for Children aged 6 months – 9 years]	Fortified Blended Food (FBF) flour, 435kcal/100g [for Adults and Adolescents (10-17 years)]	Fortified Blended Food (FBF) flour, 450kcal/100g [for Pregnant Women and Post-partum mothers]				Micronutrient Powder	Multiple Vitamin and Mineral mix (tablets/capsules)	Combined Iron (60mg) Folic Acid (400µg)	Ferrous sulphate, 200mg tablet	Therapeutic Vitamin A 100 000 IU (30 mg RE)	Therapeutic Vitamin A 200 000 IU (60 mg RE)			Point of use Water treatment solution (1.2% Sodium hypochlorite[NaOCl])	Parental feeds	
			Unit of Issue	114g sachet	102.5g sachet	1 sachet of 92g	100g bar			1 Sachet of 92g	Bag of 15 sachets of 300g	Bag of 15 sachets of 200g	Bag of 15 sachets of 300g	Bag of 15 sachets of 300g				1 sachet of 1g	Sachet	Capsule / Tablet		100,000IU Blue capsule	200,000 IU Red capsule			150ml bottle		
Date:			Opening Balance (A)																									
Date:			Quantity Received (B)																									
Date:			Stock on Hand (C) = A + B																									
Date	Client Unique No. (IP, OP, MCH Clinic, etc)	Client Name	Dispensing Officer (Name)																									
			Page Total of Quantity Dispensed (D)																									
			Closing Balance (E)																									

Annex VIII: MOH 407B Facility DAR for Nutrition Services



Annex IX: Vitamin and Mineral Powder Leaflet – English



Benefits

Vitamin and Mineral Powder helps:

1. Improve the body's immune system
2. Improve a child's appetite
3. Improves a child's ability to learn and develop
4. Makes children healthy, strong and active
5. Prevent vitamin and mineral deficiencies

Directions of Use

1. **For one child, mix one sachet of Vitamin and Mineral powder per day with food**
   - **Use one sachet every third day**
2. **Mix in warm solid or semi-solid foods**
   - **Vitamin and Mineral powder SHOULD NOT be added in hot or liquid foods**
3. **Mix the powder in the amount of food which a child can consume at one time when then the child eats the most**
4. **Food mixed with Vitamin and Mineral powder should be fed to a child within half an hour OF MIXING.**

Direction to use vitamin and mineral powder:

Key Messages

Give Vitamin and Mineral Powder to children aged 6-23 months

1. **Exclusively breastfeed children from birth to 6 months**
2. **Introduce complimentary foods at six months with continued Breast feeding for upto 2 years and beyond**
3. **Ensure that your child is fed with clean and fresh food**
4. **Vitamin and Mineral Powder should be added to regular complementary food of children every third day**
5. **Avoid sharing of Vitamin and Mineral powder with other children**
6. **Vitamins and Minerals are necessary for your child's physical growth and development**

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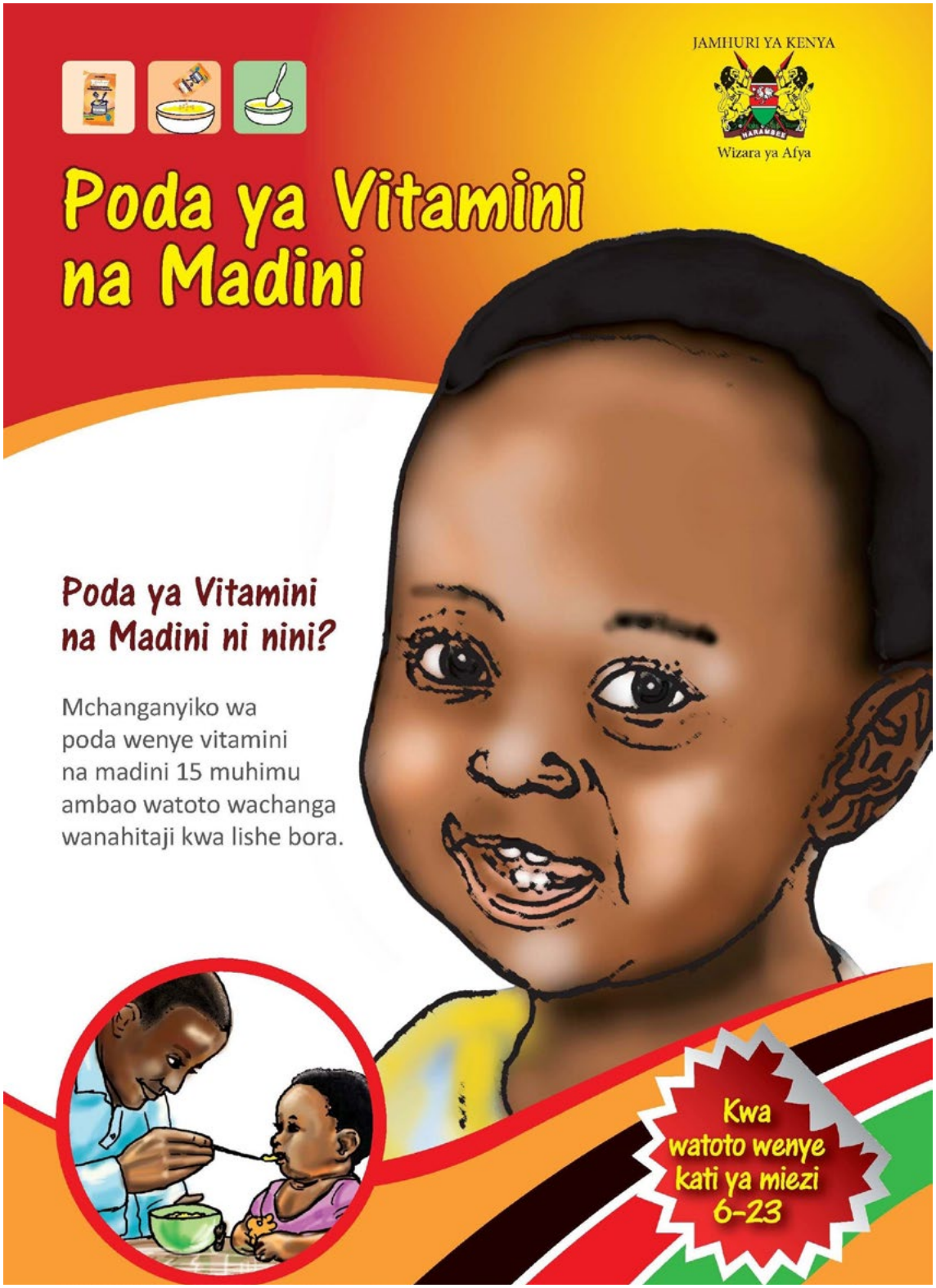
FOR MORE INFORMATION:
Please contact nearest health facility or community health worker

Annex X: Vitamin and Mineral Powder Leaflet – Swahili



Faida

Poda ya Vitamini na Madini inasaidia:

1. Kuboresha kinga ya mwili.
2. Kuboresha hamu ya kula kwa mtoto.
3. Kuboresha uwezo wa ubongo na maendeleo ya mtoto
4. Humfanya mtoto kuwa na afya, nguvu na kuchangamka.
5. Huzuia pungufu za vitamini na madini.

Namna ya kutumia

1. **Kwa mtoto mmoja, changanya sacheti moja ya poda ya vitamini na madini katika chakula kwa siku.**
   - **Tumia sacheti moja tu kila siku ya tatu.**
2. **Changanya kwenye vyakula vilivyopondwa au rojorojo.**
   - **USIONGEZE poda ya vitamini na madini kwenye vyakula moto au vya majimaji**
3. **Changanya poda hiyo kwenye kiasi cha chakula ambacho mtoto mchanga anaweza kukimaliza katika mlo mmoja, kwa kufanya hivyo, mtoto atakula zaidi.**
4. **Mtoto mdogo anapaswa kulishwa chakula ambacho kimechanganywa poda ya vitamini na madini ndani ya nusu saa ya KUCHANGANYA.**

Maelezo ya kutumia poda ya vitamini na madini

1

Hatua ya 1

Fungua sacheti kwa kukata pembeni.

2

Hatua ya 2

Nyunyiza poda iliyomo ndani ya sacheti kwenye chakula kilishapikwa wakati kimepoa na kiko tayari kupewa mtoto.

3

Hatua ya 3

Baada ya kunyunyiza poda ya vitamini na madini, changanya chakula vizuri.

4

Hatua ya 4

Mlishe mtoto mlo uliochanganywa vitamini na madini ndani ya nusu saa.

Ujumbe muhimu

Wape watoto wenye umri kati ya miezi 6-23, poda ya Vitamini na Madini

1. **Kuanzia siku ya kuzaliwa mpaka miezi sita, mtoto anyonye maziwa ya mama peke yake.**
2. **Mwanzishie vyakula vya ziada akiwa na miezi sita huku ukiendelea kumnyonyesha maziwa ya mama mpaka afikie miaka 2 na kuendelea.**
3. **Hakikisha mtoto wako analishwa chakula safi na freshi.**
4. **Kila siku ya pili, poda ya vitamini na madini inapaswa kunyunyizwa katika vyakula vya ziada vya mtoto.**
5. **Epuka kumlisha mtoto poda ya vitamini na madini ukishirikisha watoto wengine.**
6. **Vitamini na madini vinafaa kwa ukuaji wa watoto na maendeleo yao kimwili.**

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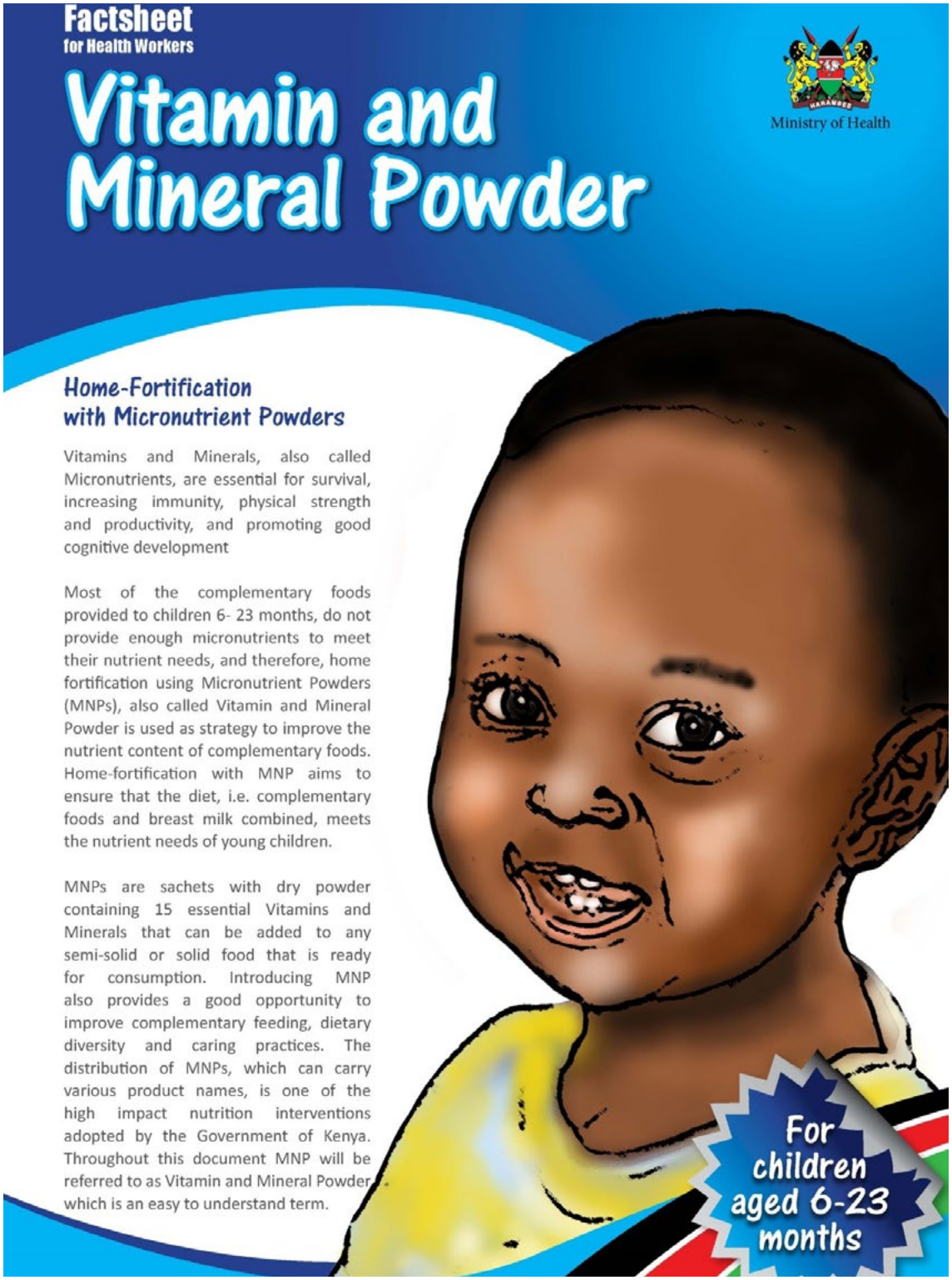
KWA MAELEZO ZAIDI:
Tafadhali wasiliana na kituo cha afya kilichoko karibu au mhudumu wa afya ya jamii

Annex XI: Vitamin and Mineral Powder Factsheet for Health Workers – English



The Fifteen Vitamin & Mineral formulation

The composition is based on the Recommended Nutrient Intake (RNI) of ach micronutrient per dose for children 6-59 months old[1].

Micronutrients	Children (6-59 months)
Vitamin A µg RE	400
Vitamin D µg	5
Vitamin E mg	5
Vitamin C mg	30
Thiamine (vitamin B1) mg	0.5
Riboflavin (vitamin B2) mg	0.5
Niacin (vitamin B3) mg	6
Vitamin B6 (pyridoxine) mg	0.5
Vitamin B12 (cobalamine) µg	0.9
Folate µg	150.0
Iron mg	10.0
Zinc mg	4.1
Copper mg	0.56
Selenium µg	17.0
Iodine µg	90.0

Target Group and Delivery

Target group

Infants and children aged 6-23 months, starting at the same time when complementary foods are introduced into the diet.

Frequency

Each child should get at least 10 sachets of vitamins and minerals per month to be consumed every third day and no more than one sachet per day.

Duration

Each child should receive vitamins and minerals powder regularly minimum 60 sachets per six months period.

Behavior Change Communication (BCC)

In addition to this fact sheet, health workers will be given a list of Frequently Asked Questions to answer questions mothers may have on the use of Vitamin and Mineral Powder. Mothers will be provided with a flyer with easy to understand information on instructions, and key messages.

Monitoring

Coverage and acceptance will be monitored through the existing monthly Health Management Information System rounds. Each child should get at least 10 sachets per month and 60 sachets per six months period. Adherence and changes of IYCF practices will be monitored through other methods.

Key messages for care takers

- Practice exclusive breastfeeding from birth to 6 months of age.
- Continue breastfeeding up to 2 years and beyond
- Introduce complementary foods at 6 months, such as soft porridge, well mashed food, 2 to 3 meals per day, and start with 2 to 3 tablespoonfuls at each meal.
- From 6 up to 8 months of age, feed 3 meals per day with mashed food, increasing gradually to ½ of a 250 ml cup at each meal.
- From 9 up to 11 months of age, feed 3 meals per day with finely chopped or mashed foods, give three quarters (¾) of a 250 ml cup at each meal, and 1 time nutritious snack (extra food between meals, such as a piece of fruit)
- From 12 up to 23 months of age, feed 3 meals per day with family foods, chopped or mashed if necessary, give three quarter (¾) up to one of 250 ml cup and 2 times nutritious snacks.
- Enrich the baby/child's food with 2 to 3 different types of foods (such as peanuts, meat, eggs, lentils, vegetables and fruits) at each meal. A small amount of oil or margarine can also be used or added to the child's foods.
- Wash hands with running water and soap before preparing food, and before feeding the baby/child
- During illness give the baby/child small frequent meals and more fluids, including breastmilk. Encourage the baby/child to eat a variety of (his/her) favorite soft foods. After illness feed more food and more often than usual for at least 2 weeks.
- If the child is suffering from diarrhea, take him/her to the nearest health centre to get treatment including zinc.
- Continue to take the child to the health centre for growth monitoring, regular check-ups and immunizations.

1. WHO, WFP, UNICEF: Joint statement. Preventing and controlling micronutrient deficiencies in populations affected by an emergency (2007). http://www.who.int/nutrition/publications/micronutrients/WHO_WFP_UNICEFstatement.pdf

- After 6 months of age, children should receive vitamin A supplements every 6 months.
- When the child is one year old, deworm the child to maintain healthy growth.

Vitamin and Mineral Powder

- Vitamin and Mineral powder should be added to regular complementary food for children every third day, no one more than one sachet per day.
- Avoid sharing of Vitamin and Mineral powder with other children.
- Vitamin and Mineral powder should not be mixed with liquids and hot foods
- Vitamins and Minerals are necessary for a child's physical growth and development.

Key benefits Vitamin and Mineral Powder

1. Improves the body's immune system
2. Improves a child's appetite
3. Improves a child's ability to learn and develop
4. Makes children healthy, strong and active!
5. Prevent vitamin and mineral deficiencies

Questions and Answers

What is Vitamin and Mineral Powder?

A powder containing the recommended daily nutrient intake of 15 vitamins and minerals per child. It is mixed with home-prepared food (that is solid and semi-solid food) after cooking just before eating.

Why use Vitamin and Mineral Powder?

Use of vitamin and mineral powder for home fortification have been shown to have impact on the micronutrient status (reduce anemia and improve iron status) of children 6-23 months[2, 3]. Their successful use, within infant and young child feeding programmes, has the potential to improve the quality of home-prepared complementary foods and essential young child feeding practices. This in turn will lead to better outcomes in growth and development for young children.

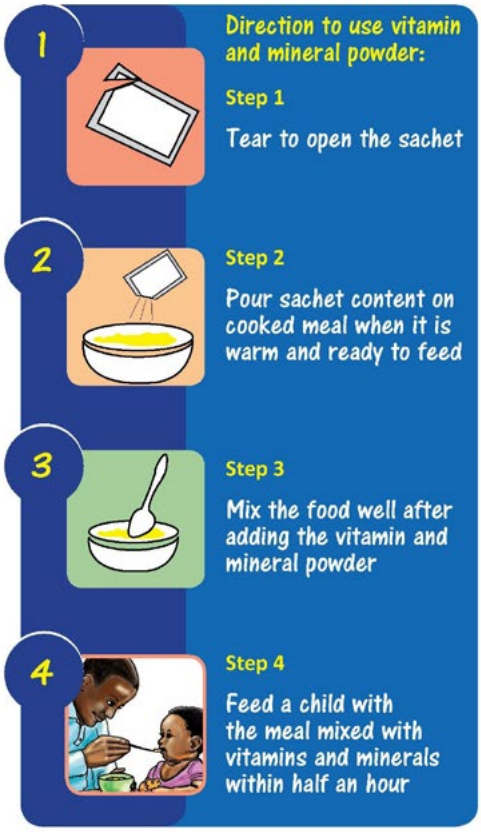
When used as recommended, Vitamin & Mineral powder will increase micronutrient intake, which leads to an improvement of micronutrient status, and can therefore improve child health, including reduced morbidity and mortality, improved growth, cognition, appetite and other functional outcomes.

Who should use Vitamin and Mineral Powder?

This is recommended for children 6- 23 months as part of an infant and young child feeding programme. The period of highest vulnerability is from 6 to 23 months, when the variety of food and quantity is limited. Therefore vitamin and mineral powder should be given to children aged 6-23 months.

How to use Vitamin and Mineral Powder?

Once the food is ready, the child's food should be served in separate plate and mixed with one sachet of vitamin and mineral powder. The powder can be added to all foods as per the feeding recommendations in the Mother Child booklet.



2. WHO. Guideline: Use of multiple micronutrient powders for home fortification of foods consumed by infants and children 6–23 months of age. Geneva, World Health Organization, 2011.
3. De-Regil LM, Suchdev PS, Vist GE, Walleser S, Peña-Rosas JP. Home fortification of foods with multiple micronutrient powders for health and nutrition in children under two years of age. Cochrane Database of Systematic Reviews 2011, Issue 9. Art. No.: CD008959. DOI: 10.1002/14651858.CD008959.pub2

Can Vitamin and Mineral Powder be provided in combination with other fortified products and supplements, such as:

a. High-dose vitamin A capsules (VAC)

b. Iodized salt

c. General food fortification of flour, oil, salt etc

d. Specially formulated products (LNS, RUTF, CSB+/++, WSB+/++, RUSF etc)

Vitamin and mineral powder can be safely provided in addition to twice-yearly high-dose VAC , iodized salt and general food fortification.

Combining it 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++ (corn-soy blend) for treatment of MAM (moderate acute malnutrition), or small-quantity LNS (lipid-based nutrient supplement, <= 20 g/d, providing <=120 kcal/d) is not appropriate because those products already contain a similar or higher amount of micronutrients. In that case, one can recommend keeping the vitamin and mineral powder for later, when those other products are no longer used.

Can vitamin and mineral powder be used in malarial areas?

In malaria-endemic areas, the provision of iron-containing MNP should be implemented in conjunction with measures to prevent, diagnose and treat malaria.

Have adverse events been reported from the use of Vitamin and Mineral Powder?

Diarrhea is sometimes reported by caretakers when children start using vitamin and mineral powder, usually by <1% of the population. Whether this is related to the vitamin and mineral powder itself is not known. When a new product or treatment is introduced, consumers may ascribe any health problems that concurrently arise to the product or treatment.

Communications messages when introducing the vitamin and mineral powder should say that mild diarrhea may occur but one should not worry, that it should be treated as usual with increased liquids, and that vitamin and mineral powder consumption does not need to be interrupted. When the diarrhea is severe, or is bloody or with mucous, care should be sought as it would have been without concurrent use of vitamin and mineral powder.

Why vitamin and mineral powder is not encouraged to be mixed with liquid or hot food?

In order to mask the strong metallic taste of the iron, the iron in the vitamin and mineral powder is coated or encapsulated with a thin coat of a soy lipid (to mask the metallic taste), when it is mixed with liquid foods, it will float to the top of liquids and tend to stick to the side of the cup or glass, so some of the powder will be lost.

The melting temperature for the lipid is around 60°C. If vitamin and mineral powder are added to food that is hotter than 60°C, the lipid coating around the iron will melt and the iron will be exposed to the food. The result will be that the iron can change the colour of the food and certainly will have a strong taste.

To prevent changes in the taste and the colour of food to which vitamin and mineral is added, it is recommended that vitamin and mineral powder be added to the food after it is cooled to a temperature below 60°C or ready to be given to a child (warm foods).

Can vitamin and mineral powder be used in infants younger than 6 months of age?

Infants from birth to 6 months of age should be exclusively breastfed, the nutrient needs for infant less than 6 months is sufficient from breast milk alone, therefore it is not recommended to use vitamin and mineral powder before 6 months.

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Annex XII: Vitamin and Mineral Powder Factsheet for Health Workers – Swahili

Muundo wa Vitamini na Madini kumi na tano

Muundo wake unalingana na Ulaji wa Virutubishi Uliopendekezwa (RNI) kwa kila kiwango cha kirutubishi kwa watoto wenye umri kati ya miezi 6 – 59[1]

Virutubishi	Watoto (miezi 6-59)
Vitamini A µg RE	400
Vitamini D µg	5
Vitamini E mg	5
Vitamini C mg	30
Thiamine (vitamini B1) mg	0.5
Riboflavin (vitamin B2) mg	0.5
Niacin (vitamin B3) mg	6
Vitamini B6 (pyridoxine) mg	0.5
Vitamini B12 (cobalamine) µg	0.9
Folate µg	150.0
Iron mg	10
Zinc mg	4.1
Copper mg	0.56
Selenium µg	17.0
Iodine µg	90.0

Walengwa na upeanaji

Walengwa

Watoto wenye umri wa miezi 6 – 23, wanaanza kutumia poda hiyo, wakati uleule ambapo vyakula vya ziada huanzishwa kwenye milo yao.

Mara ngapi?

Kwa mwezi, kila mtoto anapaswa kupewa sacheti 10 za vitamini na madini. Kila siku ya tatu mtoto anapewa sacheti moja peke yake.

Kwa muda gani?

Kwa muda wa miezi sita, kila mtoto anapaswa kupewa sacheti 60 za unga wa vitamini na madini.
Uwasilishaji wa Kubadilika kwa Tabia

(BCC) Pamoja na mwongozo huu, wahudumu wa Afya watapewa orodha ya majibu ya Maswali Yanayoulizwa Daima ambayo akina mama wanaweza kuwa nayo katika utumiaji wa Unga wa Vitamini na Madini. Akina mama watapewa kijikaratasi chenye mwongozo ambacho maelezo na maagizo, pamoja na jumbe muhimu ni rahisi kuelewa.

Ufuatiliaji

Ufuatiliaji wa taarifa za matukio na kukubalika kwa poda ya vitamini na madini utafanyika kwa kutumia mfumo wa Serikali wa Usimamiaji wa Afya. Kila mtoto lazima apewe sacheti 10 kwa muda wa mwezi mmoja na sacheti 60 kwa muda wa miezi sita. Ufuasi na mabadiliko kwenye matumizi ya IYCF vitafuatiliwa kwa kupitia njia zingine.

Jumbe Muhimu kwa Walezi wa watoto[2]

- Mnyonyeshe mtoto maziwa ya mama peke yake, kutoka siku ya kuzaliwa mpaka afikie miezi sita.
- Endelea kumnyonyesha maziwa ya mama hadi afikie miaka miwili na kuendelea.
- Anzisha vyakula ziada mtoto akiwa na umri wa miezi 6 kama vile uji usio mwepesi, chakula kilichopondwa vizuri, milo miwili au mitatu kwa siku na uanze na vijiko vya chakula 2 au 3 katika kila mlo.
- Kutoka umri wa miezi 6 hadi 8 mlishe mtoto chakula kilichopondwa vizuri milo mitatu kwa siku , ukiongeza kidogo kidogo hadi nusu(½) kikombe chenye ujazo wa ml 250 kwenye kila mlo.
- Kutoka umri wa miezi 9 hadi 11, kwa siku mlishe milo 3 ya chakula kilichokatwakatwa vizuri au kilichopondwa vizuri, ukimpa robotatu (¾) ya kikombe chenye ujazo wa ml 250 katika kila mlo na pia, umpe asusa yenye kirutubishi mara moja, (kama chakula zaidi katikati ya milo, kwa mfano tunda).
- Kutoka umri wa miezi 12 hadi 23, mlishe milo mitatu kwa siku ukitumia chakula kinacholiwa na familia kilichokatwakatwa au kupondwa, kama inabidi, ukimpa robotatu (¾) mpaka kikombe kimoja chenye ujazo wa ml 250 na mara mbili asusa yenye kirutubishi.
- Boresha chakula cha mtoto mdogo kwa kutumia aina 2 au 3 za vyakula (kama vile njugu, nyama, mayai, dengu, mboga na matunda) kwenye kila mlo. Kiasi kidogo cha mafuta ya saladi ya kupikia au siagi ya kupaka mkate, kinaweza kuongezwa kwenye vyakula vya mtoto.
- Nawa mikono kwa sabuni na maji yanayotiririka kwenye bomba kabla ya kutengeneza chakula cha mtoto na kabla ya kumlisha mtoto.
- Wakati mtoto akiwa mgonjwa, mpe mtoto, milo kiasi kidogokidogo mara nyingi na maji zaidi pamoja na maziwa ya mama. Mhimize mtoto mchanga au mdogo kula aina mbalimbali za chakula laini anachokipenda zaidi. Baada ya kupona ugonjwa, mlishe chakula zaidi na mara nyingi zaidi kuliko ilivyo kawaida kwa muda wa wiki mbili.
- Endapo mtoto anaharisha, mpeleke kwenye kituo cha afya kilichoko karibu ili apewe matibabu pamoja na madini ya zinc.

1 WHO, WFP, UNICEF: Joint statement. Preventing and controlling micronutrient deficiencies in populations affected by an emergency (2007) http://www.who.int/nutrition/publications/micronutrients/WHO_WFP_UNICEFstatement.pdf

- Endelea kumpeleka mtoto kwenye kituo cha afya kwa kumpima uzito na ukuaji, uchunguzi wa kawaida, na kupata chanjo anazostahili.
- Baada ya miezi 6, watoto wanapaswa kupewa vidonge vya vitamini A kila baada ya miezi 6.
- Mtoto akiwa na umri wa mwaka mmoja, mpe dawa ya kutoa minyoo ili kuendeleza ukuaji wenye afya.

Poda ya Vitamini na Madini

- Poda ya vitamini na madini lazima iongezwe kwenye chakula cha ziada cha watoto, kila siku ya tatu, na isizidi sacheti moja kwa siku hiyo.
- Epuka kushirikisha watoto wengine unapompa mtoto poda ya vitamini na madini.
- Kamwe, usichanganye poda ya vitamini na madini kwenye maji na vyakula moto.
- Vitamini na Madini ni muhimu kwa ukuaji wa mwili na maendeleo ya mtoto.

Faida za msingi za Poda ya Vitamini na Madini

- Inaboresha mfumo wa kinga ya mwili.
- Inaboresha hamu ya kula kwa mtoto.
- Inaboresha uwezo wa ubongo na kukua kwa watoto
- Inawafanya watoto kuwa na afya, nguvu na kuchangamka.
- Inazuia upungufu wa vitamini na madini

Maswali na Majibu

Poda ya Vitamini na Madini ni nini?

Ni poda yenye virutubishi 15 vinavyopaswa kutumiwa kila siku na mtoto. Inachanganywa kwenye chakula kilichotengenezwa nyumbani (chakula ambacho kimepondwa au rojorojo) baada ya kukipika lakini mara kabla ya kukila.

Kwa nini tutumie Poda ya Vitamini na Madini?

Utumiaji wa poda ya vitamini na madini kwenye vyakula nyumbani, umeonyesha kuwa na mafanikio kwenye hadhi ya virutubishi, unapunguza (hali ya kutokuwa na upungufu wa damu na kuboresha hadhi ya madini ya ioni mwilini) kwa watoto wenye umri wa miezi 6 - 23[2,3]. Utumiaji vizuri wa poda hiyo, kwenye programu za kulishia watoto wadogo, una uwezo wa kuimarisha ubora wa vyakula vya ziada vinavyotengenezwa nyumbani na ulishaji muhimu wa watoto wadogo: Haya yote, yatapelekea matokeo bora zaidi kwa ukuaji na maendeleo ya watoto wadogo.

Poda hiyo ya vitamini na madini itumikapo inavyostahili, itaongeza ulaji wa virutubishi, utakaopelekea hadhi bora ya virutubishi mwilini, na hivyo, kuboresha afya ya mtoto, ikiwemo kupunguza maradhi na vifo, kuboresha ukuaji, uwezo wa ubongo, hamu ya kula, na mambo mengine muhimu.

Nani anapaswa kutumia Poda ya vitamini na Madini?

Poda hii imependekezwa kwa watoto wenye umri kati ya miezi 6 – 23 kama sehemu ya huduma ya serikali ya lishe kwa watoto. Wakati watoto wakiwa na kati ya miezi 6-23 ni wakati ambapo wanaweza kuathirika kama aina na kiwango cha vyakula vinapungua. Kwa hiyo, poda ya vitamini na madini inapaswa kupewa watoto wenye umri kati ya miezi 6 – 23.

Jinsi ya kutumia Poda ya Vitamini na Madini

Chakula kikishapikwa, mtoto apakuliwe chakula chake kwenye sahani yake peke yake na kichanganywe na sacheti moja ya poda ya vitamini na madini. Poda hiyo inaweza kuongezwa kwenye vyakula vyote kulingana na mapendekezo ya lishe yaliyoko kwenye kijitabu cha Afya ya Mama na Mtoto ('Mother and Child Booklet'.)

2. WHO, Guideline: Use of multiple micronutrient powerds for home fortification of foods consumed by infants and children 6-23 months of age, Geneva, World Health Organiszation, 2011.
3. De-Regil LM, Suchdey, PS, Vist GE, Walleser S, Pena-Rosas JP Home fortification of foods with multiple micronutrient powders for health and nutrition in children under two years of age. Cocrane Database of Systematic Reviews 2011, Issue 9, Art. No.: CD008959, DO: 10.1002/14651858.CD008959.pub2

Je, Poda ya Vitamini na Madini inaweza kuchanganywa na bidhaa zingine zilizoimarishwa na vyakula saidizi, kama vile:

a. Vidonge vya vitamini A vya dosi kubwa (VAC).
b. Chumvi ya kawaida.
c. Viboreshi vya kawaida vya chakula kama unga, mafuta ya saladi, chumvi, n.k.
d. Bidhaa zilizoundwa spesheli (LNS, RUTF, CSB+/++, WSB+/++, RUSF, n.k.).

Unaweza kumlisha mtoto salama Poda ya vitamini na madini kando na dosi kubwa ya VAC mara mbili kwa mwaka, chumvi ya kawaida na viboreshi vyakula vya kawaida.

Ukiichanganya poda hiyo na bidhaa zingine spesheli zilizotengenezwa kama vile RUTF (chakula tayari kutumika cha tiba) kutibu SAM (utapiamlo mkali sana), RUSF (chakula saidizi tayari kutumika) au vyakula mchangayiko vilivyoimarishwa kwa kuchanganywa kama vile WSB++ (mchanganyiko wa ngano na soya) au CSB++ (mchanganyiko wa mahindi na soya) kwa kutibia utapiamlo mkali lakini wa kadiri) au kiasi kidogo cha LNS (virutubishi saidizi vyenye lipidi), <= 20g/d, ikitoa <=120 kcal/d) haufai kutumiwa kwa sababu bidhaa hizo tayari zina virutubishi kiasi sawa au juu zaidi. Katika hali ya namna ile, inapendekezwa usitumie poda ya vitamini na madini mpaka hapo ambapo utakapoacha kutumia hizo bidhaa zingine.

Je, poda ya vitamini na madini yaweza kutumiwa kwenye maeneo yenye malaria?

Kwenye maeneo yanayokabiliwa na malaria, upeanaji wa MNP yenye ioni unapaswa kutekelezwa sambamba na hatua za kujikinga, kubaini na kutibu malaria.

Je, kuna matukio mabaya yo yote yameshariptiwa kutokana na utumiaji wa Poda ya Vitamini na madini?

Walezi mara nyingine wameripoti kuhusu kuharisha kwa mtoto wakati anapoanzishwa kutumia podaa vitamini na madini, kwa kawaida chini ya asilimia 1% ya idadi ya watoto. Haijajulikana kama kuharisha huko kunatokana na utumiaji tu wa poda hiyo ya vitamini na madini. Wakati ukimwanzishia mtoto bidhaa mpya au tiba mpya, watumiaji wanaweza wakahusisha matatizo yo yote ya afya ambayo yametokea sambamba na kutumia bidhaa au tiba hiyo kama kisingizio.

Jumbe za mawasiliano wakati unapowaanzishia watoto poda ya vitamini na madini, zinapaswa kusema kwamba kuharisha kidogo kunaweza kutokea, lakini hamna haja ya kuwa na wasiwasi, kuharisha huko kutibiwe kama kawaida na kuongeza utumiaji wa viboreshi vya majimaji na kwamba huhitaji kukatiza utumiaji wa poda ya vitamini na madini. Endapo kuharisha kumezidi sana, au kuhara kumechanganyika na damu au kumechanganyika na ute, mpeleke mtoto kwa daktari kwani inawezekana amepata ugonjwa ambao hata kama usingekuwa umemwanzishia utumiaji huo wa poda ya vitamini na madini, bado angeharisha.

Kwa nini poda ya vitamini na madini, kamwe haichanganywi na maji au vyakula moto?

Ili kuficha ladha kali ya metali ya ioni chakulani, ioni iliyoko kwenye vitamini hufunikwa na tabaka nyembamba ya lipidi ya soya (kuficha ladha ya metali), wakati inapochanganywa na vyakula majimaji, kwa kawaida huelea juu ya vyakula majimaji na inaelekea kugandia kwenye ukingo wa kikombe au glasi, hivyo sehemui ya poda hiyo itakuwa imepotea bure.

Halijoto ya kuyeyusha lipidi ni nyusi 60° Centigredi. Kama poda ya vitamini na madini ikichanganywa kwenye chakula chenye joto zaidi ya nyusi 60° Centigredi, tabaka ya lipidi iliyofunika ioni itayeyuka na ioni hiyo itashikana moja kwa moja na chakula. Matokeo yake yatakuwa kwamba ioni hiyo inaweza kubadilisha rangi ya chakula na bila shaka kitakuwa na ladha kali.

Kuzuia mabadiliko kwenye ladha na rangi ya chakula ambacho kimeongezwa vitamini na madini, inapendekezwa kwamba poda ya vitamini na madini iongezwe tu kwenye chakula ambacho kimepoa kufikia halijoto chini ya nyusijoto 60° Centigredi au tayari kulishwa mtoto (vyakula vuguvugu).

Je, twaweza kumlisha mtoto mchanga chini ya miezi sita poda ya vitamini na madini?

Watoto wachanga kutoka siku ya kuzaliwa mpaka kufikia umri wa miezi 6, wasipewe cho chote zaidi ya maziwa ya mama. Maziwa ya mama yana virutubishi vya kutosha kwa watoto wachanga wa chini ya miezi 6, hivyo haifai kutumia poda ya vitamin na madini kabla ya miezi 6.

Notes

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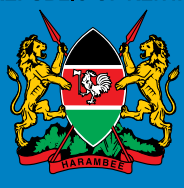

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