

National Guidelines on the Management of Severe Acute Malnutrition for Children under Five Years



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Manual of Operations



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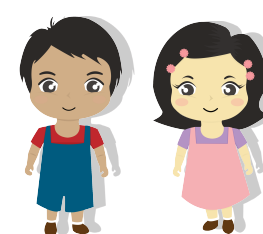


National Guidelines on the Management of Severe Acute Malnutrition for Children under Five Years



Manual of Operations

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ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
BHS	Barangay Health Station
BHW	Barangay Health Worker
BLHD	Bureau of Local Health Development
CB-IMCI	Community-Based Integrated Management of Childhood Illness
CHO	City Health Office
CMAM	Community-based Management of Acute Malnutrition
CNC	City Nutrition Committee
CWCD	Council for the Welfare of Children
DALY	Disability Adjusted Life Years
DOH	Department of Health
DOH RO	DOH Regional Office
DepEd	Department of Education
DSWD	Department of Social Welfare and Development
DPCB	Disease Prevention and Control Bureau
EPI	Expanded Program on Immunization
F75	Therapeutic Milk containing 75kcal/100mL
F100	Therapeutic Milk containing 100kcal/100mL
FBF	Fortified Blended Food
FDA	Food and Drug Administration
FNRI	Food and Nutrition Research Institute
GAM	Global Acute Malnutrition
GMP	Growth Monitoring and Promotion
GP	Garantisadong Pambata
GNC	Global Nutrition Cluster
HC	Health Center
HEMB	Health Emergency Management Bureau
HFDB	Health Facility Development Bureau
HFSB	Health Facilities and Services Regulatory Bureau
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HPCS	Health Promotion and Communication Service
IMAM	Integrated Management of Acute Malnutrition
IMCI	Integrated Management of Childhood Illness
ITC	Inpatient Therapeutic Care
IUGR	Intra Uterine Growth Retardation
IYCF	Infant and Young Child Feeding
LGU	Local Government Unit
LMICs	Low and Middle Income Countries



MAM	Moderate Acute Malnutrition
MNC	Municipal Nutrition Committee
MNCHN	Maternal, Newborn, Child Health and Nutrition
MNPs	Micronutrient Powders
MMD	Materials Management Department
MUAC	Mid-Upper Arm Circumference
NGO	Non-Governmental Organization
NIE	Nutrition in Emergencies
NNC	National Nutrition Council
NTC	National Telecommunications Commission
NTP	National Tuberculosis Program
OTC	Outpatient Therapeutic Care
OPT	Operation Timbang
PGN	Promote Good Nutrition
PHO	Provincial Health Office(r)
PIMAM	Philippine Integrated Management of Acute Malnutrition
PMB	Program Management Bureau
PMTCT	Prevention of Mother to Child Transmission
RHU	Rural Health Unit
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SC	Stabilization Center
SD	Standard Deviations from the mean (also known as Z-scores)
SFP	Supplementary Feeding Program
SPEED	Surveillance in Post Extreme Emergencies and Disasters
START	SPEED Technical Assistance and Response Team
SUN	Scaling up Nutrition
TCL	Target Client List (for the sick child)
UNICEF	United Nations Children's Fund
WFP	World Food Program
WHO	World Health Organization
WFH	Weight-for-Height
WFL	Weight-for-Length

FOREWORD

Undernutrition among children under five years of age remains a major problem in the Philippines. The prevalence of stunting among 0-5 years old is 30.3%, the prevalence of underweight is 19.9% and the prevalence of wasting is 7.9% (FNRI-DOST, NNS 2013 Survey). Thus, it is urgent that health and nutrition services are provided for these children before they fall into the cracks.

Severe Acute Malnutrition can increase the risk of death in childhood from infectious diseases such as diarrhea, pneumonia, and measles. Likewise, evidence shows that episodes of Severe Acute Malnutrition can negatively affect linear growth and cognitive development, and therefore undermines child growth and developmental milestones which have serious impacts on productivity and intellectual capacity in adult life. The Department of Health, together with UNICEF, development partners, and other critical stakeholders have converged efforts to develop this protocol and learn from the experiences of more than 21 local government units, with more than 300 RHUs or BHSs as outpatient treatment sites and ten hospitals as inpatient treatment sites. These facilities have been capacitated to provide appropriate management for both uncomplicated and complicated cases of SAM using the treatment guidelines.

The DOH, as the steward in health and nutrition, has spearheaded the development of the National Guidelines for the Management of Severe Acute Malnutrition: Manual of Operations, with technical support from the Nutrition Section of UNICEF Philippine Country Office. This manual shall serve as a guide in providing evidence-based standardized protocols for health care providers to manage cases of Severe Acute Malnutrition in the communities, Local Government Unit (LGU) health care facilities, hospitals, as well as in other health care settings such as during humanitarian response.

With this guide, I am confident that health care providers at different levels of service provision shall be able to maximize the use of this comprehensive and practical tool in managing cases to reduce preventable deaths from Severe Acute Malnutrition and improve the overall quality of care, nutritional status and survival of children especially among the marginalized, poor, and vulnerable.


Janette Loreto Garin, MD, MBA-H
Secretary of Health



MESSAGE

With an estimated 3.4 million children (30%) under-five who are stunted, the Philippines is among the top ten countries that contribute to the burden of stunting across the globe. The country is also among the top five countries in the East Asia and Pacific Region with high wasting rates. According to the 2013 National Nutrition survey, wasting for children under-five has gradually increased from 6.9% in 2008 to 7.9% in 2013. Wasting continues to be a serious problem, with the Philippines being highly disaster-prone and the risk of developing wasting being higher during emergencies. Children with severe wasting are nine times more at risk of dying than well-nourished children. With appropriate nutritional and clinical management, many of the deaths due to severe wasting can be prevented.

The Philippine Integrated Management of Acute Malnutrition, specifically the Management of Severe Acute Malnutrition (SAM) for children under 5 years of age, is one of the core lifesaving interventions. Together with the existing DOH thrusts and programs and the Philippines' endorsement to the SUN, these guidelines will put in place the protocols for the provision of quality treatment and management of children with SAM within the broader range of interventions and approaches addressing all the forms of under-nutrition. It also serves as one of the keystones of UNICEF's essential interventions and strategies to improve Child Survival and Early Childhood Development.

We can save millions of children who die each year from causes that we have the power to prevent and diseases that we have the ability to treat. The Philippines has taken a big step in the right direction with *Kalusugan Pangkalahatan*. We further applaud the Department of Health in taking this much awaited decisive step toward reduced child mortality by improving access to services for children with SAM.


Lotta Sylwander
Representative
UNICEF Philippine Country Office

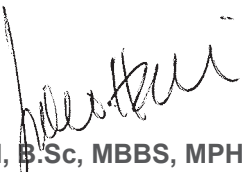


MESSAGE

Protein-energy malnutrition (PEM) and micronutrient deficiencies remain the leading nutritional problems in the Philippines. The general declining trend in the prevalence of underweight, wasting and stunting among Filipino children noted in the past 10 years was countered with the increase in the prevalence rate in 1998. About 31.8% (4 million) of the preschool population were found to be underweight-for-age, 19.8% (3 million) were adolescents, and 13.2% (5 million) were adults, including older persons were found to be underweight and chronically energy deficient, respectively. (FAO 2010 Report). The above condition may have been caused by Severe Acute Malnutrition in the younger their younger years. Severe Acute Malnutrition (SAM) is an emergency health condition that afflicts children, and is common to most parts of the country. From 2013 data alone, some 2,014 kids aged one to four years have been found out to be suffering from SAM (ACF Report 2014). Sam contributes to the risk of a child of having repeated episodes of pneumonia and diarrhea, which if not adequately addressed, could cause irreversible negative effects on their physical brain development. Thus, effective and evidence-based life-saving nutrition interventions for the treatment of severe acute malnutrition (SAM) need to be in place and sustained at the country level.

Through its Nutrition Guidance Advisory Group - Subgroup on Nutrition in the Life Course and Undernutrition 2010-2012, WHO developed the present evidence-informed recommendations for the management of SAM in 2013. These recommendations, based on both direct and indirect evidence across the globe, were also reviewed and adopted by the CMAM Working Group under the Philippine Department of Health in developing and updating these SAM management guidelines.

I congratulate the Department of Health for its leadership and commitment in reducing the preventable child mortality. I am truly heartened to know that the Philippines will help guide us in providing quality Nutrition services for Filipino children with severe acute malnutrition.


Julie Lyn Hall, B.Sc, MBBS, MPH
WHO Representative in the Philippines



ACKNOWLEDGEMENT

The Community-Based Management of Acute Malnutrition (CMAM) approach was introduced in the Philippines in 2008 as part of the Nutrition in Emergencies (NiE) interventions covering children aged 6 to 59 months in disaster-affected communities. It was first implemented in 2009 by Save the Children (SC), Doctors without Borders/Medecins sans Frontieres (MSF) and Community and Family Services International (CFSI), with support from UNICEF and World Food Program (WFP) in armed conflict-affected municipalities in Mindanao, followed by attempts by ACF-International to implement CMAM in a developmental context in selected municipalities of North Cotabato and Lanao del Sur in 2010.

The first version of the draft CMAM protocol was derived from the generic “Integrated Management of Acute Malnutrition” guidelines by Professor Michael H. Golden and Dr. Yvonne Grellety in 2011. The draft CMAM protocol, referred to as the Philippine Integrated Management of Acute Malnutrition (PIMAM) was drafted through a consultative workshop (funded by UNICEF) with the Department of Health, the CMAM Task Force and other stakeholders. Since then, these draft guidelines have been used in other emergencies (such as Typhoons Sendong, Pablo, Yolanda, the Bohol earthquake and the Zamboanga Siege) and in the development context in Davao City. In light of the evidences generated from these experiences, the release of the WHO 2013 Global Guidelines on the management of SAM and the increasing demand coming from the regions and LGUs especially during the Yolanda Response, the CMAM working group prioritized the updating and revision of the existing PIMAM protocols. This current version of the National Guidelines for the Management of SAM was developed through an extensive technical review and a series of consultative meetings and workshops involving key PIMAM stakeholders, technical experts (national and global) and implementers at the national, regional, provincial, city and municipal levels. These guidelines address both emergency and development scenario programming with the objective of scaling up the access to life-saving services for children under 5 years of age with severe acute malnutrition.

The Department of Health acknowledges the support of the CMAM working group, National and Regional DOH and NNC staff, LGU staff, technical experts and development partners who actively and passionately contributed to the development of this Manual of Operations for the Management of SAM. Support for the development, technical review and finalization of this Manual were provided by UNICEF. In particular, the DOH extends its gratitude to the following who, in one way or another, have propelled the development of the National Guidelines for Management of SAM from the very beginning until this stage:

► **Revision through updating the technical and operational National Guidelines for Management of SAM (2014 - 2015):** Review and consensus building of the national guidelines was led by the CMAM Working Group under the chairmanship of the Department of Health (Dr. Anthony Calibo). The following agencies and their members have actively contributed to the development of the national guidelines:

- » The Department of Health: Dr. Rosalie Paje (DOH-WMCHDD) and Dr. Cynthia Fabregas (DOH-HFDB)
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INTRODUCTION

Children with SAM are nine times more likely to die than well-nourished children.

It is estimated to be responsible for over a third of deaths among children under five years of age worldwide, or an estimated three million children a year. The term undernutrition covers several physiological conditions which frequently co-exist: wasting and nutritional edema (acute undernutrition), stunting (chronic undernutrition), intrauterine growth restriction (IUGR) and deficiencies in essential micronutrients. Around 52 million (8%) of the world's children under five years old are wasted; 70% of them are living in Asia. Around 165 million (26%) of children suffer

from stunting globally. Stunting, severe wasting and Intrauterine Growth Retardation (IUGR) are estimated to be responsible for 21% of disability-adjusted life years (DALY) lost. Undernutrition also causes sub-optimal physical and cognitive development, lowers resistance to infections and hinders productivity. The Lancet 2008 and 2013 Maternal and Child Nutrition series^{1,2} underscored the burden of undernutrition in low to moderate income countries (LMICs) and the need for the expansion of appropriate interventions to tackle it.

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¹ RE Black et al. Maternal and Child Undernutrition. Paper 1. Global and regional exposures and health consequences. The Lancet 2008
² RE Black et al. Maternal and Child Undernutrition. Paper 1. Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet. June 6, 2013 [http://dx.doi.org/10.1016/S0140-6736\(13\)60937-X](http://dx.doi.org/10.1016/S0140-6736(13)60937-X)2013

OBJECTIVES AND USE OF THE GUIDELINES

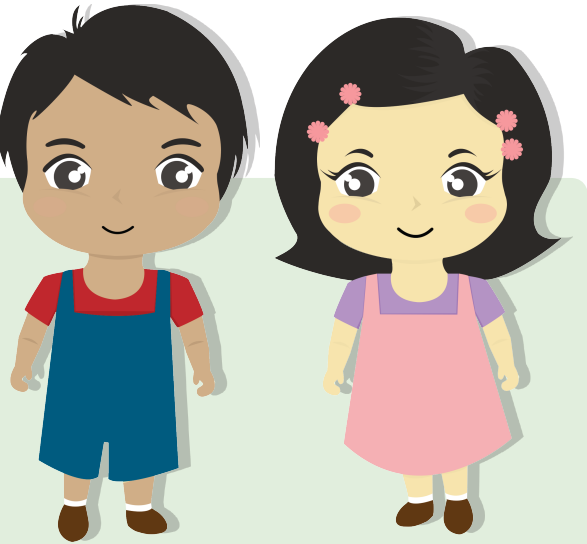
These guidelines aim to support the implementation and expansion of quality treatment for children suffering from the most severe and acute form of undernutrition in the Philippines: severe acute malnutrition (SAM). These children with SAM are at most risk of dying as a result of their undernutrition. The guidelines aim to place management of these individuals within the broader range of interventions and approaches addressing undernutrition in general as part of the National Nutrition Council's Medium-Term Philippine Plan of Action for Nutrition 2011 - 2016 (and future iterations) and the Department of Health's National Objectives for Health 2011 - 2016 and the Strategic Framework for Comprehensive Nutrition Implementation Plan 2014 - 2025. It aims to be consistent with and complementary to the protocols of other relevant guidelines. These include:

- ▶ Integrated Management of Childhood Illnesses (October 2014)
- ▶ Philippine Infant and Young Child Feeding Strategic Plan of Action for 2011 - 2016, and National Policies on Infant and Young Child Feeding (2005)
- ▶ Draft National Guidelines on the Management of Moderate Acute Malnutrition (2014)

Together with the above, these guidelines incorporate lessons from the implementation of the Philippine Integrated Management of Acute Malnutrition (PIMAM) to date. It is intended to be used in emergency, recovery and development contexts by health and nutrition care providers (doctors, nurses and program staff) working at all facility levels of health and nutrition service provision in the Philippines as well as by policy makers, academics and NGO staff. The guidelines primarily covers the age group from 6 - 59 months (as the most commonly affected by acute malnutrition) and infants. Some detail for other groups, however, is included as Annexes in the event that cases are encountered. These guidelines should be used in conjunction with the national guidelines on the management of MAM in areas where services for MAM are being implemented.

These guidelines are structured to give a basic introduction to PIMAM and the principles of its approach in the Philippines. This is followed by two sections: the first deals with the technical protocols for the management of SAM, split into the key service components; and the second gives guidance on the operational implementation of services.

These two characters will appear throughout the manual to draw the attention of readers to critical facts, important concepts, and key messages in the guidelines.



The technical protocols contained in these guidelines are based on standard protocols for both inpatient and outpatient therapeutic care listed below.

- ▶ FANTA, Training Guide for Community based Management of Acute Malnutrition (2008) <http://www.fantaproject.org/focus-areas/nutrition-emergencies-mam/cmam-training>
- ▶ FANTA, Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference. Myatt, Mark et al. Washington DC, 2012.
- ▶ The Sphere Project, The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response, Sphere 2011.
- ▶ Valid International, Community-Based Therapeutic Care (CTC): A Field Manual, Oxford 2006
- ▶ WHO, Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers, Geneva 1999.
- ▶ WHO, Management of the Child with Serious Infection or Severe Acute Malnutrition, Geneva 2000.
- ▶ WHO, Training Course on the Management of Severe Acute Malnutrition, Geneva 2002.
- ▶ WHO, Guideline: Updates on the Management of Severe Acute Malnutrition in Infants and Children, Geneva 2013.
- ▶ WHO, Pocketbook of Hospital Care for Children: Guidelines for the Management of Common Illnesses with Limited Resources, 2nd Edition, Geneva 2013.

The operational part of these guidelines draws on:

- ▶ National Guidelines on Micronutrient Supplementation (2011)
- ▶ National TB Control Program (2013)
- ▶ Field Health Service Information System (2011)
- ▶ Logistics Management in Emergencies (2012)
- ▶ Surveillance in Post Extreme Emergencies and Disasters (2011)
- ▶ National Policy on Nutrition Management in Emergencies and Disasters (2009)
- ▶ Philippine Milk Banking Manual of Operations (2013)
- ▶ Health Service Delivery Profile (2012)
- ▶ Republic Acts, Executive Orders, Administrative Orders and Department Personnel orders in effect as of April 2015

These guidelines are also based on the existing 'draft protocol on Philippine integrated Management of Acute Severe Malnutrition (PIMAM)' 2011 which was in turn based on version 6, 2011, of the generic "Integrated Management of Acute Malnutrition" guidelines by Professor Michael H. Golden and Dr. Yvonne Grellety © 1999 - 2011.

Causes and Definitions

Acute malnutrition (or wasting and/or edema) occurs when an individual suffers from current, severe nutritional restrictions, a recent bout of illness, inappropriate childcare practices or a combination of these factors. The result is sudden weight loss or the development of bilateral pitting edema, which can be reversed with appropriate treatment. Acute malnutrition is diagnosed by assessing the child to be of inadequate weight

relative to height compared to the WHO reference population and/or by identifying muscle wasting using Mid Upper Arm circumference (MUAC) and/or bilateral pitting edema. Acute malnutrition may be classified as moderate (MAM) or severe (SAM) according to the degree of wasting in comparison to specific cut-off points or reference standards. Bilateral pitting edema is always classified as severe (see Table 1.)

Table 1. Diagnostic criteria for acute malnutrition in children aged 6 - 59 months³

	Measure	Cut-off
Severe Acute Malnutrition	Weight-for-height* (WFH)	< -3 Z-scores
	MUAC	< 115mm (11.5cm)
	Bilateral pitting edema	Grades 1, 2 or 3
Moderate Acute Malnutrition	Weight-for-height*	-3 Z-scores ≤ WFH < -2 Z-scores
	MUAC	115mm (11.5cm) ≤ MUAC < 125mm (12.5cm)

³Based on WHO Standards (www.who.int/childgrowth/standards)

Burden of Acute Malnutrition: Globally and in the Philippines

Globally, there are an estimated 17 million children suffering from severe wasting, 34 million from moderate wasting⁴ and an unknown number suffering from bilateral pitting edema. Severely wasted children⁵ have been estimated to have a greater than nine-fold increased risk (relative risk of 9.4) of dying compared to a well-nourished child and moderately wasted children a threefold increased risk⁶. The 2008 Maternal and Child Nutrition Lancet series recognizes severe wasting as one of the top three nutrition-related causes of death in children under five (Ibid).

The Philippine prevalence of global acute malnutrition or GAM was at 6.1% (FNRI, 2008). This rose to 7.3% in 2011 (NNS, 2011). The 8th NNS of 2013 showed that underweight prevalence has gone down to 19.9%, a slight reduction from 20.2% in 2011 (Updating Survey, 7th NNS). This reflects a relatively unchanged status for the past 10 years (from 20.7% in 2003, to 20.0% in 2005

and 20.6% in 2008), making it unlikely that the Philippines will achieve the MDG goal of a 50% reduction in underweight prevalence from the baseline of 27.3% in 1989.

Wasting/thinness increased to 7.9% in 2013 from 7.3% in 2011 (p<0.05) and has been significantly increasing since 2005.⁷ This contributed to a consistent upward trend from 5.8% in 2005 and 6.9% in 2008. The current nutritional status of children is considered poor (FNRI), based on the WHO cut-off points in determining the magnitude and severity of wasting in children.

Stunting has gone down to 30.3% in 2013, from 33.6% in 2011, which is a substantial drop from 2003 data of 33.9%. Among all age groups, children aged 12 - 23 months had the highest percentage increase of underweight children (4.9% higher than the 6 - 11 months old age group).

³ Adapted from WHO Child growth standards and the identification of severe acute malnutrition in infants and children: A joint statement by the World Health Organisation and the United Nations Children's Fund. 2009

⁴ Assessed according to Weight for Height z Scores using the WHO standards.

⁵ Assessed according to Weight for Height z scores using the WHO standards.

⁶ RE Black et al. Maternal and Child Undernutrition. Paper 1. Global and regional exposures and health consequences. The Lancet 2008

⁷ In the 2005 NNS Updating survey, wasting prevalence was 5.8%.



The 2013 NNS noted regional variations in terms of percentage of underweight, stunting and wasting in children 0 - 5 years old. The lowest rates of underweight, stunting and wasting/thinness are in the following areas: for underweight – the regions of NCR (12.9%), CAR (16.5%) and Central Luzon and Northern Mindanao (both 17.7%); for stunting – NCR (22.4%), Central Luzon (23.1%) and CALABARZON (25.3%); for wasting/ thinness – CAR (5.9%), NCR (6.4%) and SOCCSKSARGEN (6.7%). Meanwhile, the highest prevalence of underweight, stunting and wasting is among those in the poorest quintile. Among the regions, the top three with the highest undernutrition prevalence are: for underweight – MIMAROPA (27.5%), Western Visayas (26.0%) and Bicol (24.6%); for stunting – Bicol (39.8%), ARMM (39%) and Zamboanga Peninsula (38.7%); for wasting/ thinness – MIMAROPA (9.8%), Ilocos Region (9.8%) and Western Visayas (8.9%).

Assessment and management of acute malnutrition have been incorporated in the

Physiological Basis for Treatment of SAM

The pathophysiological responses to acute nutrient depletion place children with SAM at increased risk of life-threatening complications that lead to increased risk of death. Therefore, successful management of SAM in children requires routine medical treatment of underlying infections and a dietary treatment or rehabilitation with specially formulated therapeutic foods, such as F75 and F100 milk, or a ready-to-use therapeutic food (RUTF). Therapeutic foods have the correct balance of nutrients and a high nutrient density and bioavailability. The treatment aims to restore the metabolism through correction of electrolyte imbalances, reversal of metabolic abnormalities, restoring the organ functions and provision of nutrients for catch-up of growth.

Philippine adaptation of the new WHO Growth standards (A.O. No. 2010 - 0015). The standard measurement indicators to measure child growth are: weight for age for 0 - 71 months old; length for age for 0 - 23 months old or height for 24 - 71 months old; and weight for length for 0 - 23 months old or weight for height for 24 - 71 months old.

In the most recent development, the current Integrated Management of Childhood Illness (IMCI) also includes management of acute malnutrition. The IMCI is a strategy to reduce under-five mortality caused by diarrhea and dehydration, pneumonia, measles, malaria, dengue hemorrhagic fever and malnutrition and anemia. Two batches of training courses on the IMCI Computer-based Adaptation and Training Tool (IMCI-ICATT) were conducted in Palawan this year. A plan for IMCI-ICATT enhancement of the curriculum for medical, nursing and midwifery education is underway.

Because of the pathophysiological changes that accompany SAM, these children often do not present with typical clinical signs of infection that sick children without SAM have when they are ill, such as fever. Consequently, children with SAM need to be provided with routine medical treatment for underlying infections. Treatment protocols for children with SAM for some medical complications, such as dehydration or shock, differ from the classical treatment protocols for ill children without SAM. Misdiagnosis of medical complications and inappropriate treatment and feeding of children with SAM contributes to slow convalescence and increased risk of death; thus, adherence to these treatment guidelines in their entirety is critical.



OVERVIEW OF PIMAM

Trends in the Management of Acute Malnutrition

PIMAM is based on the WHO protocols for inpatient therapeutic care and the Community-based Management of Acute Malnutrition (CMAM) approach which was first piloted in Ethiopia in 2001. The CMAM approach demonstrated the possibility of treating children with SAM, if caught early on in the progression of the condition, on an outpatient basis. Until then formal treatment of SAM was restricted to inpatient approaches focusing on intensive clinical and nutritional protocols⁸ administered by highly trained health care professionals. The community-based approach introduced engagement with communities in order to identify severely acutely malnourished children early⁹ and distribution of specially formulated ready-to-use therapeutic

food (RUTF)¹⁰ and essential medicines with simple orientation to caregivers on a weekly basis. This allowed treatment to be distributed from decentralized sites much closer to communities than had previously been possible. The approach was linked to supplementary feeding for children with MAM and proved to be both effective and to offer the potential to treat far greater numbers than ever before.¹¹ Based on early successes, the approach was adopted in many countries in Africa and Asia and was endorsed in 2007 with a joint statement of WHO, UNICEF, UNSCN and WFP.¹² This enabled governments to start establishing and scaling up CMAM programming at the national level.

Brief History of PIMAM in the Philippines

The approach was introduced in the Philippines in 2008 as part of the Nutrition in Emergencies (NiE) interventions covering children aged 6 to 59 months in disaster-affected communities. It was first implemented in 2009 by Save the Children (SC), Doctors without Borders (MSF) and Community and Family Services International (CFSI) with support from UNICEF and World Food Program (WFP) in armed conflict-affected municipalities of Maguindanao, North Cotabato, Lanao del Sur and Lanao del Norte in Mindanao. In 2010, ACF-International attempted implementation in a developmental context in selected municipalities of North Cotabato and Lanao del Sur. The key components of CMAM include: 1) Community Mobilization; 2) Outpatient Therapeutic Program (OTP) for the treatment of severe acute malnutrition (SAM) cases without medical complications; 3) Inpatient Therapeutic Program (ITP) for the treatment of SAM cases with medical complications; and 4) Targeted Supplementary Feeding program (TSFP) for the management of children with Moderate Acute Malnutrition (MAM). As agreed globally, SAM treatment was supported by UNICEF while MAM treatment was supported by WFP.

CMAM has since been implemented by NGOs after the country experienced emergencies affecting the nutritional status among children in disaster-hit areas. The draft CMAM protocol

was derived from version 6, 2011, of the generic “Integrated Management of Acute Malnutrition” guidelines by Professor Michael H. Golden and Dr. Yvonne Grellety. The copyright holders have engaged with the staff of the Department of Health and with the CMAM Task Force of the Philippines in order to adapt their generic protocol to version 1 of the Philippine Integrated Management of Acute Malnutrition (PIMAM), a national protocol for the management of the severely and acutely malnourished children, after a three-day consultative workshop. The draft PIMAM guidelines, however, did not cover MAM Treatment. Thus, WFP commissioned separate MAM treatment guidelines to be used in conjunction with this document which deals with the management of SAM. The draft PIMAM guidelines have since been used by NiE players in providing critical nutrition services in emergencies such as Typhoons Sendong in Cagayan de Oro and Iligan, Pablo in Compostela Valley and Davao Oriental, and Yolanda in Regions VI, VII, and VIII; the Bohol Earthquake; and the Zamboanga Siege. These guidelines have also been successfully applied in the development context as seen in the establishment of the first LGU-led SAM initiative in Davao City in 2014. These experiences have generated both evidence and demand for updating and finalization of the guidelines toward full adoption.

⁸ Contained in the WHO protocols 1999 (WHO 1999) and later updated as part of the WHO training package in 2002 (WHO 2002).

⁹ Defined as - before their condition deteriorates to a stage where they require inpatient care for medical complications

¹⁰ A highly fortified oil-based paste made of peanuts, milk powder, oil, sugar and vitamin/mineral powder developed in the 1990's by research scientist Andre Briand and Nutriset (a private company making nutritional products for humanitarian relief). It is equivalent in formulation to Formula 100 (milk formula recommended by WHO for the inpatient treatment of SAM).

¹¹ Collins S, Sadler K. Outpatient care for severely malnourished children in emergency relief programmes: a retrospective cohort study. *Lancet* 2002; 360(9348):1824-1830

¹² WHO/WFP/SCN/UNICEF, 2007. Community-Based Management of Severe Acute Malnutrition. A Joint Statement by WHO, WFP, UNSCN and UNICEF, May 2007

Principles of the Integrated Management of SAM

The integrated management of SAM is a public health strategy to address severe acute malnutrition. It focuses on the integration of effective management of SAM into the on-going routine health and nutrition services at all levels while still striving for maximum coverage through maintaining a strong community component. It also aims to make links across the wider sectors (e.g. WASH, social welfare and protection, agriculture) to ensure that treatment is linked to support for

continued rehabilitation of cases and sits as a component of the wider Philippine strategy for malnutrition prevention focusing on the critical 1,000-day window outlined in the Medium-Term Philippine Plan of Action for Nutrition 2011 - 2016 and the Strategic Framework for Comprehensive Nutrition Implementation Plan 2014 - 2025.

The approach is based on four principles:

Maximum coverage and access	PIMAM is designed to achieve the greatest possible coverage by making services accessible and acceptable to the highest possible proportion of a population in need.
Timeliness	PIMAM prioritizes early case-finding and mobilization so that most of the cases of severe acute malnutrition can be treated before complications develop.
Appropriate care	PIMAM ensures the provision of simple, effective outpatient care for those who can be treated at home and clinical care for those who need inpatient treatment. Less intensive care is provided in some cases for those suffering from moderate acute malnutrition (MAM) in which cases the services are linked.
Care when and where it is needed	PIMAM aims to link children to continuous and appropriate support for their nutrition by embedding management of severe acute malnutrition as one of the basic health services to which a child has access and linking it to a broader set of direct and indirect nutrition interventions (Infant and Young Child Feeding [IYCF] support, micronutrient supplementation, deworming) focusing on the 1,000-day critical window.

Components of the Integrated Management of SAM

The integrated management of SAM has three components: Community mobilization, Inpatient Therapeutic Care (ITC) and Outpatient Therapeutic Care (OTC) services which are implemented simultaneously. These may then be linked to the fourth component Management of Moderate Acute Malnutrition (MAM) where this exists. Achieving the goals of the service requires both attention to the clinical treatment of the patient and effective community mobilization. In some cases these components are linked to management of MAM.

Community Mobilization - involves engagement with the community to promote a common understanding of acute malnutrition and promote the services offered. It also involves identification of severely acutely malnourished children at the community level on an on-going basis to enable widespread early detection and referral before the patient's condition deteriorates further. This aims to increase coverage and maximize effectiveness of treatment.

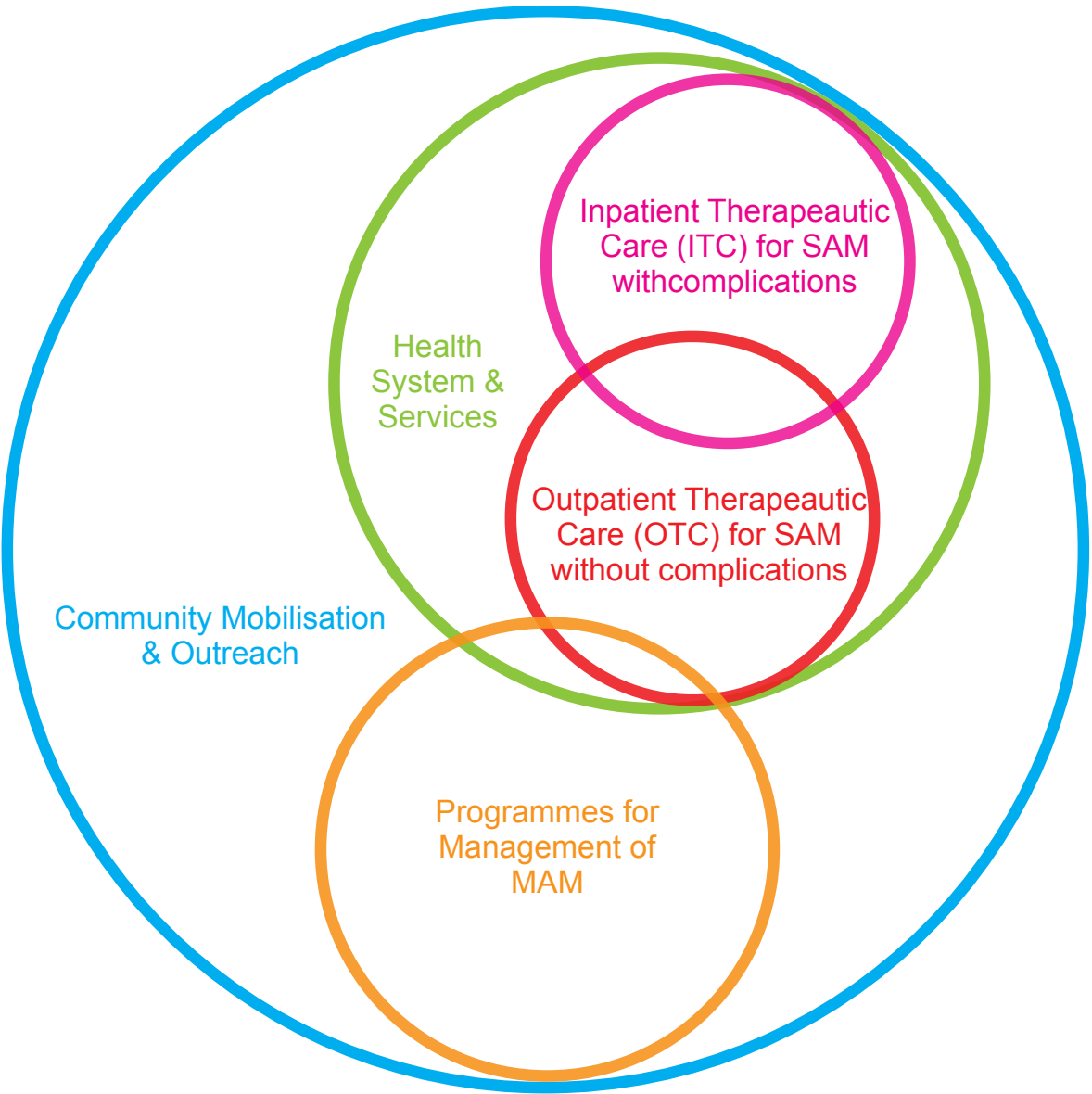
Inpatient Therapeutic Care (ITC) - involves management of complicated cases of SAM according to WHO protocols on an inpatient basis at facilities with appropriate capacity (hospitals).

Outpatient Therapeutic Care (OTC) - involves the management of non-complicated cases of SAM in outpatient care using ready-to-use therapeutic foods (RUTF) provided on a weekly/ biweekly basis. This includes provision of simple routine medicines and monitoring at orientation to the mothers/caregivers. Outpatient care is offered through the decentralized health structures – the Rural Health Units (RHU), Barangay Health Centers (BHC), Barangay Health Stations (BHS) or within the OPD of hospitals.

Management of Moderate Acute Malnutrition (MAM) - This may form a component of the service in certain contexts. It targets cases of MAM with supplementary food, some basic medicines, monitoring and nutritional education.

These components sit within a multi-sectoral range of health and nutrition interventions and services which focus on tackling the determinants of undernutrition in the ‘critical 1,000-day window’ and are reflected in the Medium-Term Philippine Plan of Action for Nutrition 2011 - 2016 and the Strategic Framework for Comprehensive Nutrition Implementation Plan 2014 - 2025.

Figure 1. PIMAM components



PART 1

TECHNICAL GUIDELINES

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1. COMMUNITY MOBILIZATION AND OUTREACH

Community mobilization is a vital part of any program for managing SAM. It is essential to find cases of SAM and enable the child to attend treatment before life-threatening complications develop. Once in treatment, it is also important to ensure that treatment is continued until the child is cured.

Effective community mobilization should:

- Engage with the community prior to commencing the service and during implementation to understand their needs and make sure the service is accessible and appropriate to the local community by joint problem solving on barriers to service uptake

- Sensitize the community to be aware of acute malnutrition and its effects
- Make sure the community is aware that treatment is available locally
- Find cases of acute malnutrition in the community and refer these for treatment
- Follow-up at-risk cases of severe acute malnutrition at home when needed

The steps to developing a strategy for community mobilization and outreach are outlined in Part 2. Operational Guidelines (Section 5).

1.1 Achieving Coverage

By maximizing the number of children with acute malnutrition who can receive treatment we can maximize child survival. This is referred to as 'coverage'.

Many factors can influence coverage. Some of these factors can improve coverage (boosters) while some can reduce it (barriers).

$$\text{COVERAGE} = \frac{\text{number of children with SAM who are being treated}}{\text{Total number of children existing in the community with SAM}}$$

Table 2. Examples of boosters and barriers to coverage in the Philippines¹³

BOOSTERS	BARRIERS
► Knowledge about acute malnutrition ► Awareness that treatment is available ► Treatment is available locally ► Caregivers take children to the health center for treatment quickly when SAM is identified ► Good standard of treatment ► Good community support for service ► Good supplies of medicines and RUTF	► Lack of knowledge about malnutrition ► Lack of awareness that treatment is available ► Distance to treatment is too far ► Caregivers' workload ► Caregivers take child to other places thus delaying treatment when SAM is identified ► Physical barriers (mountains, rivers, landslides) ► Climate (heat, monsoon rains) ► Poor standard of treatment ► Service is not valued by the community ► Shortages of medicines and RUTF

¹³ Semi Quantitative Evaluations of Access and Coverage SQUEAC reports: 1. Compostela Valley (2013), 2. Mindanao (2013)

1.2 Community Sensitization

The aim of sensitization is to make the local community aware of SAM and the availability of treatment. It is conducted through a variety of means so as to include all sectors of the community.

In order to do this, sensitization messages and IEC materials (e.g. MUAC tapes, RUTF, or photographs) are used to inform local leaders and prominent or other influential community members. This may be done through organized meetings or less formal discussions with members of the community.

Caregivers and children attending the health center and community based activities such as

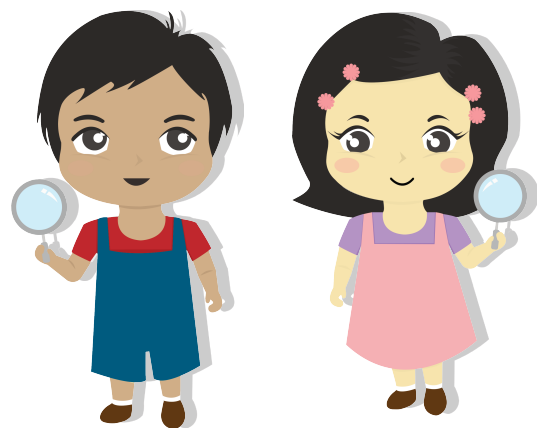
OPT or GP should be advised of the signs and symptoms of SAM during consultations.

Sensitization messages should include:

- Information about the signs and symptoms of SAM
- Why SAM and its treatment are important
- How SAM is identified using MUAC, weight-for-height, or edema
- Which age groups are eligible for treatment
- Information regarding where and when to access treatment
- What to expect when a child is in treatment (e.g. what is given, how long does it take)

1.3 Case Finding and Referral

The aim of case finding is to ensure that children are screened regularly so as to identify SAM in its early stages, when it is most easily treated. Different types of case finding are possible. The main difference is that case finding is 'active' when the BHW/BNS/Midwife visits the community to find cases of SAM and is 'passive' when the child comes to the BHW/BNS/Midwife or health center for some other purpose and is screened for SAM during that activity. Passive case finding may also occur when Early Childhood Development workers screen children that they come into contact with through their ECD activities.



CASE FINDING METHODS

Active Case Finding: is when the health worker deliberately goes out looking for cases of SAM. For example, during house-to-house nutrition or other health activities at community level (e.g. EPI), when the child is also screened for SAM.

Active Adaptive Case Finding: is a modified form of active case finding. Instead of going house-to-house, the BHW/BNS may visit every third or fourth house screening for SAM and ask if the parents know of other children in the neighborhood with signs and symptoms of SAM. This method may include visiting other sources of information such as schoolteachers, local religious leaders and pharmacists to identify children with SAM (see Box 1 below).

Passive Case Finding: is when a child attends a health center or health or nutrition program for some other purpose but is screened for SAM during attendance. This may be through use of the IMCI tool. Passive case finding should be done systematically whenever possible so that every child is screened at every visit.

Box 1. Active Adaptive Case Finding

Active Adaptive Case Finding is based on two principles:

1. It is active: SAM cases are specifically targeted. Case finders do not go house-to-house in the selected villages measuring all children aged between 6 - 59 months. Instead, only houses with children matching the locally understood and accepted descriptions of malnutrition and its signs are visited.
2. The method is adaptive: At the outset key informants help with case finding in the community but other sources of information found during the exercise and through discussion with beneficiaries coming into the facility are used to improve the search.



Step 1 Use findings of community assessment to identify:

- The appropriate case-finding question - according to the terminology used by the population to describe the signs of SAM.
- The most useful key informants to assist with case-finding - those who are likely to be able to identify cases, who know about the health of children in the community or who people consult when their child is sick.
- Any context-specific factors affecting the case-finding process - such as cultural norms, daily and seasonal activity patterns, general structure of villages.



Step 2 Using key informants identify the households with SAM children 6 - 59 months.



Step 3 Visit these households and check edema and MUAC for children 6 - 59 months.



Step 4 Make any adjustments to definitions required based on whether cases were correctly identified.



Step 5 When children with SAM are identified, ask if the key informant or anyone in that household knows where children who are similarly malnourished live. Until the first SAM case is identified it is possible to go to every 3rd or 4th house.



Step 6 Use this method exhaustively in all locations within the community until only children already measured are identified.

CRITERIA FOR IDENTIFICATION OF CASES

Children aged 6 - 59 months and infants are the focus for the management of SAM. To determine age, birth dates can be identified and confirmed with the help of a birth certificate, child health card or ECCD Card. In some cases, age groups can be identified by using a local calendar of events to help determine age if a birth date is not known. This should be created for the particular local context. An example is given in *Annex 1*. It is not recommended to use a height cut-off as proxy for 6 months of age; in a stunted population, many infants six months or older will have a height less than 65 centimeters (cm).

In the Philippines, MUAC and assessment of edema are the priority tools for case finding at community level (see Table 3). For details on the taking of measurements see *Annex 2*. Identified SAM children are then further assessed by the BHW/BNS or other facility staff for appetite and complications (see Section 2s).

1.4 Follow-up of Children with SAM

Some children with SAM require follow-up at home by the BNS/BNW during their time in treatment in addition to the follow-up they receive at the BHS/health facility on their periodic visits. Following up through home visits can be time consuming if done well as a variety of factors need to be discussed during the visit. There is no need to conduct home follow-up visits with all SAM children, especially those gaining weight in the program.

A home visit should include:



Discussion with the caregiver to understand the constraints that they are operating under and offer suggestions/support



The provision of any appropriate counseling (based on IMCI/IYCF materials and training – *Annex 3*), or medical referral if required based on CB-IMCI check (*Annex 4*)



Linking clients to livelihood/safety net/ social protection programs available where particular issues are identified and/or clients are eligible (e.g. child cash grant, etc.)



Whenever home visits are made, a record or relevant information should be kept with the child's treatment record by the BNS/BHW and feedback given to the midwife/other OTC worker where relevant. If the child has stopped attending treatment against a health worker's advice, the reasons for default should be noted. This may help the program managers understand the problems caregivers have in attending SAM treatment and to be able to identify solutions to make treatment more accessible.

REFERRAL PROCESS

For cases of SAM identified by people other than the BNS/BHW or midwife at community level (e.g. by the ECD worker), these should be referred to the BNS/BHW or midwife for the next level of assessment (see Section 2).

For these cases:

- Explain why referral is necessary and let the mother/caregiver know what to expect when they reach the BHS.
- Stress the urgency of bringing the child for consult as soon as possible. Offer to go with the mother to the nearest BHS if needed.

Table 3. Community-level case-finding criteria

MEASURE	REFERRAL CRITERIA
MUAC	< 115mm (11.5cm)
Edema	Bilateral Pitting

Follow-up can therefore focus on:

- Children with medical complications who have refused transfer to inpatient care and are being treated on an outpatient basis
- Unresponsive cases in the program (loss or static weight for two weeks), with aspects of the home environment are suspected to be playing a role rather than medical issues
- Repeated absentees from treatment
- Infants < 6 months old not gaining weight at each visit

2. ASSESSMENT AT THE HEALTH FACILITY

Assessment should be made in the OPD of an Inpatient Therapeutic Care (ITC) facility or in an Outpatient Therapeutic Care (OTC) facility (Barangay Health Station, Rural Health Unit Clinic, or City Health Office). Initial MUAC assessment should also be carried out systematically at other points of contact within the health facility (e.g. TB-DOTS clinics, HIV clinics, pediatric ward, PMTCT service, Maternity ward) and cases referred to staff responsible for ITC and OTC in the same facility for further assessment.

MUAC is a measure of muscle wasting and has been shown to have the highest correlation with risk of mortality of any anthropometric indicator. It is also a simple and transparent measure and therefore the most appropriate for use in decentralized services. It is an independent measure of SAM and does not require confirmation against weight for height measurements. Where WHZ is already in existence as a measure at facility level (i.e. where the WHO Child Growth Standards can be fully assessed), this can also be used as another independent measure for identification of cases presenting to the facility.

2.1 Arrival and Identification of Acute Malnutrition

ON ARRIVAL

Procedure

Step 1 On arrival, give sugar-water immediately to obviously ill patients and those that will clearly need inpatient or other medical treatment: approximately 10% sugar solution – 10g (1 tablespoon) of sugar per 100mL of water (fruit juice can be given as an alternative, if available). This is done to prevent dehydration and hypoglycemia which may be caused by infection or can occur when a malnourished child has not been fed for four to six hours, as often happens during travel to a health facility.

Step 2 Explain to the caregiver that you will be assessing their child to determine whether they need treatment and let them know what to expect.

DETERMINE AGE

Birth dates can be identified and confirmed with the help of a birth certificate, child health card or ECCD Card. Age groups are best identified by using a local calendar of events (see *Annex 1*) to help work out age if a birth date is not known. It is not recommended to use a height cut-off as proxy for 6 months of age; in a stunted population many infants six months or older will have a height less than 65 centimeters (cm).

TAKE ANTHROPOMETRIC MEASUREMENTS

CHILDREN 6 - 59 MONTHS OF AGE

Procedure

Step 1 Take MUAC and weight¹⁴ measurements (see *Annex 2*) including for those children referred from the community or other facilities.

Step 2 Examine for edema (see *Annex 2*) and take the temperature and respiratory rate¹⁵

Step 3 Where capacity exists, also take height, and determine the Z-scores using the weight-for-height table (see *Annex 2* and *Annex 5*)

INFANTS < 6 MONTHS OF AGE

Procedure

Step 1 Take weight¹⁶ and length measurements

Step 2 Check the weight-for-length table and determine the Z-scores¹⁷

Step 3 Examine for edema (see *Annex 2*) and take the temperature and respiratory rate

¹⁴ Weight is necessary for monitoring and for calculation of some medicine doses.
¹⁵ Temperature and respiratory rate are taken at this stage so that the child can be fast-tracked if any issue is identified.
¹⁶ Note that pediatric balance scales are required for the accurate recording of weight in infants to precision of 10g.
¹⁷ It should also be noted that the use of the WHO growth standards for the assessment of infants < 6 months of age diagnoses a much larger group than previously used standards.

OTHER GROUPS - CHILDREN > 5 YEARS OLD, ADOLESCENTS AND ADULTS

Procedure

- Step 1 Take the anthropometric measurements (MUAC, weight, height or length; see Annex 2)
- Step 2 Check the BMI/BMI for age tables and determine the Z-scores where required (see Annex 6)
- Step 3 Examine for edema⁸ and its severity (see Annex 2) and take the temperature

IDENTIFICATION OF SAM

Procedure

- Step 1 Determine if the child has SAM or MAM based on the criteria below. (see Table 4 and 5)
- Step 2 For children identified with SAM, further assessment is required (see Section 2.2 below).
- Step 3 For these children their details can be entered in the Target Client List (TCL) for sick children/registration book/hospital admission chart depending on the level at which they enter the service. If at Barangay level, the OTC chart admission column can be started.
- Step 4 The child's Early Childhood Care and Development (ECCD) number, existing household number or TCL number (whichever is in most common use) is noted on the OTC/ITC charts. This will allow the child to be tracked if they require home visits or referral in the future.

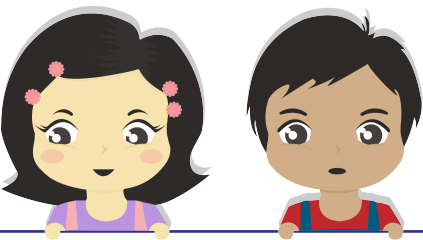
Table 4. Identification of acute malnutrition in children 6 - 59 months of age	
CRITERIA	
Severe Acute Malnutrition	MUAC < 115mm (11.5cm)
	OR Presence of bilateral pitting edema
	OR Weight-for-Height (WFH) or Weight-for-Length (WFL) < -3 Z-scores
Moderate Acute Malnutrition	MUAC < 125mm (12.5cm) AND ≥ 115mm (11.5cm)
	WFH or WFL < -2 Z-scores AND ≥ -3 Z-scores

Table 5. Identification of acute malnutrition in infants <6 months of age	
CRITERIA	
Severe Acute Malnutrition	WFL < -3 Z-scores
	OR Presence of bilateral pitting edema
Moderate Acute Malnutrition	WFL < -2 Z-scores and ≥ -3 Z-scores

Reminders

- At the OTC, all SAM cases identified must be registered including those who after the detailed assessment below will be referred to Inpatient Care (ITC) as they will afterwards return to OTC.
- For identification of acute malnutrition in other age groups, see Annex 7.
- For SAM community referrals who on assessment at the facility do not meet the criteria of admission, see Box 2.

18 In adults, care must be taken to rule out edema as a result of cardiac failure.



Box 2. Dealing with SAM community referrals who do not meet admission criteria

It is important not to reject these referrals as that will undermine the authority of community health and nutrition workers and will negatively affect acceptance of the program. It is important that they receive some tangible benefit for taking the time and effort to take their child to the health facility and not just be sent home. This is especially true for caregivers who live far from the health facility. Options are:

- ▶ Admit him/her to a supplementary feeding program (SFP) if and when available
- ▶ If MUAC or WHZ are close to admission criteria (i.e. < 120mm/12.0cm MUAC) and there is no SFP in place, admit to OTC (as a special case) rather than waiting for them to deteriorate
- ▶ Explain to the mother or caregiver that the child is at risk or close to becoming acutely malnourished and give a "family ration" or some other benefit

In all cases:

Give advice to the mother and facilitate enrolment in basic health services in the health facility (e.g. IYCF counseling, micronutrient supplementation, pre-natal check-up if pregnant, EPI, under-five clinic and services for the other children, family planning counseling, TB program for children if appropriate)

If a large number of inappropriate referrals attend, this should be discussed during the regular coordination meetings between the facility and community-level staff and the relevant community health and nutrition workers followed up and retrained.

NON-SAM REFERRALS

Procedure

- Step 1 For children identified as MAM, use IMCI protocols to provide counseling and medical care and refer to Blanket or Targeted SFP if in place (see guidelines for management of MAM)
- Step 2 For infants < 6 months identified with MAM, IYCF counseling should be provided for caregivers and caregivers admitted to Blanket or Targeted SFP if in place (see guidelines for management of MAM).
- Step 3 For children not meeting criteria, the opportunity should be used to provide any medical treatment required and any nutritional counseling available at the facility (e.g. IMCI feeding counseling Annexes 3 and 8 and IYCF counseling cards)

2.2 Further Assessment for SAM Children

Once a child has been diagnosed with SAM, it is important to make sure that he or she is correctly assigned to outpatient or inpatient care ,based on his or her condition. This is based on whether the child has appetite and/or any medical complication. “Fast track” those obviously severely ill SAM cases for emergency medical treatment if required. Do not keep them waiting. Following this, conduct the appetite and general medical assessment below.

Box 3. The importance of the observed appetite test

Malnutrition changes the way infections and other diseases manifest – malnourished children severely affected by the classical CB-IMCI diseases frequently show no signs. However, these major complications lead to a loss of appetite. This is the best sign of severe metabolic malnutrition. The appetite test is consequently the most important criterion to decide if a patient should be sent for in- or outpatient management.

SAM with a poor appetite means that the child has a significant and/or ongoing infection or a major metabolic abnormality such as liver dysfunction, electrolyte imbalance and cell membrane damage or damaged biochemical pathways. These are the patients at immediate risk of death. In addition, a child with a poor appetite will not be able to consume the RUTF at home and will continue to deteriorate or die. If appetite has not been demonstrated and observed, a child should never be sent home with RUTF and should be admitted to ITC.

OBSERVED APPETITE TEST

Appetite is tested using RUTF, the product which would be used to treat the child on an Outpatient basis (see Annex 15 for RUTF Ration). The appetite test is a critical part of the assessment of the child (see Box 3) and therefore needs to be done precisely and according to the procedure below.

Procedure

- Step 1 Set aside a separate quiet area to conduct the test.
- Step 2 Explain to the caregiver the purpose of the appetite test and how it will be carried out.
- Step 3 The caregiver, where possible, should wash her and the child’s hands.
- Step 4 Ask the caregiver to sit comfortably with the child on their lap and either offer the RUTF from the packet or put a small amount on her finger and give it to the child.
- Step 5 Give the caregiver water for the child to drink from a cup as s/he is taking the RUTF.
- Step 6 Ask the caregiver to gently offer the child the RUTF while encouraging the child throughout the process. If the child refuses, then the caregiver should continue to quietly encourage the child and take time over the test. The test usually takes a short time but if a child is distressed, it may take longer. The child must not be forced to take the RUTF.
- Step 7 Observe if the child is able to consume the required amount (the test MUST be observed by a health worker).
- Step 8 Record the result of the test (see Table 6 below) on the OTC or hospital chart.

Table 6. Categorizing results of the appetite test

Pass	Fail
The child takes at least 3 - 4 mouthfuls of RUTF	The child does not take at least 3 - 4 mouthfuls of RUTF. They are considered to lack sufficient appetite for outpatient treatment and should be referred to the ITC.

Reminders

- Sometimes a child will not eat the RUTF because s/he is frightened, distressed, or fearful of the environment or staff. Common stress factors are overcrowding, noise, other distressed children, or intimidating health professionals with white coats or harsh tone of voice. Therefore, the appetite test should be conducted in a separate quiet area. If a quiet area is not available in the health facility, then the appetite can be tested outside.
- Even if the caregiver/health worker thinks the child is not taking the RUTF because s/he doesn’t like the taste or is frightened, the child still needs to be referred to inpatient care. After showing sufficient appetite in inpatient care, they can be transferred to outpatient treatment.
- The appetite test should always be performed carefully. If there is any doubt concerning the appetite, then the patient should be referred for inpatient treatment until appetite can be demonstrated.
- The same observed appetite test is also conducted during subsequent follow-up sessions.
- Cases of anaphylaxis after consumption of RUTF have not been reported. However, if for any reason peanut allergy is suspected, or after the appetite test there are signs of anaphylaxis, the child should be referred directly to ITC to receive immediate treatment there.

MEDICAL ASSESSMENT

Procedure

- Step 1 Take a medical and dietary history of the child from the caregiver (see Box 4).
- Step 2 Perform an examination of the patient to determine if s/he has severe medical complications using IMCI/CIMCI criteria depending on the level at which assessment is taking place, i.e. BHS or higher health facility, (see Annex 4 for IMCI/CIMCI procedure) noting that for malnourished children, clinical signs may still be absent. For parameters which should always be checked see Box 4.
- Step 3 Make a record of the medical assessment on the OTC or hospital chart.

Reminders

When carried out by the BHW/BNS the medical assessment is undertaken primarily to identify which children need direct immediate referral to ITC. For children remaining in OTC, the medical assessment will be checked by the midwife during weekly BHS visits. There is no need to wait for the validation of medical assessments which unnecessarily delays the admission of the child for therapeutic care.

Box 4. Checklist for taking medical and dietary history and examination at primary health care level



Medical History

- Any complaints
- Appetite
- Recent sinking of eyes
- Duration and frequency of vomiting and diarrhea, appearance of vomit and stool
- Coughing
- Changes in skin and hair
- Time when urine was last passed
- Contact with measles or tuberculosis
- Any deaths of siblings
- Immunization history



Dietary History

- Food and fluids taken in past few days
- Usual diet before current episode of illness
- Breastfeeding history



Examination

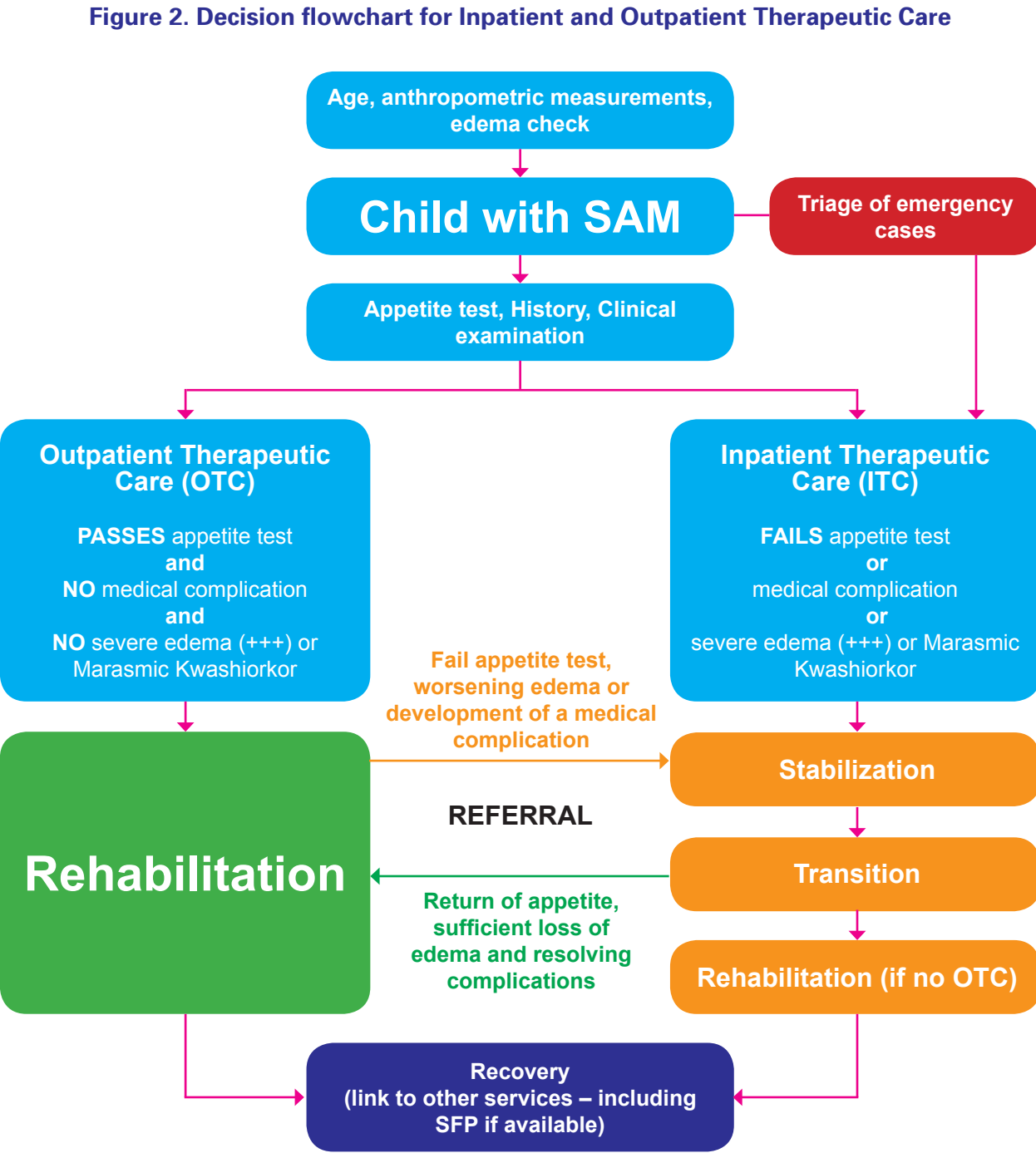
- Alertness
- Convulsions
- Temperature
- Respiratory rate
- Chest in-drawing
- Visible anemia
- Visible vomiting or diarrhea

FEEDING ASSESSMENT FOR INFANTS <6 MONTHS

- Full assessment should be made of the caregiver’s breastfeeding practice in accordance with national IYCF/IMCI guidelines and training package (Annexes 3 and 8).
- If there is no possibility of breastfeeding (i.e. death of mother, wet nursing not possible) this should also be noted.
- This assessment forms an important part of the decision-making process below.

2.3 Decision-Making and Referral

DECIDING ON INPATIENT OR OUTPATIENT CARE



Procedure

- Assess whether outpatient or inpatient care is required based on results of the above assessments and the criteria below (see Table 4 for children 6 - 59 months and Table 5 for infants). See also Annex 9 for full admission criteria.
- Discuss the recommended treatment with the caregiver and explain what will happen in outpatient or inpatient care depending on the decision.
- If inpatient care is indicated, carefully explain the benefits, the risks of outpatient care for the child and that the caregiver can request discharge to outpatient care at any time after admission with the agreement of the staff.
- If a caregiver refuses referral to inpatient care, accept the final decision of the caregiver but make a note of the refused transfer on the outpatient treatment card or referral document.

Table 7. Criteria for new admission to inpatient or outpatient therapeutic care (children 6 - 59 months):		
Factor	Inpatient Therapeutic Care	Outpatient Therapeutic Care
Edema	Bilateral pitting edema Grade 3 (+++) OR Marasmic Kwashiorkor*	Bilateral pitting edema Grade 1 or 2 (+ and ++)
Anthropometry	MUAC < 115mm (11.5cm) OR WFH or WFL < -3 Z-scores AND one of the below	MUAC < 115mm (11.5cm) OR WFH or WFL < -3 Z-scores AND both of the below
Appetite	Fails appetite test with RUTF	Passes appetite test with RUTF
Medical complications	Any of the below	NO medical complications
Vomiting	Intractable (empties contents of stomach)	
Temperature	Fever > 38.5°C (101.3 °F) axillary Fever > 39.0°C (102.2°F) rectal Hypothermia < 35°C (95 °F) axillary < 35.5°C (96°F) rectal	
Respiration rate	≥ 50 resp/min from 6 to 12 months ≥ 40 resp/min from 1 to 5 years ≥ 30 resp/min for over 5 year olds And any chest in-drawing (for children > 6 months)	
Anemia	Very pale (severe palmar pallor, roof of the mouth (oropharynx), nailbeds, eye palpebrae), difficulty breathing	
Superficial infection	Extensive skin infection requiring Intra-Muscular antibiotics	
Alertness	Very weak, apathetic, unconscious Fitting/convulsions	
Hydration status	Recent history of diarrhea/vomiting with appearance of sunken eyes	

*MUAC less than 115mm (11.5cm) or WFH or WFL < -3 Z-scores AND with any grade of edema

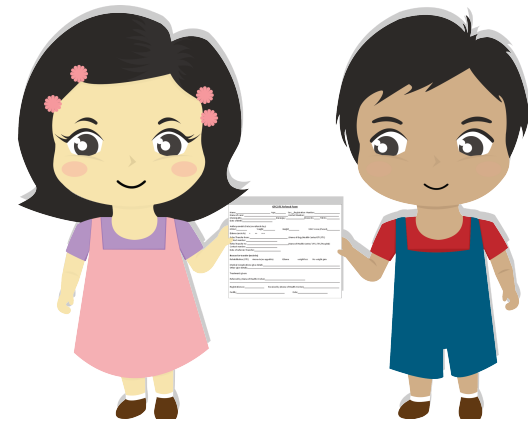
Table 8. Summary of criteria for admission to inpatient or outpatient care (infants <6months)

Factor	Inpatient Care	Outpatient Breastfeeding Support ¹⁹ (IMCI medical treatment, IYCF counseling at facility, supplementary feeding for mother where available) (see section 3.5)
Anthropometry	Bilateral pitting edema OR WFL < -3 Z-scores AND one of the below	WFL < -2 Z-scores AND None of the complications requiring inpatient care
History	Recent weight loss/inability to gain weight	
Medical	Any of the medical complications outlined for children 6 - 59 months (Table 2)	
	Any medical issue needing more detailed assessment or intensive support (e.g. disability)	
Feeding practices	Ineffective feeding (attachment, positioning and suckling) directly observed	
	Infant is lethargic and unable to suckle	
	No possibility of breastfeeding (e.g. death of mother)	
Condition of mother	Depression of the mother/ caregiver, or other adverse social circumstances	OR mother is malnourished or ill

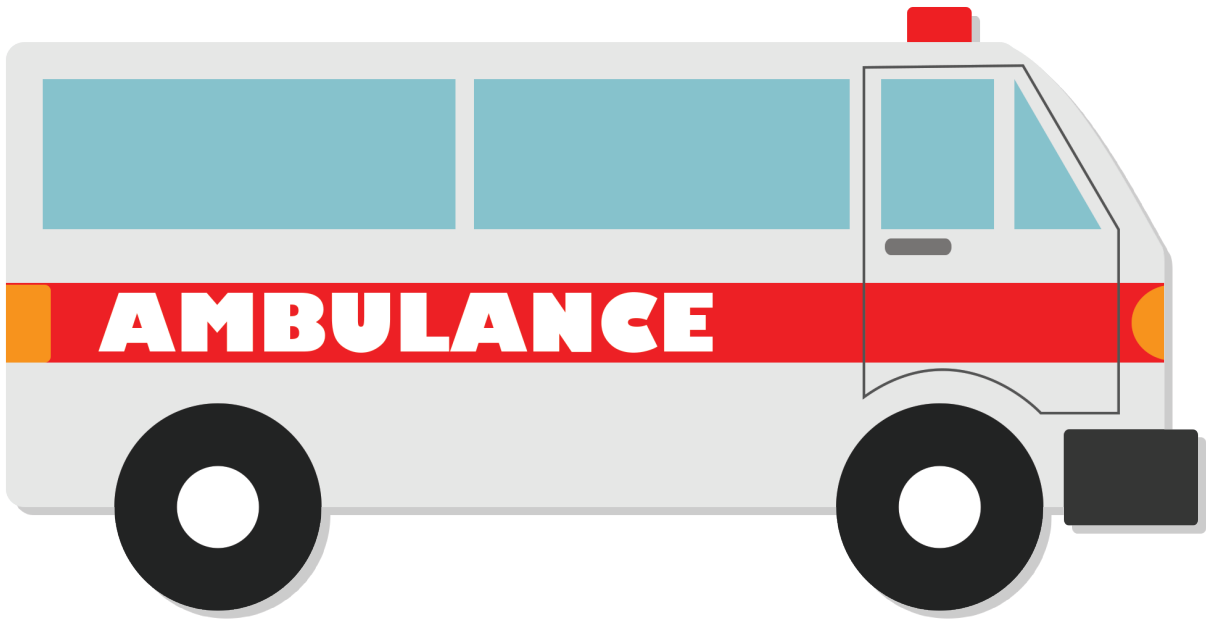
REFERRAL

Ensure appropriate referral if required to an inpatient facility or outpatient facility nearest to their home for treatment. This includes:

- Explaining the reason for referral to the caregiver
- Filling out an appropriate two-way referral documentation with details of the assessments conducted and any treatments administered (see Annex 10)
- Providing for transportation in coordination with district or referral healthcare facilities
- For children being referred to inpatient care particular care should be taken as these children can easily deteriorate (see Box 5)



19 No RUTF is provided to these infants <6months old.



Box 5. Appropriate referral of complicated cases

For very ill malnourished children brought to an outpatient facility for SAM and who need to be “transferred” to inpatient care, it is critical to ensure that referral should take place quickly. However, deterioration often occurs during transport and can lead to death soon after arrival, due to the length and difficulty of the journey. This is known as “transport trauma.” A number of measures are recommended to avoid this:

- Explain to the caregiver that the patient is critically ill and needs urgent transport to an inpatient facility for more specialized care.
- Make the child as comfortable as possible and administer small amounts of 10% sugar water to keep them hydrated before and during transportation.
- Contact the inpatient facility by telephone for advice and support for the management of the patient. The telephone call, advice given and the name of the doctor and inpatient facility contacted should be recorded on the treatment card.
- Where there is additional capacity (presence of the MHO) at the OTC and where training has been carried out on ITC protocols and measures – in line with those protocols – further stabilize the child before transport is taken.
- Public transport is not recommended.

3. OUTPATIENT THERAPEUTIC CARE (OTC)

Figure 3. OTC Activities

1	Admission	- Anthropometric measurements and edema check - Triage of emergency cases - History, medical examination and appetite test - Referral to ITC where required - Recording
2	Treatment	- Medical management - routine and additional medicines - RUTF - Routine medicines - Additional medicines - Orientation to caregiver
3	Weekly Monitoring	- Anthropometric measurements and edema check - History, medical examination and appetite test - Referral to ITC where required - Arrangement of home visit or further clinical/social investigation where required - Recording on OTC card - Resupply RUTF and complete medical treatment
4	Discharge	- Orientation for caregiver - RUTF - Refer for vaccination if required - Link to SFP and/or other services available - IYCF counseling - Recording on OTC card

Outpatient therapeutic care provides treatment for children with SAM who demonstrate adequate appetite and have no medical complications. These children can be treated at home with simple routine medicines and RUTF. Outpatient therapeutic care achieves this objective through timely detection, referral and early treatment before the onset of a complication. Effective community mobilization, active case finding, referral and follow-up therefore form the cornerstone of successful outpatient care (see Section 1).

Outpatient therapeutic care should be delivered from as many health facilities as possible (with

sufficient capacity in place) and should be a component of routine service delivery. This ensures good access and coverage so that as many acutely malnourished children as possible can access treatment within a day's walk from their homes.

Children may be received directly into outpatient care when they come to the health facility, by referral from community level workers (BHW, BNS) or by referral from inpatient care once their condition has been stabilized (i.e. medical complications have been resolved).

3.1 Assessment and Admission

The criteria of admission are given in *Annex 9* and admission procedures for new cases are explained above in Section 2.

For cases already under treatment for SAM (transfer from other OTC or ITC facility):



Procedure

Step 1 Review and record any relevant information from the referral document (if available) onto the OTC chart.

Step 2 Continue with the same registration number on referral document.

Step 3 Conduct assessments as above to check information on referral document and identify any additional issues which may have arisen during the transfer.

Step 4 Complete existing registration documentation and OTC chart.

3.2 Medical Management

ROUTINE MEDICINES

In order to treat probable and potential underlying illnesses that may not always show classical signs

and symptoms in severely acutely malnourished children (see below), ALL cases admitted to OTC should be treated according to the following routine treatment schedule.

Table 9. Summary table of routine treatment on admission in OTC* (see Annex 11 for details and dosages)

MEDICATION	DOSE	ADMINISTRATION
Amoxicillin	< 10kg: 250mg	1 dose at admission then 2 times a day for 5 days at home
	> 10 to < 14kg: 500mg	
	14 to 19kg: 750mg	
Albendazole/Mebendazole	< 12 months	Do not give to < 12 months
	12 to 23 months: 200mg	Give 1 dose on the 2nd visit (unless received in last month)
	≥ 24 months: 400mg	
Measles vaccine	6 to 9 months	Only during measles epidemic
	≥ 9 months: standard	Refer to immunization clinic or 1 vaccine on the 4th visit
Vitamin A**	RUTF has sufficient daily allowance	Do not give outside regular campaigns

*For children referred from inpatient therapeutic care/stabilization, a check should be made for the treatments already received and the above adapted accordingly.

**Vitamin A is no longer recommended as additional supplement for children with SAM in OTC as a sufficient daily allowance is available in RUTF²⁰. It is given only during emergencies or measles outbreaks (symptomatic cases should be referred to ITC).

Procedure

- ▶ Routine antibiotics should be given to severely malnourished patients, even if they do not have clinical signs of systemic infection. Despite the absence of clinical signs, nearly all will have small bowel bacterial overgrowth (SBBO) and minor infections at the least (see Box 6).
- ▶ The child's immunization status should be checked and the mother/caregiver referred to the BHS for any vaccinations due (including for measles vaccination).
- ▶ Check for the date of the child's last deworming and refer to BHS.
- ▶ Refer to the national guidelines for malaria treatment.
- ▶ Refer to the national guidelines for diagnosis and treatment of tuberculosis.
- ▶ It is important to record any supplementation/ treatment given on the child's ECCD chart if they have one.

Box 6. Administration of antibiotics

OTC treatment should be with oral amoxicillin in areas where there is not widespread resistance to amoxicillin. Where resistance is common, use alternative antibiotics (see Annex 12).

Procedure

Step 1 Do not give routine antibiotics to children transferred to the OTC from ITC or who have been transferred from another OTC after having already received a course of antibiotics. When in doubt, confirm with the referring facility.

Step 2 Do not give second line antibiotics in OTC. Children who require second-line antibiotic treatment or have significant infections should be treated in ITC. Therefore, there are no recommendations for second-line antibiotics for use in outpatient treatment programs.

Step 3 Give the first dose under supervision and tell the mother that the treatment should continue for a total of five days. For OTC, antibiotic syrup is preferred; if it is not available the tablets should be used and cut in half by the staff before being given to the caregivers (for children < 5kg).

ADDITIONAL MEDICINES

Other medical conditions/symptoms – eye infections, ear discharge, mouth ulcers, fungal infections, minor skin infections and lesions – should be treated according to the CB-IMCI guidelines. Additional medication should be prescribed conservatively.

Reminders

- **Iron** and **folic acid** should NOT be given routinely. Where severe anemia is identified according to CB-IMCI guidelines, the severely malnourished child should be referred to inpatient care. Where moderate anemia is identified, treatment should begin only after 14 days in the program and not before, because a high dose may increase the risk of severe infections. Treatment should be given according to CB-IMCI protocol (one dose daily for 14 days).
- **Zinc** should not be given to patients taking RUTF.
- **Anti-emetics** should not be used in OTC.
- Do not give **cough suppressants**.
- **Paracetamol** should NOT be given routinely, due to its toxicity in a malnourished child. For management of fever, see Annex 13.
- **Aminophylline** should not be used in OTC.
- Normal/high dosage **metronidazole** should not be given. The dosage should be reduced as indicated in Annex 12.
- **Ivermectin** must be avoided in any edematous child.



3.3 Nutritional Management

Nutritional rehabilitation in outpatient care is through the use of Ready-to-Use Therapeutic Food (Box 7).

Box 7. Ready-to-Use Therapeutic Food (RUTF)

RUTF is an energy dense mineral/vitamin enriched food nutritionally equivalent to F100, which is recommended by the WHO for the treatment of severe acute malnutrition (see Annex 14 for the technical specification and more information on RUTF). RUTF provides a complete diet for the severely acutely malnourished child with the exact balance of micronutrients and electrolytes they require. It is an oil-based paste usually made of peanuts, oil, sugar and milk, with low water activity; thus, it is microbiologically safe and can be kept for months in simple packaging. Therefore, with proper hygiene instruction, RUTF can be safely used at home.

Determine the amount of RUTF required by the child based on their current weight, as indicated in the RUTF Ration Table in Annex 15. The amount of RUTF a child should consume is determined by the need for an intake of 200kcal/kg/day. The amount given to each patient is therefore calculated according to their current weight and must be adjusted as weight increases during treatment.

Reminders

- RUTF is not recommended for treatment of infants < 6 months. Infants referred for outpatient care are not given RUTF. Their caregivers should receive breastfeeding counseling and supplementary food if it is available and their condition monitored (Section 3.5 Management of Infants through Outpatient Breastfeeding Support).
- If a child is suffering from known peanut allergy or if during appetite, refer to ITC for treatment with therapeutic milk (F75/F100).

3.4 Orientation to Caregiver

Procedure

Step 1 Upon admission when giving the RUTF ration, the health worker should discuss a number of simple key messages on the use of RUTF, continuation of breastfeeding, the need to feed plenty of drinking water, the importance of attending the service regularly for monitoring and additional RUTF and orientation on hygiene and sanitation with the mother/caregiver (see Box 8).

Step 2 It is important to give mothers /caregivers sufficient time to ask any questions on the management process.

Step 3 It is also important to make sure they are aware of their local volunteer/health worker and the support that they can offer for them.

Step 4 In addition, mothers/caregivers who refused transfer to inpatient care facilities should be informed that their local volunteer/health worker (BHW and/or BNS) will be visiting them at home during the week.

Step 5 On subsequent visits, additional counseling may be provided while mothers/ caregivers are waiting for their consultation. This may focus on:

- » Particular IYCF topics (Breastfeeding and Complementary Feeding in particular) based on the national IMCI guidelines (Annex 3) and IYCF counseling cards particularly for mothers of infants with SAM referred for outpatient care
- » Hand washing with soap
- » the importance of growth monitoring of the child especially once discharged from OTC



Box 8. Key messages for mothers/caregivers

- ▶ Explain how much RUTF to give the child each day (refer to RUTF ration card).
- ▶ If the mother is still breastfeeding, advise her to continue breastfeeding as before and give the RUTF after each feeding. If not breastfeeding, then always give plenty of safe water with RUTF as it doesn't contain any itself.
- ▶ The RUTF is all the food a child needs to recover. No other foods should be given until the full ration each day has been finished.
- ▶ Encourage child to take small amounts of RUTF frequently during the day directly from the packet. Do not mix RUTF with water.
- ▶ Whenever possible, wash the child's hands and face before eating and after defecation.
- ▶ RUTF is a medicinal food for thin and swollen children. It should never be shared with other members of the family.
- ▶ If concerned about the child's condition, tell the mother/caregiver to bring them straight back to the health facility. For example – if the child has no appetite, is vomiting, has diarrhea, is sick, or has increasing edema – the child should be taken immediately to the health facility for medical review and advice.
- ▶ Give medicines as advised by the health worker.
- ▶ Attend the health center weekly for monitoring and to receive the next weekly RUTF ration.
- ▶ Return empty RUTF packets to the health center each week.
- ▶ Malnourished children need to be kept warm (ensure child wears plenty of clothes).

Reminder



Always ask the mother/caregiver if they have any questions and to repeat how s/he will feed the child and give any medicines at home.

3.5 Management of Infants through Outpatient Breastfeeding Support

For infants younger than 6 months, SAM management should focus on support for breastfeeding. These children should be managed on an outpatient basis unless the infant also presents with an IMCI danger sign or complex feeding complication (see Section 2), in which case they should be referred to ITC. Also, if there is no possibility of breastfeeding (i.e. no mother or wet nurse) or no human milk via a milk bank is available, they should be referred to the ITC.

Management of the infant younger than 6 months on an outpatient basis does NOT include use of RUTF. The mother should attend the local

health center and receive individual counseling on breastfeeding promotion using IMCI materials (*Annex 3*) and appropriate IYCF counseling cards in order to improve effective breastfeeding. If, after individual counseling, the mother does not report improved breast milk intake or if the infant fails to gain weight, the child should be referred to inpatient care (see Section 4.4).

Where possible, the support of a trained lactation counselor needs to be engaged, as well as that of a human milk bank (wherever possible and available) to ensure access to breast milk while the feeding problems are addressed.

3.6 Individual Monitoring, Follow-up and Referral

Caregivers should be encouraged to attend OTC weekly with their child and the child's progress monitored and recorded on the patient card by the BNS/BHW.



WEEKLY SURVEILLANCE

The BNS/BHW at each weekly visit should:

- ▶ Measure MUAC, weight and check for edema; check if height/length was measured on admission day (take the measurement if not done)
- ▶ Check MUAC and WHZ (if appropriate) for discharge criteria
- ▶ Take body temperature
- ▶ Do the appetite test either routinely for all children or whenever there has been a poor weight gain
- ▶ Ask about the progress of the child, including IMCI danger signs
- ▶ Examine the child
- ▶ For infants < 6 months old, ask about breastfeeding practice and any improvement in milk production
- ▶ Give routine treatment at the appropriate visits (if a visit is missed, give at the next visit)
- ▶ Complete the OTC chart (*Annex 16*)
- ▶ Make any necessary referrals (see below)
- ▶ Recalculate the weekly RUTF ration according to current weight and provide the ration

REFERRAL TO INPATIENT CARE

It is still possible for a child with SAM to develop medical complaints which may not be present when the child is first admitted to OTC. Any issues identified during the weekly medical check and appetite test should be appropriately addressed through treatment at the health facility (according to IMCI protocols).

In addition, any child should also be referred to ITC if they are not responding adequately to treatment in the OTC. This includes the development and diagnosis of any of the IMCI danger signs as listed in Table 7 or if any of the following additional referral criteria are met (see Table 10). See *Annex 17* for complete Action protocol for referral.

Table 10. Criteria for referral to inpatient from outpatient treatment during follow-up

FACTOR	CRITERIA FOR REFERRAL TO INPATIENT CARE
Edema	Increase of or development of edema
Appetite	No appetite or unable to eat RUTF (3 - 4 mouthfuls/failed appetite test)
Medical complications	Deterioration in medical condition to develop any of the IMCI danger signs as listed in Table 7
Care when and where it is needed	Weight loss for 3 consecutive weighings
	Static weight for 5 consecutive weighings
Reported breast-feeding issues (infants < 6 months only)	No improvement after 1 week and continued weight loss of infant
General	Other general signs as identified by the health worker that warrants referral (as per IMCI)

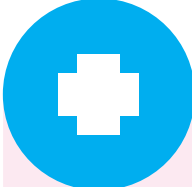
If referral is required:

- Step 1** Write on the chart of the patient the reason for transfer.
- Step 2** Complete the referral form which should contain all details of the child's condition, the summary of the treatments given and the patient number (See *Annex 10* for form).
- Step 3** Give the referral form to the patient to take with them to the ITC.
- Step 4** Call the relevant ITC supervisor to inform them about the transfer. They should facilitate

direct admission to the ITC ward. The patient's admission should not be processed through the emergency department. This mechanism allowing for direct admission to the ward should be institutionalized and practiced in the ITCs whenever a patient arrives with a transfer form from an OTC.

Step 5 Note: When the patient returns to the OTC, similar contact should be made to avoid losing the patient during the transfer.

Step 6 Take any steps to avoid transport trauma (see Box 5 above).



REFERRAL FOR FURTHER CLINICAL OR SOCIAL ASSESSMENT

In some cases where children are not responding to treatment (loss or static weight for two weeks), chronic conditions may be suspected and in this case, children should be referred for further investigations in the hospital or appropriate site. This can include:

- ▶ Referral for TB testing, counseling and treatment (refer to the Municipal/City Health Officer)
- ▶ Referral for screening and assessment of congenital abnormalities (e.g. congenital heart defects, cerebral palsy, etc.)
- ▶ Referral for HIV counseling and testing
- ▶ Referral for assessment of family functioning and capacity for care (refer to the Municipal Social Welfare Worker/ Officer)



REFERRAL FOR FOLLOW-UP AT HOME

Follow-up through home visit should be triggered for:

- ▶ Children with medical complications who have refused transfer to inpatient care and are being treated on an outpatient basis
- ▶ Cases who are not responding in the program (loss or static weight for two weeks) and aspects of the home environment are suspected to be playing a role rather than medical issues
- ▶ Repeated absences from treatment
- ▶ Infants < 6 months of age not gaining weight despite visits
- ▶ See Section 1.4 for details on follow-up visits

3.7 Discharge

CRITERIA FOR DISCHARGE CURED

Discharge the patients when they reach the discharge criteria shown in Table 11.

Table 11. Discharge criteria from OTC		
PATIENT GROUP		DISCHARGE CURED CRITERIA
Children 6 - 59 months	Admitted on MUAC, edema, or both MUAC and WFH/WFL Z-scores	MUAC ≥ 125mm (12.5cm) for 2 consecutive visits AND No edema for 14 days AND Clinically well
	Admitted on WFH/WFL Z-scores only	WFH or WFL ≥ -2 Z-scores for two consecutive visits AND No edema for 14 days AND Clinically well
Infants < 6 months		Breastfeeding effectively AND has adequate weight gain (5g/kg/d) AND WFL ≥ -2 Z-scores for 2 consecutive visits (where capacity exists to measure) OR Reaches 6 months of age ²¹

DISCHARGE PROCEDURE

- Step 1** Explain to the mother/caregiver that the child has recovered sufficiently for discharging, and congratulate them.
- Step 2** If the child has reached 9 months of age during treatment in OTC and has not yet received vaccination against measles, the mother/ caregiver should follow up at the BHS or RHU to ensure their child receives the vaccination.
- Step 3** Children admitted at age 6 to 8 months should get a follow-up appointment for the second measles vaccination (booster) after one month.
- Step 4** All children will get a last ration for seven sachets of RUTF (one sachet each day for one week) to aid the transition onto local and in some cases, supplementary foods where SFP is available.
- Step 5** The mother/caregiver should receive counseling on IYCF practices, care practices, hygiene, feeding practices, food preparation for children, and so on, in line with standard IYCF counseling. If enrolled in the 4Ps program, please ensure attendance in the Family Development Sessions.
- Step 6** All the patients should be discharged to the SFP for continued nutritional rehabilitation where this is available.
- Step 7** Caregivers should be linked with any other appropriate services for which they are eligible and which support the on-going rehabilitation of the child (see Section 3.8).
- Step 8** Fill in the patient record in the register with the discharge details (see Section 11.3 below)

21 At this point MUAC should be taken to assess whether the infant qualifies for enrolment in OTC as a child and to receive RUTF.

OUTPATIENT THERAPEUTIC CARE

RECORDING THE OUTCOME OF TREATMENT

Register the patients discharged in the registration book and chart according to the following possibilities:



CURED

The patient has reached the criteria for discharge cured.



DEAD

The patient died during treatment in the OTC or in transit to the ITC.



DEFAULTER

The patient has not returned for three consecutive visits and a home visit, neighbor, village volunteer, or other reliable source confirms that the patient is not dead.



DISCHARGE AS NON-CURED

The patient does not reach the discharge criteria within four months and all referral and follow-up options have been tried (e.g. home visit conducted and household situation assessed), they may be discharged as non-cured. In these cases, ensure that the child is referred for assessment of possible medical complications if not yet done (e.g. TB) and linked with the MAM program where possible and to social support systems (see Section 3.8).

3.8 Managing Links

The child being treated for (severe) acute malnutrition has usually suffered some combination of nutritional deficit and/or infection and often may come from the poorest families in the community. In order to continue healthy growth and prevent relapse, follow-up care should be sought. Depending on services available locally, the following should be considered:

- Referral to SFP (if available) or other supplementary feeding program.
- On-going IYCF/nutrition counseling (e.g. IYCF Peer counseling, Family Development Sessions, Pabasa sa Nutrisyon).
- Referral to Mother support groups, Promotion of Good Nutrition, MNP supplementation of Complementary Feeding.

- Enrolment in a growth monitoring program Operation Timbang Plus (if not yet enrolled).
- Referral to a food security program.
- Provide list of social welfare services available and referral to any relevant programs such as Sustainable Livelihood and Pantawid Pamilyang Pilipino Programs (if eligible), Kapit-Bisig Laban sa Kahirapan-Comprehensive and Integrated Delivery of Social Services (KALAHI -CIDSS) and Self-Employment Assistance-Kaunlaran (SEA-K) Program).
- Ensure enrolment and coverage of the child and mother²² in PhilHealth. If family is indigent, coordinate enrolment in the PhilHealth indigent program with the Municipal or City Health Office. Ask the mother or caregiver to show you the PhilHealth card or to give you the PhilHealth number.

²² Mother and child are covered as dependents if the father is enrolled. Make sure enrollment status of both parents are established.

4. INPATIENT THERAPEUTIC CARE (ITC)

Inpatient care for children with SAM is provided in order to:

- Stabilize children with SAM aged 6 to 59 months who also have medical complications or a lack of demonstrated appetite sufficiently to allow them to continue their nutritional rehabilitation with OTC.
- Recover infants < 6 months with SAM who require intensive treatment.
- Provide complete nutritional rehabilitation in inpatient care for children with SAM where there is no access to OTC.
- Children in outpatient care may also be referred to inpatient care for a period of more intensive treatment/monitoring when they are not responding appropriately to treatment as an outpatient.



Box 9. Principles of treatment of complicated SAM in ITC

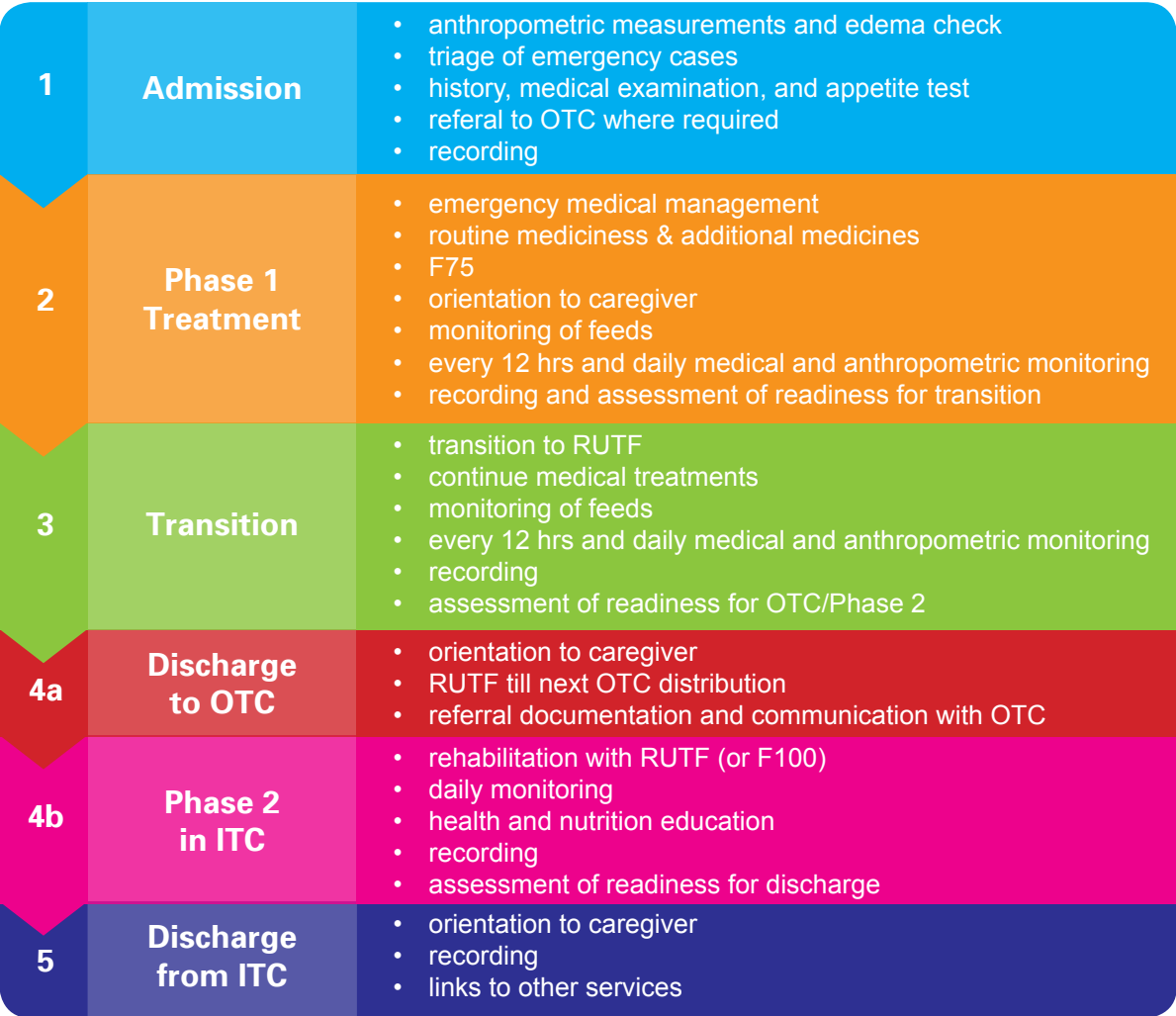
Because of the changes in metabolic and physiological responses in children with complicated SAM, they often do not present with typical clinical signs of infection that well-nourished children show when they are ill, such as fever. Moreover, they do not respond to medical treatment in the same way as if they were well nourished. Therapeutic decisions that are life-saving in a well-nourished child can be potentially fatal for the malnourished child. Treatment protocols for children with SAM for some medical complications, such as dehydration or shock, differ from the classical treatment protocols for ill children without SAM. Misdiagnosis of medical complications, inappropriate treatment, and feeding of children with SAM contributes to slow convalescence and increased risk of death.

Successful management of SAM in children with complications aims to restore the metabolism through correction of electrolyte balance, reversal of metabolic abnormalities, restoring the organ functions and provision of nutrients for catch-up of growth, and treats underlying infections and other medical conditions as diagnosed. As the child is treated, the body's systems must gradually learn to function fully again. Rapid changes (such as rapid feeding or fluids) would overwhelm the systems, so feeding must be slowly and cautiously increased. Nearly all children with SAM have bacterial infections. However, as a result of reductive adaptation, the usual signs of infection may not

be apparent, because the body does not use its limited energy to respond in the usual ways, such as inflammation or fever. Examples of common infections in the severely malnourished child are ear infection, urinary tract infection, and pneumonia. In a child with severe acute malnutrition we assume that infection is present and treatment is given on admission with broad spectrum antibiotics. Specific infections and medical condition are identified (such as Shigella) and treated accordingly.

Great care should be exercised in prescribing drugs to children with severe acute malnutrition because they will have abnormal physiological responses such as abnormal kidney and liver function; changed levels of enzymes that metabolise and excrete drugs; excess entero-hepatic circulation (reabsorption) of drugs that are excreted in the bile; decreased body fat hence increasing the concentration of fat-soluble drugs; and, in kwashiorkor, a possible defective blood-brain barrier. Few drugs have been examined for pharmacokinetics, metabolism or side effects in persons with severe acute malnutrition. For instance, a common drug, such as Paracetamol can cause serious hepatic damage.

Figure 4. Flow of activities in ITC



Inpatient care for children with SAM aged 6 to 59 months therefore focuses primarily on the nutritional and medical stabilization of the child and appropriate management of medical complications. It occurs in three distinct phases, as described below. Children younger than 6 months are treated using specific protocols for this age group, which are described in detail in Section 4.4.

Phase 1/Stabilization: Patients with an inadequate appetite and/or an acute major medical complication are initially admitted for to Phase 1 for stabilization treatment. During this phase, the therapeutic milk F75 is used to stabilize and reverse physiological and metabolic abnormalities and correct electrolyte imbalances. There is no expectation for wasted children to gain weight during Phase 1. Edema cases should start to lose weight in this phase as the edema starts to resolve (this should not be misinterpreted as poor treatment progress).

Transition Phase: This phase marks the transition from stabilization to OTC where these facilities exist (where OTC facilities are not available, the patient proceeds to Phase 2 instead as below). Clinically, the return of appetite and/or the improvement of clinical signs and symptoms related to the medical complication indicate entry into this phase (details below). In this phase, the diet is changed or transitioned from F75 to RUTF (or to therapeutic milk F100 for Phase 2 inpatient care). The amount of protein, energy and micronutrients is increased. This increase in energy is possible because of the restoration of physiological systems which are indicated by the return of appetite, the reduction of edema and the improvement in the clinical status of the child. Wasted children now start to gain weight, while children with edema may continue to lose weight until the edema is resolved. Once the child is taking the prescribed amount of RUTF and complications are adequately resolved, they are referred to OTC to continue their treatment at home.

Phase 2: Where it is not possible to refer to OTC, children remain as inpatients until cured of acute malnutrition. This phase continues treatment with F100 therapeutic milk or RUTF, increasing the intake so as to promote rapid weight gain. The child remains under treatment until the anthropometric criteria for discharge are reached.

It is important to note that the hospital environment places children under care at risk of nosocomial

4.1 Assessment and Admission

Admission criteria are summarized in Annex 9. In the ITC setting, referrals from the BHSs and RHUs of children assessed to have both SAM and medical complications are received (e.g. SAM children who fail the Appetite Test). However, a considerable number of children will be brought straight to the hospital by their parent or caregiver for a different complaint (e.g. diarrhea, convulsions, decreasing level of consciousness) without being previously diagnosed with SAM. This is especially true for larger hospitals with an emergency room and outpatient department.

For inpatient care, initial steps of assessment should focus primarily on rapid identification of SAM with complications and on initiation of treatment. In the inpatient facility, emergency treatment for any life-threatening complications (see Section 4.2 below) should be prioritized once SAM has been diagnosed. Once initial emergency care has been provided to those cases needing it, further anthropometry and the appetite test can be conducted (as detailed in Section 2 and summarized below).

Prioritization of activities in ITC:

- 1st Identify SAM (MUAC & Edema).
- 2nd Triage emergency cases and provide emergency care if required (see Section 4.2).
- 3rd Take weight for calculation of medical and nutritional treatment and to set the baseline for weight monitoring during treatment.²³
- 4th Give first line antibiotics (Annex 18).
- 5th Initiate feeding with F75 (Annex 28).
- 6th Complete assessment and record on the patient record and ITC chart (Annex 27).

infection and mortality. A prolonged hospital stay may be disruptive to the whole family, especially for families with many children. While recovery may be slower in the community setting, it is the preferred option where outpatient services exist. The child should be transferred from inpatient care to outpatient care as soon as possible during recovery.

For SAM cases assessed not to have emergency care requirements:

- ☐ Conduct IMCI medical check.
- ☐ Check medical history.
- ☐ Conduct the Appetite test (see Section 2.2). Take weight for calculation of medical and nutritional treatment and to set the baseline for weight monitoring during treatment.
- ☐ Initiate feeding with F75 or refer to OTC if there are no medical complications and good appetite is demonstrated (see Section 2).
- ☐ Record all information on the patient record and ITC chart (Annex 27).

For cases already under treatment for SAM (transfer from other OTC or ITC facility):

- Step 1** Review and record any relevant information from referral document where there is one.
- Step 2** Continue with same registration number.
- Step 3** Conduct assessments as above to check information on referral document and identify any additional issues which may have arisen during the transfer.
- Step 4** Record all information on the patient's chart.



²³ The medical and nutritional treatment prescribed by the doctor is dependent on very accurate weighing. Children should be weighed naked. Providing privacy for weighing facilitates this. Where privacy is not possible a very light undergarment may be worn. Inaccurate weighing may lead to incorrect treatment and may have very serious consequences for the child. For children 6 – 59 months the accuracy of the scale must be to the nearest 100g.

4.2 Medical Management

EMERGENCY TREATMENT

- ▶ Assess the child's airway, breathing and circulation and administer life-saving interventions according to Pediatric Advanced Life Support (PALS) protocols.
- ▶ Immediately treat life threatening complications according to Annexes:²⁴
 - » *Annex 19* - Treat/prevent hypoglycemia
 - » *Annex 20* - Treat/prevent hypothermia
 - » *Annex 21* - Treatment for dehydration and hypovolemic shock
 - » *Annex 22* - Hypernatremic dehydration
 - » *Annex 23* - Treatment of septic shock
 - » *Annex 24* - Treatment of severe anemia
 - » *Annex 25* - Heart failure
 - » *Annex 26* - Absent bowel sounds, gastric dilation and intestinal splash

ROUTINE MEDICINES IN PHASE 1/ STABILIZATION

- ▶ Give first line antibiotics according to age/ weight (if not already given). The type of antibiotic given in Phase 1 primarily depends on whether the child presents to the inpatient unit with or without identified medical complications. Oral antibiotics should be given for uncomplicated cases and IM/IV antibiotics for children with complications.
- ▶ Give other routine medications according to *Annex 18*.

ROUTINE MEDICINES IN PHASE 2

Deworming/anthelmintic treatment is given in Phase 2 (day 7) for children who remain as inpatients (table 12).

ADDITIONAL MEDICINES IN PHASE 1 AND 2

Other medicines are to be given in Phase 1 and 2 (e.g. for fungal infection such as candidiasis) depending on presenting symptoms and according to current recommendations for treatment of the sick child.

Reminders

- Vitamin A supplementation is not routinely indicated where commercially prepared F75/ F100 or RUTF are provided for treatment. In these preparations, vitamin A is already present in therapeutic amounts. Vitamin A supplementation should be given on admission when other preparations are used without adequate vitamin A content (e.g. preparations based on prescribed recipe but without CMV) or where symptoms of Vitamin A deficiency²⁵ are noted.
- Folic acid is present in adequate amounts in therapeutic milks and RUTF to treat mild anemia. If moderate anemia is diagnosed then give a stat dose of 5mg on admission. There is no requirement for daily doses. For severe anemia see *Annex 24*.
- Anthelmintics are absorbed through the gut and the active metabolite generated in the liver. Early in treatment, poor absorption in the gut and poor liver function may render the drug ineffective.
- Zinc is present in F75 and F100 therapeutic milks and in RUTF. Episodes of diarrhea should be treated with antibiotics and ReSoMal if indicated by the presence of dehydration. If commercially prepared F75/F100/RUTF is not available, then zinc should be used in the management of diarrhea.
- Iron increases the risk of mortality in children with SAM through the increased risk of infection and sepsis. Iron is given only in Phase 2, where it is added to the therapeutic milk (see Phase 2 care). Iron tablets do not need to be given to children receiving RUTF as iron is already present in RUTF in adequate amounts.

Table 12. Deworming in Phase 2

Medication	Age	Dose	Prescription
Mebendazole	12 - 23 months	250mg	Single dose on day 7
	≥ 24 months	500mg	Single dose on day 7

²⁴ The medical/fluid management of children with SAM is different from normally nourished children. Modified protocols should be applied according to Annexes on the treatment of complications.
²⁵ Micronutrient Supplementation Manual of Operations (2011)

4.3 Nutritional Management of Children 6 - 59 Months

- ▶ For new admissions to ITC, use F75 for Phase 1 nutritional management.
- ▶ For admissions coming from OTC who are already demonstrating appetite, RUTF can be used and Phase 2 entered directly.
- ▶ For infants < 6 months old see Section 4.4.

PHASE 1/STABILIZATION

DIET

The diet used for children aged 6 - 59 months in stabilization is F75 therapeutic milk²⁶ (see Box 10).

Step 1 Calculate the quantity of F75 to be administered. The energy requirement of the child in Phase 1 is 100kcal/kg/day. This translates to 130mL of F75 milk/kg/day. The F75 is therefore given according to the weight of the child (see *Annex 28*). Check manual calculations of milk requirement against the tables for accuracy.

Step 2 Prepare F75 (see *Annex 28* for F75 preparation), alternate F75 recipe (*Annex 29*) or F100 diluted (*Annex 30*) as a temporary measure (administering the same volumes as given for F75 in *Annex 28*).²⁷

Step 3 The milk should be given in divided feeds ideally every two to three hours in Phase 1 depending on the condition of the child (8 - 12 feeds per day, see *Annex 28* for volumes of milk to be administered according to number of feeds per day and Box 11 for varying feeds).

Step 4 Pre-prepared feeds may be used overnight, but only where functional refrigeration units are available for storage following preparation. The milk should be warmed before use by placing the milk in a bowl of hand-hot water for 5 - 10 minutes. Milk should not be reheated by direct heat or microwave. Unused refrigerated milk should be disposed of after 12 hours.

Step 5 If clinical assessment is delayed for any reason, give 10% sugar water (10g or 1 tablespoon of sugar in 100mL of water) if the child is able to take oral fluids in order to prevent hypoglycemia. Fruit juice may be given if no sugar water is available.

²⁶ Other commercial milk formulas are NOT formulated for management of acute malnutrition and must not be used for this purpose.
²⁷ When F75 is not available, F100 can be diluted to make a TEMPORARY alternative to F75. This is an emergency measure only and is not acceptable as a standard replacement to F75.



Box 10. F75

F75 is a low protein formulation (high protein at this stage increases the risk of death) containing the right balance of macro and micronutrients to stabilize the child's condition. F75 provides 75kcal/100mL and allows micronutrient deficiencies to be corrected and the abnormal pathophysiology of the child to be restored. The F75 already contains all of the micronutrients required for stabilization. There is no need for additional micronutrient supplementation. F75 is also a low-lactose feed.

It is possible to make F75 at the health facility if the pre-packed F75 preparation is not available. In this case, the recipe should follow one of the recommended recipes provided in *Annex 29*. It is essential to add combined mineral and vitamin mix (CMV) in order to provide the micronutrients essential to recovery. F100 diluted (see *Annex 30*) can also be used as a TEMPORARY substitute in an emergency if supplies are not available.

Commercial milk formula is not a suitable substitute. If the caregiver brings commercial milk formula with them to the hospital, they must be strongly advised NOT to use the commercial milk formula for the child.

Figure 5. Samples of F75



Box 11. Variation in number of feeds

Reducing the number of feeds per day is not ideal since sick children are often unable to drink large volumes of milk. When the number of feeds is reduced, the volume of each feed is increased. However, if for any reason the frequency of feeds (particularly during the evening or night shift) cannot be guaranteed (e.g. due to staff shortages), the volume of milk given must be recalculated, as it is preferable to feed the child the required amount of milk for the day over fewer feeds (to minimize the risk of hypoglycemia).

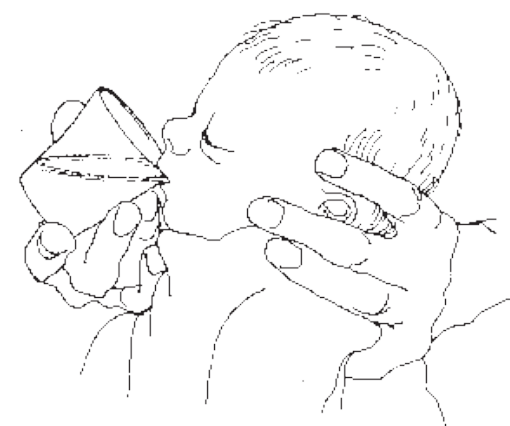
Reminders

- The reduced number of feeds should be a temporary measure only while issues of staffing and so on are addressed. It should not be adopted as standard practice.
- Six to eight feeds per day is the minimum.
- The time between the last feed of the previous day and the first of the following day should be minimized as much as possible (maximum of eight hours).
- It is essential that the prescription of milk is adjusted according to how many feeds can realistically be given per day.

Feeding Method

- Feeding should be done orally by cup and saucer unless a particular need for Nasogastric Tube (NGT) feeding is identified (Box 12).
- Breastfed children aged 6 - 59 months should always be offered breast milk before the diet and the milk should always be given on demand.
- Children with SAM have weak muscles and swallow slowly. This makes them prone to develop aspiration pneumonia. Appropriate feeding techniques are therefore important (see Box 13 and Figure 6.)

Figure 6. Correct feeding technique



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Box 12. Indications for using Nasogastric tube (NGT)

An NGT of the appropriate size should be used if the child:

- Is unable to consume at least 75% of the milk provided (the ITC chart is designed to monitor percentage of each feeding consumed)
- Has pneumonia (rapid respiration rate) and difficulties swallowing
- Has painful lesions of the mouth
- Has cleft palate or other physical deformity
- Shows disturbed level of consciousness

The use of an NGT should not exceed three days and should only be used in Phase 1/Stabilization.

Box 13. Appropriate feeding technique

- The child should ideally be sat upright on the caregiver's lap against his/her chest, with one arm behind his/her back.
- The caregiver's arm should encircle the child and hold a saucer under the child's chin (see Figure 6).
- Any dribble that falls into the saucer is returned to the cup.
- The child should never be force-fed, have his/her nose pinched, or laid back and have the milk poured into the mouth (even with a spoon).
- Never give more therapeutic milk than what is prescribed for the child in Phase 1, even if the child cries for more food. The child may continue to breastfeed on demand.
- Meal times should be sociable. The assistant should encourage the caregivers, talk to them, correct any faulty feeding technique and observe how the child takes the milk.
- The meals for the caregivers should not be taken beside the patient. It is almost impossible to stop the child demanding some of the caregiver's meal. Sharing of the caregiver's meal with the child can be dangerous for the child during Phase 1.

TRANSITION PHASE

Transition Phase normally takes one to three days but may take longer. It signals a change in the nutritional management of the child. The amount of energy provided in Transition Phase is increased by 30% (to 130kcal/kg/day) and the amount of protein is increased.

Transition Phase is entered once:

- Medical complications are resolving
- Appetite returns
- Edema is reducing

Transition may be divided into two distinct management approaches:

1. Transition to outpatient care for SAM where it is available
2. Transition to Phase 2 inpatient care where outpatient care for SAM is not available

TRANSITION TO RUTF IN PREPARATION FOR OUTPATIENT CARE

The aim is to prepare the SAM child for nutritional rehabilitation in outpatient care (i.e. to eat sufficient RUTF to gain weight and recover) while ensuring they get all the nutritional requirements they currently need. This is done by gradually introducing and increasing the proportion of the daily feeding provided by RUTF (see Annex 31 for detailed procedure).

Procedure

Step 1 Prepare indicated dose of RUTF, the appropriate quantity of F75 for the child and a glass of drinking water.

Step 2 The caregiver should be instructed to wash their hands and the child's hands and face.

Step 3 Ask the caregiver to offer the child the RUTF (refer to description of how to administer RUTF during the appetite test – Section 2.2).

Step 4 Observe the child eating the RUTF.

Step 5 After each mouthful, breast milk or a sip of water should be offered to the child.²⁹

Step 6 If the child fails to eat the required amount of RUTF at each feed, the child should finish the feed by being offered the ration of F75 to drink in addition to any RUTF that has been eaten. The time taken to eat the RUTF and F75 (if necessary) should be no more than 1 hour.

Step 7 Record the amount of both F75 and RUTF taken on the patient's treatment chart.

Step 8 After each feed, the RUTF should be placed in a cool dry place, safe from insects and re-used at the next scheduled feeding time.

Step 9 The process of offering both RUTF and F75 continues until the child is able to take the required amount for 24 hours (see below).

²⁸ Availability in this sense primarily means that outpatient care must be available AND accessible to the caregiver following discharge from the hospital.

²⁹ RUTF is a thick paste and plenty of clean drinking water should be available for the child to drink. Older children can ask for water when they are thirsty but young children must be offered the water regularly when taking RUTF. A thirsty child may refuse RUTF which may be mistaken for poor appetite. Children over 6 months but with developmental delay in the motor skills associated with chewing food may have some difficulty manipulating the thick paste in the mouth – sips of water will help.

Reminders

- Prepare indicated dose of RUTF, the appropriate quantity of F75 for the child and a glass of drinking water.
- The caregiver should be instructed to wash their hands and the child's hands and face.
- Ask the caregiver to offer the child the RUTF (refer to description of how to administer RUTF during the appetite test – Section 2.2).
- Observe the child eating the RUTF.
- After each mouthful, breast milk or a sip of water should be offered to the child.³⁰
- If the child fails to eat the required amount of RUTF at each feed, the child should finish the feed by being offered the ration of F75 to drink in addition to any RUTF that has been eaten. The time taken to eat the RUTF and F75 (if necessary) should be no more than 1 hour.
- Record the amount of both F75 and RUTF taken on the patient's treatment chart
- After each feed, the RUTF should be placed in a cool dry place, safe from insects and re-used at the next scheduled feeding time
- The process of offering both RUTF and F75 continues until the child is able to take the required amount for 24 hours (see below).

This change to RUTF normally takes one to three days, but may take longer. The child must be closely monitored at this time (see Section 4.6). When at least 75% of the full OTC daily amount of RUTF (see *Annex 39*) is eaten within 24 hours and there are no other issues identified during monitoring (see Section 4.6), the child is considered to be ready to continue their rehabilitation at home through the OTC. The child may then be discharged from the ITC facility (e.g. hospital) and referred to the OTC nearest to their home (or the referring OTC if previously enrolled).

TRANSITION TO PHASE 2 USING F100

When there is no outpatient treatment available, the child must be treated and cured of SAM entirely within the inpatient care setting. For children remaining in inpatient care, the energy requirement of 130kcal/kg/day is given in the form of F100 therapeutic milk. F100 contains 100kcal/100mL of milk. This means that when the milk is changed from F75 to F100 in Transition Phase, the volume of milk the child has been receiving in Phase 1 remains the same; only the

type of milk changes. The child should continue to be breastfed on demand. The amount of F100 milk to be given in Transition Phase is indicated in *Annex 32*. As above, this transition onto a higher calorie diet can take one to three days. The child should be monitored closely during this time (see Section 4.6). When at least 90% of the prescribed F100 ration is being taken orally and no other issues are identified during monitoring (see Section 4.6), the child is considered ready to continue their rehabilitation in Phase 2.

PHASE 2

Average duration: 2 - 3 weeks

DIET

In Phase 2, the energy and protein intake of the child is increased to 200kcal/kg/day, giving F100 therapeutic milk. During Phase 2, iron is added to the therapeutic milk. The amount of iron to be added is as follows:

- ▶ 200mg Ferrous Sulfate (1 tablet) in 2 liters therapeutic milk
- ▶ 100mg Ferrous Sulfate (1/2 tablet) in 1 liter therapeutic milk
- ▶ If smaller quantities of milk are being given, crush 100mg (1/2 iron tablet) and mix thoroughly in 10mL of water (ensure the tablet is well crushed and leaves no sediment).
- ▶ Add 10mg Ferrous Sulfate (1mL of 10mL Iron solution) in each 100mL of therapeutic milk

Annex 33 gives the volume of F100 therapeutic milk to be given in Phase 2. Feeds should be given at least five times per day. The table gives milk volumes depending on whether five or six feeds per day are given.

RESPONSIVE FEEDING AND EMOTIONAL STIMULATION

In addition to nutritional management in Phase 2, as the child is continuing their treatment in an institutional environment, it is important to also support play and emotional stimulation as an aid to psychological recovery. This should be done by:

- ▶ Encouraging the caregiver to talk to the child with good eye contact during feeding.
- ▶ Providing a brightly colored ward environment.
- ▶ Providing toys suitable for children of various ages (see *Annex 34*).

4.4 Nutritional Management of Infants < 6 Months

Assessment and admission procedures should be the same as for older children with the addition (as noted in Section 2) of an assessment of the breastfeeding practice. This age group is also given the same general medical care as older children in general, though some of the medical treatments are omitted (see *Annex 20*).

Infants younger than 6 months who are admitted as inpatients require nutrition protocols different from older children. This is because these infants have an immature physiology and feeding them the wrong diet may result in renal solute overload.

When an infant becomes malnourished, it is usually preferable to attempt to improve the breastfeeding practices or to re-establish them if they have been discontinued. Inpatient staff should try to encourage and re-establish breastfeeding where this is a possibility. Where human milk banks³¹ are accessible, it should be considered as an interim source of breast milk while re-lactation interventions are ongoing as described below.

Infants younger than 6 months admitted to inpatient care may be treated and discharged according to two separate and distinct protocols. **It is important to ensure that the infant follows the correct treatment plan and is discharged according to the correct criteria.**

The two options for treatment are:

1. Children who are currently breastfeeding or will be breastfed on discharge
2. Children who will not be breastfed on discharge

Re-establishing effective breastfeeding requires skilled and patient counseling by trained providers (e.g. lactation nurses, lactation counselors, peer support groups). It also requires adherence to and compliance with the principles and rules in Philippine breastfeeding legislation.³² In the hospital setting, compliance with the standards set by the Mother-Baby-Friendly Hospital Initiative (MBFHI) particularly with respect to the use of commercial milk formulas, should be ensured especially for MBFHI-accredited facilities³³ (see Box 14).

Box 14. Commercial milk formulas



Commercial milk formulas can be dangerous. They can expose the child to a higher risk of death when strict criteria are not adhered to. Staff should endeavour to:

- ▶ Control and prevent the use of commercial infant formulas while in inpatient care.
- ▶ Indicate to the mother that therapeutic milk is different and is a 'medical milk.'
- ▶ Ask caregivers to drink and finish any commercial milk formula they are carrying on admission themselves so the infant can be appropriately managed only with therapeutic milk.
- ▶ Give support to caregivers who will need to use commercial milk formulas after discharge (no possibility of breastfeeding or re-establishing breastfeeding has proven unsuccessful). Refer them to support available nearer their home to help ensure they can do so safely.
- ▶ Abide by the national milk marketing code (Executive Order 51) and avoid promoting the use of commercial infant formulas.

MANAGEMENT OF THE INFANT WITH BREASTFEEDING POSSIBILITY

For these infants, there are no separate 'phases' of treatment. The amount of therapeutic milk the child receives decreases during treatment as the intake of breast milk improves while maintaining good progress in weight gain. Where mothers are not able to breastfeed successfully, the next best option is to encourage 'wet nursing' by a female member of the family.³⁴ The aim of treatment is to stimulate breastfeeding and to supplement the child's diet with Diluted F100 therapeutic milk until breast milk is sufficient for allowing the child to grow properly. The Supplemental Suckling Technique (SST) is usually used to achieve this (see Box 15), but should be complemented by other responsive infant feeding and care practices (*Annex 3*).

³⁰ RUTF is a thick paste and plenty of clean drinking water should be available for the child to drink. Older children can ask for water when they are thirsty but young children must be offered the water regularly when taking RUTF. A thirsty child may refuse RUTF which may be mistaken for poor appetite. Children over 6 months but with developmental delay in the motor skills associated with chewing food may have some difficulty manipulating the thick paste in the mouth – sips of water will help.

³¹ The Philippine Human Milk Banking Manual of Operations (2010)

³² Executive Order 51 and its Revised Implementing Rules and Regulations and RA 10028

³³ Administrative Order 2007-0026: Revitalisation of the MBFHI in Health Facilities with Maternity Services. Department of Health, Philippines. July 10, 2007

³⁴ It is possible for the grandmother or other female relative to re-establish breastfeeding with support and nurse the child until they reach 6 months of age. The mother or 'wet nurse' should always be encouraged to continue breastfeeding at least until the child reaches 2 years of age.



Box 15. Supplemental Suckling Technique (SST)



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Procedure

Step 1 Encourage the mother/wet-nurse to breastfeed on demand or offer breastfeeding every three hours until they feel that their breast has been emptied by the child, without frequent switching and more often if the child seems to want more. The infant should be breastfed as frequently as possible. The mother may assist the infant by expressing breast milk directly into the child's mouth if the child is unable to empty the breast fully.³⁵

Step 2 Between 30 minutes to one hour after a normal breastfeeding session, give maintenance amounts of therapeutic milk using the Supplemental Suckling Technique (see *Annex 35*).

- » Provide F100-Diluted for infants with severe wasting at 130mL/kg bodyweight/day, distributed across eight feeds per day. F100-Diluted has a lower osmolality than F75 and thus is better adapted to immature organ functions. Also, the dilution allows for providing more water for the same energy with a better carbohydrate to lipid ratio.³⁶ (see *Annex 36* for preparation and quantities)
- » Provide F75 for infants with bilateral pitting edema and change to F100-Diluted when the edema is resolved (use the same quantities as shown in *Annex 36*).

Step 3 If space is available, infants should be nursed at a separate space from the older malnourished children. This can be a “breastfeeding corner.” This area may be useful to bring breastfeeding mothers together for mutual support and counseling by staff.

SST has proven to be an effective method in re-establishing adequate breastfeeding (see *Annex 35* for detail on the technique). However, it takes some skill and patience on behalf of the staff and the mother. When done well, it can stimulate breast milk output, so it is important to put the child to the breast as often as possible. As breastfeeding improves and the child gains weight, the amount of therapeutic milk is gradually reduced and then discontinued. The infant is then discharged when gaining weight on breast milk alone.

Step 4 Give counseling and support for any issues identified during monitoring in relation to attachment and feeding of the infant (see *Annex 3*).

Step 5 If the supplemental suckling technique is problematic, mothers can be supported to express their milk by hand either directly into the infant's mouth or give it via cup feeding (see *Annex 37*). Caution should be used in the feeding technique and the positioning of the infant for cup feeding in order to avoid possible aspiration.

- Step 6** Once the infant is gaining weight at 20g per day (absolute weight gain):
- » Gradually decrease the quantity of F100-Diluted by one-third of the maintenance intake so that the infant gets more breast milk.
 - » If the weight gain of 10g per day is maintained for two to three days (after gradual decrease of F100-Diluted), stop F100-Diluted completely.
 - » If the weight gain is not maintained, increase the amount of F100-Diluted given to 75% of the maintenance amount for two to three days, then reduce it again if weight gain is maintained.

Figure 7. Samples of F100



MANAGEMENT OF THE INFANT WITH NO BREASTFEEDING POSSIBILITY

For children with no prospects of being breastfed, in some cases it may be possible to utilize regional milk banks.³⁷ Where donor milk from a bank is not available, the infant must be treated using therapeutic milk. For these infants there are distinct phases of treatment, as for older children using modified criteria for each phase. The amount of therapeutic milk the child receives increases in each phase. The major difference for infants is the use of Diluted F100 during all three phases unless the infant is admitted with edema in which case F75 is used until the edema has resolved.

F100 formulations for infants < 6 months per phase

Phase 1	Diluted F100 at 100kcal/kg/day (8 feeds per day)
Transition Phase	Diluted F100 at 130kcal/kg/day (8 feeds per day)
Phase 2	Diluted F100 at 200kcal/kg/day (6 feeds per day)

Procedure

Step 1 Prepare and administer diluted F100 according to the infant's weight (see *Annex 38*).

Step 2 The criteria for children to pass from Phase 1 to Transition Phase and from Transition Phase to Phase 2 are mostly the same as for older children aged 6 to 59 months old (Section 4.3 Nutritional Management of Children 6 - 59 Months). However, if the infant is admitted with edema, all of the edema must have resolved before progressing to Phase 2.

Step 3 If a child younger than 6 months is on discharge, then the child must continue on formula milk until the age of 6 months, when complementary feeding is introduced. This is the only situation when this is acceptable. However, it is essential that if the infant is to be discharged home on formula milk, the international AFASS criteria (see Box 16) must be considered and the caregiver must be shown how to make the formula safely and using the correct dilution. The caregiver should be advised NOT to over-dilute the formula to make it last longer.

Step 4 During Phase 2, the Diluted F100 may be substituted with commercial milk formula appropriate to the child's weight according to the instructions on the tin/packet.

Step 5 The caregiver must also be advised on the introduction of age-appropriate complementary feeding when the child reaches 6 months of age and is referred to ongoing IYCF counseling.

Box 16. Specific conditions needed if replacement feeds such as formula milks are to be given safely to infants (AFASS criteria)

Acceptable: The mother perceives no problem in replacement feeding. Potential problems may be cultural, social, or due to fear of stigma and discrimination.

Feasible: The mother (or family) has adequate time, knowledge, skills, resources and support to correctly mix formula or milk and feed the infant up to 12 times in 24 hours.

Affordable: The mother and family, with community or health system support if necessary, can pay the cost of replacement feeding without harming the health or nutrition status of the family.

Sustainable: Availability of a continuous supply of all ingredients needed for safe replacement feeding for up to one year of age or longer.*

Safe: Replacement food is correctly and hygienically prepared and stored and administered, preferably by cup.

*or linking the caregiver with a milk bank facility where possible

³⁵ Infant & Young Child Feeding: Model Chapter for Textbooks for Medical Students and Allied Health Professionals. Geneva: World Health Organization; 2009 ISBN-13: 978-92-4-159749-4

³⁶ Note: F100-Diluted has a lower osmolality than some readily-available infant formulae and thus has a lower risk of causing diarrhoea.

³⁷ The Philippine Human Milk Banking Manual of Operations (2010)

4.5 Orientation and Care for Caregiver

The admission of a child into inpatient care is always a worrying time for the caregiver. Care should be taken to ensure that all the procedures and treatments their child will receive are explained properly and the next stage of the child's treatment is also explained. The opportunity should also be taken to ensure they

receive proper nutrition counseling and care that facilitates their support for their child. Whenever possible, care will be given so as to promote (or restore) age-appropriate breastfeeding practices, including breastfeeding overnight (particularly important in facilities not providing feeds during night-time).

General advice to the caregiver to be given by the nurse in charge:

- Prepare and administer diluted F100 according to the infant's weight (see Annex 38).
- The criteria for children to pass from Phase 1 to Transition Phase and from Transition Phase to Phase 2 are mostly the same as for older children aged 6 to 59 months old (Section 4.3 Nutritional Management of Children 6 - 59 Months). However, if the infant is admitted with edema, all of the edema must have resolved before progressing to Phase 2.
- If a child younger than 6 months is on discharge, then the child must continue on formula milk until the age of 6 months, when complementary feeding is introduced. This is the only situation when this is acceptable. However, it is essential that if the infant is to be discharged home on formula milk, the international AFASS criteria (see Box 16) must be considered and the caregiver must be shown how to make the formula safely and using the correct dilution. The caregiver should be advised NOT to over-dilute the formula to make it last longer.
- During Phase 2, the Diluted F100 may be substituted with commercial milk formula appropriate to the child's weight according to the instructions on the tin/packet.
- The caregiver must also be advised on the introduction of age-appropriate complementary feeding when the child reaches 6 months of age and is referred to ongoing IYCF counseling.

In addition, some specific actions should be taken to care for the caregiver themselves in order to facilitate their support for the child:

Procedure

- Step 1** Assessment of the physical and mental health status of the caregiver with the provision of relevant treatment and ongoing support.

Step 2 Other ward routines for meal times, washing clothes and attending to hygiene needs must be discussed as soon as possible after admission.

Step 3 Counsel the mother on maternal nutrition and self-care.

- Step 4** Counsel the mother on good IYCF practices, including exclusive breastfeeding for children younger than 6 months, continued breastfeeding until the child is at least 2 years of age and age-appropriate complementary feeding (including meal frequency and food diversity).

Step 5 If the caregiver brought commercial milk formula with her, she may drink it herself or it should be discarded. Commercial milk formula should NEVER be fed to the child during the infant's time in inpatient care.

Step 6 The mother should receive multiple micronutrient tablets daily during admission if the breastfeeding child is younger than 2 years of age.

4.6 Individual Monitoring, Follow-up and Referral

MONITORING THE CHILD IN PHASE 1

The minimum standards for monitoring in Phase 1 are outlined below. The recording of monitoring data should be clearly assigned to staff³⁸ and is needed to manage the child with SAM who in

Phase 1/Stabilization is extremely vulnerable and at high risk of dying. The ITC chart in Annex 27 should be used in combination with existing patient records to ensure appropriate monitoring of feeds and nutritional status. The importance of the accuracy of the data should be emphasized.

38 Normally this would be the nutritionist or dietitian; however the clinical staff are responsible to ensure the charts are completed appropriately to ensure proper clinical assessment of progress.

SURVEILLANCE

After every feeding session of therapeutic milk, the medical staff should	► Record any breastfeeding taken before the therapeutic milk ► Record the amount of therapeutic feed taken³⁹ carefully on the therapeutic surveillance sheet (see Annex 40 for detailed instruction on the use of the sheet) ► For infants < 6 months: note the amount of therapeutic milk given
Every 12 hours	► Measure and record the child's temperature ► Measure and record the child's respirations ► Measure and record the child's pulse rate
On a daily basis	► Indicate the prescription for therapeutic milk ► Measure and record the weight ⁴⁰ ► Measure and record the level of edema ► Record symptoms such as cough ► Indicate if the child has a nasogastric tube ► For infants < 6 months: assess breastfeeding practice (see Annex 8)
On a weekly basis	► Measure MUAC

Where a child has a complication or is undergoing fluid rehydration, the monitoring needs to be much closer and should be indicated by the clinical staff on an individual patient basis (see Annexes 19 to 26).

MONITORING AND REFERRING THE CHILD IN TRANSITION (TO RUTF OR F100)

SURVEILLANCE

The child should be observed closely for any signs of deterioration during the Transition Phase:

Continue to monitor as above for Phase 1.

In addition, after every feed:

- Record the amount of RUTF or F100 taken

► Record the amount of F75 taken

In addition be vigilant for any of the following signs that the child is not coping with the transition:

- Rapid increase in the size of the liver

► Any sign of fluid overload

► Tense abdominal distension

► Any significant re-feeding diarrhea involving weight loss

► Any complication arising which necessitates intravenous fluids

► Edema not reducing, any increasing edema or edema developing when it was previously absent

It is not unusual for children to pass several very soft stools during the recovery process of the intestinal tract. Unless there are signs of Re-feeding Syndrome, acute watery diarrhea, or osmotic diarrhea (see Annex 41 for information and action if these are diagnosed), there is no need for the child to pass back into Phase 1. There is also no need to treat the diarrhea unless the child loses weight. The child should continue RUTF (or F100 if transitioning to Phase 2 inpatient care) and be observed closely. The diarrhea should NOT be treated with Zinc.

REFERRAL AND TRANSITION

Refer to Phase 1 care with F75 if:

- There is deterioration in clinical status of the child or any of the above signs are noted (see Annex 41 for main reasons for deterioration in the Transition Phase).

► This should be accompanied by a thorough assessment/reassessment of the child's treatment (see Annex 42).

Switch from RUTF to F100 for Transition if the child is:

Stable but appetite is not improving after three days in Transition (the required amount of each feed is not being taken). In this case, switch to F100 and transition the child to Phase 2. Transition onto RUTF can be attempted again after a couple of days.

39 In order to correlate the nutritional treatment with clinical recovery and any change in the weight of the child, the therapeutic milk intake must be accurately monitored and recorded. This is a vital part of the child's medical and nutritional care.
40 Record to nearest 100g for children and nearest 10g for infants < 6 months.

MONITORING THE CHILD IN PHASE 2

SURVEILLANCE

During treatment in Phase 2, the child should continue to be monitored until recovery. Observations should be recorded systematically on the Therapeutic Surveillance Sheet.

REFERRAL AND TRANSFER

Refer back to Phase 1 care with F75 or transition if:

- There is deterioration in the nutritional status of the child.
- This should be accompanied by a thorough assessment/reassessment of the child’s treatment (see Annex 42.).

Daily observations	► Record RUTF or F100 intake after each feed ► Measure weight ► Assess edema ► Measure respiratory rate ► Measure heart rate ► Measure temperature ► Assess clinical status (vomiting, diarrhea, dehydration, cough) ► Assess nutritional status against discharge criteria
Weekly observations	► Measure MUAC
Two-weekly observations	► Measure height/length

Transfer due to not reaching discharge criteria after 40 days:

In this case, if all further investigations possible at the inpatient facility have been tried, the child should be transferred to a higher level facility/service for further investigation and treatment.

4.7 Discharge

FROM TRANSITION PHASE TO OTC

CRITERIA

Table 13. Discharge criteria from inpatient (Transition Phase) to outpatient care	
CATEGORY	DISCHARGE CRITERIA
Child aged 6 to 59 months	Medical complications resolved (or chronic conditions controlled) AND edema subsiding (must have reduced to at least +2) AND Appetite for RUTF (must be able to eat at least 75% of outpatient ration in Annex 15)

Reminder

→ There is no anthropometric criterion for discharge when transitioning from ITC to OTC because nutritional rehabilitation is continued and completed in OTC.

DISCHARGE PROCEDURE

Before the child is discharged from the inpatient care unit to a health facility offering outpatient care for SAM which is accessible to them, the following should be accomplished:

Procedure:

Step 1 Explain to the caregiver that the child has recovered sufficiently enough to be discharged and congratulate them.

Step 2 An adequate supply of RUTF must be given to last until the next possible appointment in outpatient care.

Step 3 The caregiver must understand (and repeat) the key messages for giving RUTF. The caregiver must understand (and repeat) the medications to be given after discharge (these are any courses of medicines that the child needs to complete after discharge).

Step 4 Call the relevant RHU/BHS clinical staff to notify them of the child’s transfer to outpatient care. RHU/BHS clinical staff should advise the BHW/BNS of the child’s return.

Step 5 Complete an appropriate referral form [Annex 10] and give it to the caregiver. This should be presented to the staff of the outpatient health facility at the next appointment.

- Step 6 Record the following on the referral slip:
- » Hospital registration/treatment number
 - » MUAC (measurement)
 - » Weight (measurement)
 - » Height (measurement)
 - » Weight for Height Z score (where capacity exists)
 - » Grade of edema
 - » Ration of RUTF given (number of packets on discharge)
 - » Medications received and medicines to be continued after discharge
 - » Clinical condition on discharge

Step 7 Record the child as a “discharge to outpatient care” in the tally sheet/monthly report.

Step 8 Record the ration of RUTF given in the stock register.

Step 9 Complete other relevant clinical records and registers.

FROM PHASE 2 INPATIENT CARE

CRITERIA

Patients who are completing their full treatment in ITC due to the absence of OTC should be discharged when they reach the discharge cured criteria shown in Table 14. Apart from taking account of the difference in frequency of contact, the criteria are the same as those for discharge from OTC (see Section 3.7).

Table 14. Discharge cured criteria from Phase 2		
CATEGORY		DISCHARGE CURED CRITERIA
Children 6 - 59 months	Admitted on MUAC, edema, or both MUAC and WFH Z-score	MUAC ≥ 125mm (12.5cm) for 2 consecutive visits AND No edema for 10 days AND Clinically well
	Admitted on WFH Z-score only	WFH or WFL ≥ -2 Z-scores for two consecutive days AND No edema for 10 days AND Clinically well
Infants < 6 months		Child is gaining weight more than 5g/kg/day on breast milk or milk formula for 3 consecutive days** AND edema is absent AND Clinically well & childhood immunizations have been checked

** All therapeutic milk must have been stopped. The weight gain must be entirely due to breast milk or generic milk formula.

DISCHARGE PROCEDURE

Before the child is discharged from the inpatient care unit the following should be done:

Procedure:

Step 1 Explain to the caregiver that their child has recovered sufficiently to be discharged and congratulate them.

Step 2 The caregiver must understand (and repeat) the medications which must be given after discharge.

Step 3 Complete other relevant clinical records and registers.

Step 4 For infants:

- » Refer the infant to ongoing counseling and monitoring as an outpatient at the RHU/BHS. The child may be discharged from care completely when the weight for

length is greater than -2 Z scores (child's length is greater than 45cm).

- » Check that the caregiver understands the importance of continued breastfeeding and timely introduction of appropriate complementary feeding. In cases where infant formula will be used at home, ensure the caregiver is informed about proper preparation and use.

Step 5 Complete a referral slip and advise the caregiver to attend the nearest local health facility:

- » Record the child's registration number on all documentation
- » Record the MUAC and WFH/WFL (measurement on discharge)
- » Record any continuing medications
- » Advise attendance at a growth monitoring program
- » Advise attendance at the local health facility for further nutrition counseling

INPATIENT THERAPEUTIC CARE

RECORD THE OUTCOME OF TREATMENT

Register the patients discharged in the registration book and chart according to the following possibilities:

**CURED**

The patient has reached the criteria for discharge cured

**DEAD**

If the patient died during treatment in the facility or during transit to another facility

**DEFAULTER**

If the patient has not returned for three consecutive days and a home visit, neighbor, village volunteer, or other reliable source confirms that the patient is not dead

**DISCHARGE AS NON-CURED**

If a child does not reach the discharge criteria within three months in ITC and all referral and follow-up options have been tried they may be discharged as non-cured and linked with the OTC or MAM program where possible and to social support systems (see Section 4.8)

4.8 Managing Links

The child being treated for SAM has usually suffered some combination of nutritional deficit and/or infection and often may come from the poorest families in the community. In order to continue healthy growth and prevent relapse, follow-up care should be sought. Depending on services available locally, the following should be considered.

- Referral to a SFP (if available) or other supplementary feeding program.
- On-going IYCF/nutrition counseling (e.g. IYCF Peer counseling, Family Development Sessions, Pabasa sa Nutrisyon, promotion of good nutrition).
- Referral to Mother support groups, as well as baby clinics.
- Referral to multiple micronutrient supplementation or complementary feeding support if available.
- Enrolment in a growth monitoring program Operation Timbang Plus (if not yet enrolled).
- Referral to a food security program.
- Provision of list of social welfare services available and referral to any relevant programs such as Sustainable Livelihood and Pantawid Pamilyang Pilipino Programs (if eligible), Kapit-Bisig Laban sa Kahirapan-Comprehensive and Integrated Delivery of Social Services (KALAHI -CIDSS) and Self-Employment Assistance-Kaunlaran (SEA-K) Program)
- Ensure enrolment and coverage of the child and mother⁴¹ in PhilHealth. If family is indigent, coordinate enrolment in the PhilHealth indigent program with the Municipal or City Health Office. Ask the mother or caregiver to show you the PhilHealth card or to give you the PhilHealth number.

41 Mother and child are covered as dependents if the father is enrolled. Make sure enrollment status of both parents are established.

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PART 2

OPERATIONAL GUIDELINES

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DEFINITION OF TERMS

Community Mobilization: Community mobilization includes the activities conducted in sensitizing the community about the program, screening children in the community to find cases eligible for treatment and community-based activities that support keeping the child in treatment until cure.

MUAC tape: MUAC is an abbreviation for Mid-Upper Arm Circumference. A MUAC tape is a color-coded tape, marked in millimeters, used to measure the midpoint of children's upper arms children to see if they are eligible for treatment in OTC or ITC. A measurement of less than 115mm (< 11.5cm) indicates a child has SAM and is at an increased risk of death (four to 20 times higher than well-nourished children).

RUTF: RUTF is an abbreviation for Ready-to-Use Therapeutic Food. This is a pre-packaged medicinal food similar in taste to peanut butter and containing all of the nutrition required for the child to recover from SAM. Typically the child eats two to three packets per day during recovery over a period of approximately six weeks.

Supply Chain Management Cycle: A systems-based process consisting of product selection, quantification and procurement; inventory management (distribution and storage); and rational use. The cycle is guided by the national policy and legal framework that defines the goals for the management of drugs and diagnostic supplies and supports the continuous availability of these commodities and their appropriate use. Management systems that include planning; financial management; logistics information management system; organization and infrastructure; human resources; training; monitoring and evaluation and quality monitoring of the commodities and the logistics process support it.

Product Selection: The process of establishing a limited list of essential supplies to be procured based on the treatment guidelines and national formulary.

Quantification: The process of estimating the quantity and cost of the products required to ensure an uninterrupted supply. It is an on-going process of monitoring, reviewing and updating forecast data and assumptions and recalculating the total supply requirements and costs.

Procurement: The process of acquiring commodities either through purchase or donation via international, regional, or local sources of supply.

Inventory Management (Distribution and Storage): The process by which the SAM treatment supplies procured are received, assessed and stored until they are distributed to the next level from the central warehouse to the regional and provincial warehouses, down to the health facilities where they are dispensed to patients.

Rational Use of Medicines and Diagnostic Supplies: Refers to the appropriate, safe and effective use of routine medicines, RUTF and diagnostic supplies based on program guidelines.

Quality Monitoring: Refers to the continuous monitoring of the quality of the commodities and the logistics process for suitability, effectiveness and efficiency.

Emergency: Any actual threat to public safety; an exceptional event of any magnitude that produces damage and injury demanding immediate action.

Disaster: Any emergency, any actual threat to public safety and or public health, whereby local emergency management, services and measures are unable to meet the immediate needs of the community whether due to lack of time, capacity or resources, resulting in unacceptable levels of damage or numbers of casualties.

Health Information System: A system that integrates data collection, processing, reporting and use of the information necessary for improving health service effectiveness and efficiency through better management at all levels of health services.

5. ADVOCACY AND COMMUNITY MOBILIZATION FOR THE MANAGEMENT OF SAM

5.1 Introduction

This section complements Section 1 in the technical part of the guidelines on Community Mobilization and describes how these activities may be supported at local level. Community

mobilization is started before the program is implemented and is a continuous process while the program remains available to the community.

5.2 Advocacy and Creating an Enabling Environment

The implementation of effective services for the treatment of SAM requires an enabling environment which ensures the provision of policies, provision of access to services, provision of adequate supplies and ensuring quality and competency of services.

Advocacy for the creation of an enabling environment should be conducted at each level so as to ensure the implementation of high quality, high coverage and effective services at LGU level.

1. Policy and Technical Environment

- ▶ Provision of National Guidelines for the Management of SAM
- ▶ Formation of linkages to the National Program Management Team
- ▶ Strategic plans for scale up of services
- ▶ National Health and Nutrition Policies are put in place including Executive Orders, Administrative Orders and Department Personnel Orders
- ▶ Establish/enhance coordination systems (Nutrition Committees and Nutrition Clusters)
- ▶ Establishment of technical leadership for management of SAM
- ▶ Funding for SAM treatment supplies incorporated into budget at all levels
- ▶ Contingency planning including liquidation of emergency funds at LGU

2. Access to Services

- ▶ Learning sites before province- or region-wide scale up
- ▶ Prioritization of Regions/Provinces/Cities and Municipalities in scale-up of services
- ▶ Promote community sensitization and mobilization for acute malnutrition
- ▶ Standardized referral system between community and OTC, OTC and ITC and vice-versa

- ▶ Training of clinical and community-based staff and volunteers in the management of SAM
- ▶ Integration of treatment of SAM into routine health and nutrition services
- ▶ Establish linkages between health facilities and other community and social services

3. Access to supplies

- ▶ RUTF to be included in the National Formulary
- ▶ Integrate procurement and supply chain management into existing systems
- ▶ Integrate procurement of supplies into existing systems
- ▶ Provide adequate storage for SAM treatment supplies at every level
- ▶ Ensure efficient recall and redistribution systems for supplies
- ▶ Request Halal certification from RUTF manufacturers

4. Provision of quality services

- ▶ Technical support from National PMT, Nutrition Committees, Nutrition Clusters
- ▶ Adherence to National Guidelines
- ▶ Provision of certified RUTF which adheres to international CODEX standards
- ▶ Adequate support and supervision systems
- ▶ Systematic screening of MUAC and edema for all children aged less than five years at every visit to a health facility to promote high service coverage
- ▶ Addition of screening for MUAC and edema to OPT, GP and other community based services to promote high service coverage
- ▶ Allocation of assigned tasks to staff at LGU level (Section 7. Implementation of Services) to promote timely interventions and high service coverage

- ▶ Standardized system of monitoring and reporting of SAM treatment service performance with linkages to FHSIS
- ▶ Evaluation of SAM treatment service performance (patient outcomes and treatment coverage)

5. Competencies for the management of SAM

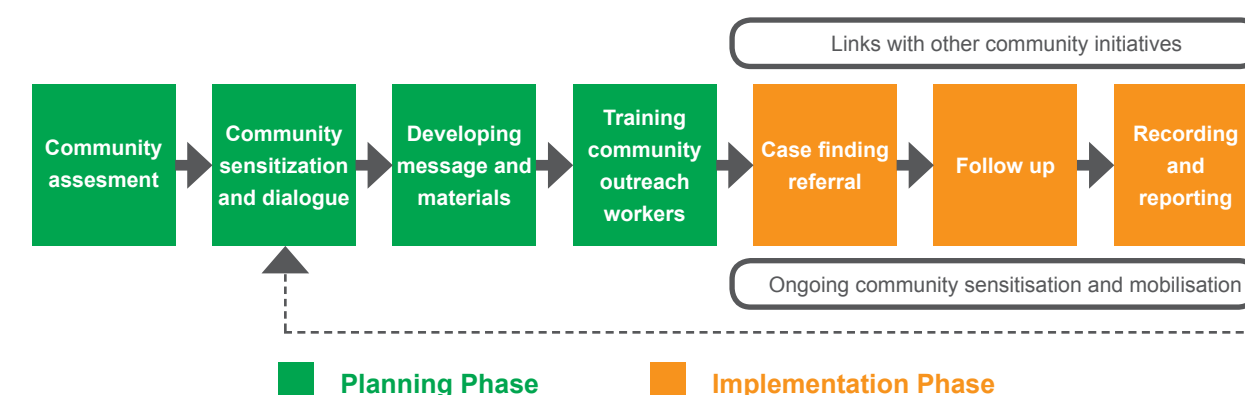
- ▶ Integration of pre-service training into medical, nursing, nutrition and other allied health and nutrition training courses

- ▶ Integration of pre-service training into courses for other health and nutrition care providers at the community level
- ▶ Community mobilization, screening and treatment of SAM to be included in job descriptions of staff of health, nutrition and allied health services
- ▶ Establish effective accountability and feedback systems which include mechanisms for feedback from the community

5.3 Stages in Community Mobilization

Figure 8 below summarizes the stages of Community Mobilization.

Figure 8. Stages of Community Mobilization



1. COMMUNITY ASSESSMENT

A community assessment aims to understand the existing capacities in health, nutrition and community awareness of malnutrition at local level and how this information can best be used to ensure the maximum number of children with SAM are able to access treatment.

This community level assessment takes place through a series of interviews and focus group discussions conducted with key community informants. These may include the barangay captain, other community leaders, other influential people (e.g. teachers), committees, caregivers, fathers and traditional healers.





Box 17. Core elements of a Community Assessment

- ▶ Identifying local terms for acute malnutrition (e.g. "payat at sakitin" or "niwang ug masakiton"), perceived causes and common treatments. Refer to NNC Nutrition Information and Education Division for further material.
- ▶ Identification of key community persons, leaders and other influential people and organizations to help sensitize the community regarding the program for the management of SAM
- ▶ Existing structures and community-based organizations/groups
- ▶ Ethnic, social and cultural characteristics related to the feeding and nutrition of young children, including identification of the most vulnerable groups and food taboos
- ▶ Formal and informal channels of communication that are known to be effective
- ▶ Attitudes toward illness (particularly malnutrition) and usual health-seeking behaviors
- ▶ Child care practices and locally available services
- ▶ Other existing nutrition and health interventions in the community including for child care (National programs implemented at City/Municipal/LGU level such as the OPT and GP should be included here)

Box 18. Other elements of the Community Assessment

- ▶ Map the community structures, focal persons and means of communication which can be used to raise awareness on acute malnutrition and the program
- ▶ Map all opportunities to access children at community level for identification and follow-up of SAM cases
- ▶ Establish a dialogue with the community about the SAM treatment services
- ▶ Generate a clear picture of local perceptions of acute malnutrition and the terms used to describe it
- ▶ Understand what treatment (if any) is normally given for children with malnutrition

Other support mechanisms such as the ones below are additional resources that can be accessed or engaged by communities to help them in community mobilization:

- ▶ Local ordinances and memoranda
- ▶ National and regional policies/guidelines and manuals related to health and nutrition
- ▶ Referral and reporting systems
- ▶ Service delivery networks
- ▶ Training
- ▶ Databases
- ▶ Implementers of OTC/ITC
- ▶ Nutrition Clusters and local nutrition committees

2. COMMUNITY SENSITIZATION

Based on the Community Assessment, a sensitization plan should be developed by the City/Municipal Nutrition Committee (C/MNC) in collaboration with local chief executives (and local nutrition cluster in times of emergency). This sensitization plan aims to inform all sectors of the community regarding the services for treating SAM. In particular:

Box 19. Key information to be included in a sensitization plan

- ▶ Information about the signs and symptoms of SAM
- ▶ Why SAM and its treatment is important to the community
- ▶ How SAM can be identified using MUAC tape, weight for height, or checking for edema
- ▶ Which age group is eligible for treatment
- ▶ Information on where and when to access treatment for SAM
- ▶ Whether the treatment of SAM is part of regular health services or an emergency response
- ▶ Most children can be treated at home but some may still need hospital treatment
- ▶ What treatment is given at home, including RUTF and medicines
- ▶ How long treatment can be expected to last
- ▶ RUTF will be certified as Halal

In preparation for sensitization activities at the community level, local meetings with chief executives should be organized. This meeting should bring together City/Municipal/LGU officials with key community representatives to discuss the objectives and principles of the SAM treatment services. The City/Municipal Nutrition Committee, City/Municipal Health Board and the City/Municipal Council for the Protection of Children may be venues for this discussion. There should be an agreement on what needs to be done; the relevant groups, organizations and structures to be involved in different aspects of SAM treatment should also discuss clear roles as well as responsibilities.

A sensitization plan should be developed, detailing whom to target and how to sensitize based on the information gathered during community capacity assessment. Review the plan with influential persons in the community to check if it is culturally appropriate before disseminating it.

This is a first advocacy step in highlighting the need for the program from the service providers' perspective and to hear the community's response. This initial meeting could be done in parallel with the community assessment. However, the community assessment is more in-depth in building an understanding around malnutrition, and acute malnutrition in particular, and therefore can provide a basis for more meaningful discussions about the need for the service.

Before implementation of the SAM treatment service, the City/Municipal Nutrition Committee (C/MNC) with the Barangay Nutrition Committee (BNC)/Barangay Captain, in coordination with the local nutrition cluster, should conduct community sensitization.

During implementation, SAM treatment activities and community mobilization support should be coordinated at the local level by the C/MNC (and local nutrition cluster in times of emergencies). When needed, the Local Council for the Protection of Children should be involved (e.g. when child protection issues arise).

After the program has started, the community dialogue is continued in order to continue maximizing the number of children with SAM who are able to access treatment. Continued sensitization also allows feedback on program performance, to be given to the community and help to continue any changes in health-seeking behavior through the sharing of success stories.

3. DEVELOPING MESSAGES AND MATERIALS

Based on the information gathered during the assessment and preparation for sensitization, simple sensitization messages for acute malnutrition and the SAM treatment service were developed. These may include handbills or pamphlets, local radio (Nutriskwela), as well as television.

The local terms for RUTF and supplementary feeding commodities should be used in all communications. These can be based on generic messages and materials developed centrally, but adapted to each locality.

FLYERS CONTAINING SAM TREATMENT SERVICE INFORMATION

A short flyer, translated into the local language/dialect, may be provided to reinforce messages given at the community sensitization meeting or to distribute to communities unable to access the orientation meeting. An example of a sensitization message that can be adapted for local use is provided in *Annex 46*.

MUAC TAPE

A MUAC tape (ensuring the correct type is supplied) should be shown to community members during the orientation meetings, indicating the cut off point for treatment.

SAM	- Less than 115mm/11.5 cm (colored RED)
MAM	- 115mm/11.5cm to 125mm/12.5cm (colored YELLOW)
Normal	- Greater than or equal to 125mm/12.5 cm (colored GREEN)*

Figure 9. MUAC tape



Photograph sourced from UNICEF

*A normal MUAC only means that no acute malnutrition is present according to MUAC. Measurements of weight-for-height or edema may also indicate an acutely malnourished status.

RUTF

Figure 10. Examples of types of RUTF used for treating SAM



A packet of RUTF should be provided during meetings to show to community members. Flyers with the key messages for using RUTF (see Section 3.2) may be printed and distributed. Some frequently asked questions are indicated in Box 20 below.

RUTF, whether imported or locally produced, should carry certification that it is Halal. Manufacturers of RUTF should liaise with religious leaders in order to obtain the certification.

PHOTOGRAPHS

Photographs of children (ensuring anonymity) who have successfully completed treatment should be supplied, showing the condition of the child before

and after treatment. These can provide a powerful visual message.

Before treatment with RUTF



© Save the Children Philippines/2011

After treatment with RUTF



© Save the Children Philippines/2011

OTHER IEC MATERIALS FOR SAM TREATMENT SERVICES

Other IEC materials may be available from DOH either through the Health Promotion and Communication Service (HPCS) or the Family Health Office (FHO).

MEDIA

Information regarding SAM treatment may be disseminated through media sources. Nutriskwela Community Radio (supported by NNC and National Telecommunications Commission/NTC) aims to empower the community through the dissemination of correct and up-to-date nutrition and health information, as well as educational and developmental information from all relevant sectors of the community, government agencies and non-government organizations.

Box 20. Ready-to-Use Therapeutic Food (RUTF) - Frequently Asked Questions

Q. What is RUTF?
A. RUTF is a medicinal food specially designed for treating SAM.

Q. What is in RUTF?
A. RUTF is made of peanuts, milk powder, oil, sugar and a special blend of minerals and vitamins. It is made into a paste that tastes like a sweet peanut butter and does not contain any water. Because it contains no water, germs cannot grow in RUTF, so it is very safe to use at home.

Q. Can anyone eat RUTF?
A. RUTF can only be used by children who are being treated for SAM. While it is not harmful for others to eat it, it should not be shared with others because the amount given to the SAM child is just the right amount needed for the child to recover.

Q. How do I use RUTF?
A. RUTF is ready-to-eat straight from the packet. It should never be cooked or mixed with other foods. It should never be mixed with water before eating. If the child is too young to eat it from the packet, you can use your finger (provided it is clean!) or a spoon to feed RUTF to the child.

Q. Can you mix RUTF with water?
A. No. Never mix RUTF with water before eating. However, after each mouthful of RUTF, the child should be offered small sips of clean water to drink. If the child is breastfeeding, you can also give breast milk instead of water. If you mix RUTF with water, it may cause bacteria to grow and may cause diarrhea.

Q. How much RUTF should my child eat?
A. The amount of RUTF your child needs is based on their weight. Your local health/nutrition staff will advise you how many packets the child should eat per day. The amount should be spread out over the day (e.g. if the child needs to eat three packets you can give one at breakfast, lunch and dinner). Treatment with RUTF usually continues over for four to six weeks.

Q. Can my child eat other foods as well as RUTF?
A. Yes. However, RUTF is vital to recovery and it is the most important food for your child until s/he is cured. During each meal, the child should eat the full amount of RUTF needed. Ideally, the whole daily ration should be eaten before other family foods are given. In very difficult cases, the child may be given family food in between meals of RUTF. After eating the RUTF at each meal and the child is still hungry after 30 minutes, then (and only then) can he/she have some family food.

IMPORTANT: You should not feed the child so much family food that they cannot eat the next dose of RUTF!

Q. What if my child gets bored with RUTF?
A. As the child recovers, they may want to eat a greater variety of food. That is OK as long as the RUTF is given first. Sometimes, a lot of patience is needed to feed young children RUTF, especially if they are sick and sometimes it can be the caregiver who gets bored. Try getting help in feeding the child from other family members after teaching them how to use RUTF.

Q. Is RUTF Halal?
A. Yes. The manufacturer should provide a certificate if requested.



4. TRAINING OUTREACH WORKERS

SAM treatment training activities related to community mobilization should be coordinated through the Barangay/City/Municipal Nutrition Committees. Responsibilities of government departments for training and support for community mobilization are given in *Annex 48*.

Community-based organizations can coordinate with the City or Municipal Health Office should they have planned or proposed activities that are related to nutrition or feeding programs.

Technical guidance may be provided by the local Health Officers to ensure that their proposed training activities are in line with the principles and objectives of the management of SAM.

The City/Municipal Health Officer (MHO) and the City/Municipal Nutrition Action Officer (MNAO), as well as supervising midwives have a responsibility to ensure that the BNSs/BHWs (and other volunteers in times of emergency) are trained in engaging with the community, disseminating sensitization messages effectively and identifying and referring SAM cases.

Box 21. Community level workers for involvement in case finding in the Philippines

- ▶ Local Nutrition Committee/Cluster
- ▶ BNSs and BHWs
- ▶ Midwives and other staff from Rural Health Units (RHU's) who deliver primary health care services
- ▶ Barangay Council for the Protection of Children (BCPC) members
- ▶ Municipal and Barangay Social Workers
- ▶ Early Childhood Development Center staff and Facilitators
- ▶ WASH volunteers
- ▶ Traditional healers and traditional birth attendants ("hilot")
- ▶ Caregivers' Group Members and individual caregivers
- ▶ Social Mobilizers
- ▶ Community Health Workers of CBOs/local NGOs/clubs
- ▶ Ward citizen forums
- ▶ Citizen Awareness Centers
- ▶ Women Cooperatives/Federations
- ▶ Faith-based groups
- ▶ Teachers



- Where BNS/BHWs are active and serve as the primary community level workers acting in an area, they can act as a focal point for all these other community workers who are conducting case finding (i.e. these workers can refer children to the BNS/BHW for checking of MUAC and edema measurements before they are referred to the health facility).
- Any individuals from these groups able to reliably measure MUAC and check for edema may refer children identified as having SAM to the nearest treatment location.

5. CASE FINDING AND REFERRAL

Case finding for SAM treatment involves identifying children who are eligible for treatment. Case finding may be 'passive' or 'active' (see Section 1.3). For the purposes of community mobilization, case finding is accomplished primarily in the community by the BNS/BHW or other local volunteer worker.

When a case of SAM is found, the child is then referred to the nearest treatment point. In many cases, this may be the RHU but may also be the local Barangay Health Station.

Table 15. Criteria for case identification and referral in the community		
Identification of Child with SAM		
Criterion	Finding	Result
MUAC	Less than 115mm (11.5cm) (RED)	Severe Acute Malnutrition (SAM)
	Between 115mm (11.5cm) and 125mm (12.5cm) (YELLOW)	Moderate Acute Malnutrition (MAM)
	Greater than or equal to 125mm (12.5cm) (GREEN)	Normal
Edema	Bilateral pitting edema (any grade)	SAM
	Bilateral pitting edema is absent	Normal

The BNS/BHW and other identified community level personnel should:

- ▶ Act as a focal point in their community whom caregivers can turn to if they are worried about their child losing weight or being sick so that they can be assessed for SAM.
- ▶ Screen for acute malnutrition in children during routine contact opportunities (e.g. home visits, community meetings, BHS outreach programs, OPT, GP) and at other opportunities identified during assessment (passive case finding). It is important that this is done systematically for every child and not just for children who appear to be underweight.
- ▶ Screen for acute malnutrition through active or active adaptive case finding during coverage assessments or other house-to-house health/nutrition-related activities (e.g. EPI).
- ▶ Identify and refer SAM children to the nearest treatment location.
- ▶ Provide counseling on IYCF, WASH, vaccination and other health care practices for caregivers of children with SAM in collaboration with the midwife responsible for supervising treatment.

Coverage assessments may involve specific active case finding activities in order to assess whether the program is enabling access to treatment for all children with SAM in the community. Specific training will be given in this circumstance to the BHW/BNS and clinical staff involved in the assessment.

6. FOLLOW-UP

Some children with SAM require a follow-up at home during their time in treatment, in addition to the follow-up they receive at the health facility during their periodic visits. These may be cases

who have been absent from treatment or are recovering slowly or who may be at increased risk (e.g. following admission for inpatient treatment).

An effective follow-up requires a good linkage between the community and health facilities and therefore, is best carried out by the BNS/BHW linking with the midwife, public health nurse and other facility staff. It should entail the following:

- ▶ Identification of priority cases by the C/MHO, PHN and midwife for follow-up by BHW/BNS.
- ▶ Conducting home visits which focus on assessing the home environment related to recovery from SAM.
- ▶ Counseling regarding the use of RUTF and other foods. For children less than two years of age this also includes assessment and counseling for IYCF practices.
- ▶ Any children with the following should be referred immediately to the nearest health facility for review by a clinician:
 - » Eating less than 50% of the RUTF daily ration
 - » General deterioration in health since the last health check
 - » Untreated persistent vomiting or diarrhea
- ▶ Refer directly to ITC for inpatient care if the child has:
 - » Any IMCI danger sign
 - » A lack of appetite for RUTF
- ▶ A record of the home visit (and a home visit checklist) should be completed and given to the responsible clinician (health officer or midwife). If it is only possible to give a verbal report (e.g. by phone) the responsible clinician should document the report in the child's treatment record.



Box 22. Priority cases for follow-up

Following up through home visits can be time consuming if done well, as a variety of factors need to be discussed during the visit. There is no need to conduct home follow-up visits with all SAM children, especially those gaining weight in the program.

Follow-up should focus on the following:

- ▶ Children with medical complications who have refused transfer to inpatient care and are being treated on an outpatient basis
- ▶ Cases who are not responding in the program (loss or static weight two weeks) whose aspects of the home environment are suspected to be playing a role rather than medical issues
- ▶ Repeated absentees from treatment
- ▶ Infants < 6 months old not gaining weight during a period of IYCF counseling

Children who are repeatedly absent or who have defaulted from treatment against the advice of the health worker should be checked for edema and the MUAC measured. A 'defaulter form' should be completed (*Annex 53*), which identifies the reason for defaulting. If the child has defaulted but remains SAM, the caregiver should be urged to bring the child to the health center immediately. All defaulted cases should be counseled to return to treatment and counseled in health, hygiene and nutrition practices as appropriate.

Home visit assessments also provide an opportunity to assess whether the child/caregiver has been linked with other social protection or nutrition support programs or counseling. The BNS/BHW should promote and facilitate linkages to other support programs where these exist in the local area.

6. MANAGEMENT AND COORDINATION OF THE INTEGRATED PROGRAM FOR THE MANAGEMENT OF SAM

6.1 Introduction

This section identifies the roles and responsibilities of the PIMAM program management team (PMT) from local to national level and those of the Chief Executives. A PIMAM coordination and

reporting structure is described. The roles and responsibilities of the individual members of the PIMAM PMT are detailed in *Annex 48*.

6.2 Organization of a PIMAM Program

The organization of the Philippine Integrated Management of Acute Malnutrition (PIMAM) program is critical to its success. The implementation of the PIMAM program requires organizational structure, systems development and partnership building at all levels of the health and nutrition sectors.

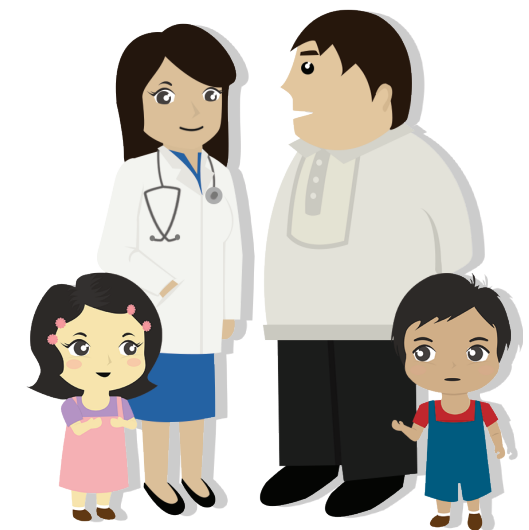
The units of the PIMAM organizational structure are dynamic; their composition and members can change depending on the identified needs and priorities. This flexibility allows each unique implementing unit to adapt the basic structure to fit local conditions and situations to better serve the malnourished population.

The PIMAM Organizational Structure makes use of existing structures and systems. It is composed of the two major units.

1. The National Task Force for CMAM created under Department Personnel Order (DPO) 2011 - 2453 (*Annex 47*) shall now serve as the management of SAM Program Management Team.
2. The Local Implementers or the health and nutrition service providers at different levels.

6.3 PIMAM National Program Management Team (NPMT)

The National Program Management Team provides the overall direction and policy support in the implementation of the SAM treatment program. It is the program management team, which can operationalize the implementation of SAM treatment, give advice and address concerns regarding program implementation, roll out and scale-up. The roles of the various bureaus, offices, units and attached agencies of the DOH are described in *Annex 48*.



LEAD:

- ▶ DOH-Disease Prevention and Control Bureau

CO-LEAD:

- ▶ DOH-National Nutrition Council
- ▶ DOH-Health Emergency Management Bureau

NON-GOVERNMENTAL ORGANIZATIONS:

- ▶ Academic and professional organizations
- ▶ National and International NGOs
- ▶ UN agencies and other developmental partners
- ▶ Civil society and other relevant stakeholders as deemed necessary

MEMBERS:

- ▶ DOH - Epidemiology Bureau
- ▶ DOH - Health Facility Development Bureau
- ▶ DOH - Health Promotion and Communication Service
- ▶ DOH - Health Facilities and Services Regulatory Bureau
- ▶ DOH - Health Human Resource Development Bureau
- ▶ DOH - Bureau of Local Health Systems and Development
- ▶ DOH - Procurement Service
- ▶ DOH - Materials and Management Bureau
- ▶ PhilHealth
- ▶ Department of Science and Technology - Food and Nutrition Research Institute (DOST-FNRI)
- ▶ Department of Social Welfare and Development - Protective Services Bureau (DSWD-PSB)
- ▶ Council for the Welfare of Children
- ▶ Department of Education
- ▶ Department of Interior and Local Government

6.4 Roles and Responsibilities of the Program Management team

GENERAL ROLES AND FUNCTIONS

1. Policy Standards and Guidelines Development

Formulate and disseminate and update (as needed) the plans, policies, guidelines and protocols on PIMAM and ensure the implementation of their provisions at all levels of the health and nutrition sectors.

2. Capacity-Building

Develop capacities of health and nutrition human resources, infrastructure or technology for the management of SAM.

3. Logistics Management

Develop the mechanism, standards and procedures for the supply and logistics management (planning, procurement, storage, allocation, distribution and monitoring) of PIMAM program.

4. Information and Knowledge Management

Develop and conduct research and documentation strategies to provide evidence-based information and identified best practices for the continuous improvement of the PIMAM program.

5. Monitoring and Evaluation

Lead in the assessment, monitoring and evaluation of the implementation of PIMAM program.

6. Coordination, Networking and Partnerships

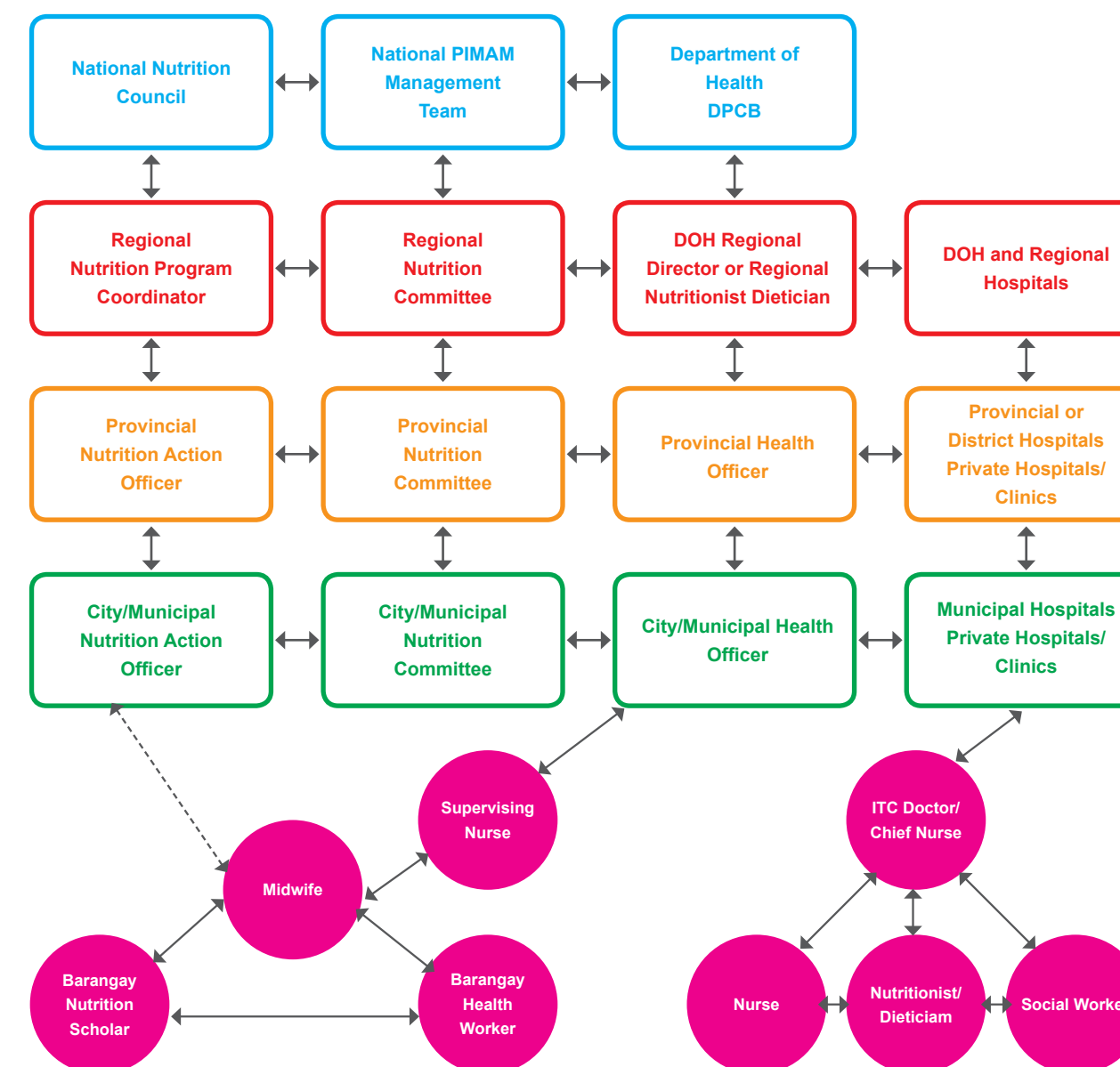
- Define strategies and mechanisms necessary for the effective coordination and partnership building.

- Strengthen referral system in the management of SAM through a functional service delivery network from outpatient therapeutic program (OTC) to inpatient facility (ITC) and vice-versa and the referral and action on reports of adverse reactions. Develop and ensure effective implementation of appropriate health financing strategies to provide financial risk protection.
- Provide technical assistance to its counterparts at the regional and local government units.
- Strengthen networking with the academe and professional organizations to ensure PIMAM integration in the curriculum, particularly in medical and allied health courses.
- When an emergency is declared or anticipated, link with existing emergency coordination mechanisms.
- Ensure that information and appropriate interventions are immediately coordinated with the regular program managers for sustainable implementation.

7. Advocacy and Social Mobilization

Lead in advocacy, promotion and social mobilization as sustainable support for the PIMAM program (targeting decision makers at local level; social mobilization aimed at community level).

Figure 11. PIMAM coordination and reporting structure



The routes of data that the SAM treatment service utilizes are based primarily on the country's nutrition and health care system frameworks. Data (solid arrows) from the grass roots (Barangay Health Centers/ Stations, clinics, or even evacuation centers) are sent up to the different levels via two routes: a) those belonging to municipalities and cities are sent to the MHO/ CHO, then to the PHO and finally to the DOH Regional Offices; b) for cities in the NCR and other chartered cities, data are sent directly to the DOH Regional Offices. Data coming from all Regional and DOH Hospitals are reported to their respective DOH Regional Offices. All data from the various DOH Regional Offices are finally sent to DOH-FHO. Similarly, Nutrition Action Officers can also collect the reports and send them to the next reporting level until they finally reach the NNC. Coordination of activities should be done through the Nutrition Committees at each level. If Barangay Nutrition Committees are active, then the BNS/BHW should report activities to the BNC under the Barangay Captain.



Table 16. Tasks and responsibilities at different levels

Institution/ Organization	Roles and Responsibilities
City/Municipal Health Offices (CHO/MHO) through the Local Nutrition Councils	▶ Provincial/City/Municipal Nutrition Council oversees all nutrition programs. ▶ Plans, implements, organizes, coordinates and controls the management of SAM program within the municipality. ▶ Overall organization of the program in the city/municipality: recruits and recommends staff appointments, in-job training, supervision, monitoring and evaluation, management of the therapeutic products and routine drugs at OTC level and coordination and referrals with the inpatient facilities at city/ municipality level (normally the pediatric or medical ward within the municipal hospital).
Hospitals	▶ Plans, implements, organizes, coordinates and controls the management of SAM program within the hospital and with nearby OTCs. ▶ Overall organization of the program in the hospital: recruits and recommends staff appointments, in-job training, supervision, monitoring and evaluation, management of the therapeutic products and routine drugs at ITC level and coordination with the outpatient therapeutic facilities at city/municipality level.
Provincial Health Offices (PHO)	Provide technical support and supportive supervision to the City/ Municipal Health Offices in the following: ▶ Based on national guidelines, formulates/improves and disseminates and updates (as needed) the plans, policies, guidelines and protocols on the management of SAM and ensure the implementation of their provisions at the provincial level. ▶ Ensures the effective implementation of the mechanism, standards and procedures for the supply and logistics management (planning, procurement, storage, allocation, distribution and monitoring) of the program for the management of SAM at the provincial level. ▶ Develops and conducts research and documentation strategies to provide evidence-based information and identified best practices for the continuous improvement of the program for the management of SAM. ▶ Develops capacities of health and nutrition human resources, infrastructure or technology for the management of SAM. Identifies, orients and capacitates provincial-level trainers and technical assistance providers for the management of SAM. ▶ Supports the assessment, monitoring and evaluation of the implementation of the management of SAM. ▶ Defines strategies and mechanisms necessary for the effective networking, coordination and partnership building. ▶ When an emergency is declared or anticipated, links with existing emergency coordination mechanisms. ▶ Ensures that information and appropriate interventions are immediately coordinated with the regular program managers for sustainable implementation. ▶ Leads in advocacy, promotion and social mobilization as sustainable support to the program for the management of SAM (targeting decision makers at local level; social mobilization aimed at community level).

Institution/ Organization	Roles and Responsibilities
Regional Offices for Health	▶ Formulates and disseminates and updates (as needed) the plans, policies, guidelines and protocols on the integrated management of SAM and ensure the implementation of their provisions at all levels of the health and nutrition sectors. ▶ Develops capacities of health and nutrition human resources, infrastructure or technology for the management of SAM. Identify orient and capacitate National level trainers and technical assistance providers for the integrated management of SAM. ▶ Develops the mechanism, standards and procedures for the supply and logistics management (planning, procurement, storage, allocation, distribution and monitoring) of the program for the management of SAM. ▶ Develops and conducts research and documentation strategies to provide evidence-based information and identified best practices for the continuous improvement of the program for the management of SAM. ▶ Leads in the assessment, monitoring and evaluation of the implementation of the program for the management of SAM. ▶ Defines strategies and mechanisms necessary for the effective coordination and partnership building. ▶ Strengthens referral system in the management of SAM through a functional service delivery network from outpatient therapeutic program (OTC) to inpatient facility (ITC) and vice-versa and the referral and action on reports of adverse reactions. ▶ Develops and ensure effective implementation of appropriate health financing strategies to provide financial risk protection. ▶ Provides technical assistance to its counterparts at the regional and local government units. ▶ Strengthens networking with the academe and professional organizations to ensure SAM management integration in the curriculum particularly in medical and allied health courses. ▶ When an emergency is declared or anticipated, links with existing emergency coordination mechanisms. ▶ Ensures that information and appropriate interventions are immediately coordinated with the regular program managers for sustainable implementation. ▶ Leads in advocacy, promotion and social mobilization as sustainable support to the program for the management of SAM (targeting decision makers at local level; social mobilization aimed at community level).
NGOs/Private Organizations	▶ When needed, provides support for the management of SAM through training, coordination, IT support, advocacy, etc. and intensified implementation during emergencies and disasters.

6.5 Roles and Responsibilities of Chief Executives

Chief Executive	Roles and Responsibilities
Provincial Nutrition Committee (Chaired by Provincial Governor), through the Provincial Nutrition Action Officer under the supervision of the Provincial Health Officer	▶ The Provincial Governor shall convene PNC members to discuss the need to establish SAM treatment in the local health systems: » Ensure effective implementation of the national and/or issue regional/provincial directives to support the LGUs in integrating the management of SAM in the health system. » Disseminate the management of SAM protocol, IEC materials and collaterals to the LGUs and local health system. » Lead in the capacity needs assessment of all local health systems. » Ensure planning and conduct of training of trainers for health and nutrition implementers both for OTC and ITC. » Facilitate access, storage and distribution of SAM supplies from the regional level to the OTC and ITC. » Facilitate the timely and quality submission of plans, statistical and stock reports from the OTC and ITC to be submitted to the regional level through the Regional Nutrition Coordinator. » Ensure the timely collection, collation, validation and analysis of submitted reports both during regular and emergency situations for planning purposes. » Provide a feedback mechanism and make recommendations to the City/ Municipality on the submitted reports. » Monitor and evaluate the implementation of the management of SAM in the province. » Conduct periodic consultative meeting and refresher course to the local health systems. » Provide the RPMT with results of rapid nutrition assessment of LGUs affected by emergency/disaster.
City/Municipal Nutrition Councils (Chaired by City/ Municipal Mayor)	▶ The Mayor shall appoint an individual to be responsible for the SAM treatment program within his/her municipality » Conduct training on active screening and nutrition education of the Rural Health Midwives (RHMs) and BHWs/BNSs at the municipal level. » Conduct active screening (organized by the C/MNAO) involving the BHWs and BNSs. » Integrate the systematic measurement of MUAC and checking for edema into the routine schedule for Operation Timbang (OPT), Garantisadong Pambata (GP), routine immunization (EPI) and maternal and child care consultations. » Lead and monitor PIMAM implementation. » Conduct of active screening and registration of eligible children. » Use of the approved and updated protocols for the treatment and referral of patients with SAM. » Secure availability of adequate supplies for the management of SAM from the province and properly distributed to the OTCs and ITCs. » Set schedule for the submission and collation of monthly stock reports and statistical data to be further submitted to the provincial level. » Analyze and evaluate monthly statistical data in terms of the degree and change in nutritional state of the barangay and of the municipality and the reliability of the data collected. » Provide a feedback mechanism and make recommendations on the submitted reports. » Provide necessary refresher course to the management team and the OPT (and ITC only in the existence of a municipal hospital in special situations such as in the geographically isolated and disadvantaged areas). » Utilize the existing referral system to its full extent to support the functional service delivery network. » Advocate to Barangay Captains for the formation or strengthening of Barangay Nutrition Committees in their City/Municipality.

6.6 Roles and Responsibilities of Program Implementers

Program Implementer	Roles and Responsibilities
The City/Municipal Health Officer (C/MHO) or City/ Municipal Nutrition Action Officer (C/MNAO) as PIMAM Manager	Where funds are available, the C/MNAO should be a full-time post and have responsibility for all nutrition programs within the City/Municipality under the direction of the City/Municipal Health Officer. In LGUs where or situations when they are not the same person, the P/C/MHO and P/C/MNAO should coordinate with each other regarding the following tasks: ▶ In areas where a logistic officer or pharmacist is available, they should manage supplies in coordination with the Municipal Nutrition Action Officer. ▶ Be part of the City/Municipal Health Management Team (HMT) and coordinate the program for the management of SAM with those responsible for other health programs and activities within the municipality (e.g. EPI, IMCI, TB, HIV, MCH, Family Planning and Reproductive Health, Epidemiology and Surveillance and Health Information Systems). ▶ Identify particularly vulnerable villages for additional support in collaboration with DOH Environmental and Occupational Health Office and FIVIMS under NNC and DA. ▶ Register each facility as part of the program for the management of SAM, whether it is an OTC site or an ITC, before the site is opened and informs the DOH of the facility's registration details. ▶ Assess the needs of the program and initiate their procurement for replenishment. ▶ Ensure the flow of therapeutic products from the center to the municipality, storage at municipal level and then transport from the municipality to the OTC (HC) and supply to the ITC. ▶ When a new OTC is opened, ensure that all material (tools, RUTF and drugs, etc.) are available. ▶ Conduct in-job training as necessary and train all newly appointed staff. ▶ Implement the strategy for Community Mobilization (see Sections 1 and 5). ▶ Compile, map and analyze the screening tally sheets (in collaboration with the Planning and Development Officer) in order to determine the degree and change in nutritional state at village level and give feedback to the supervisors of the OTC. ▶ Ensure mechanisms: » To transfer patients safely between OTCs and ITC » To establish mechanisms for information on the individuals transferred to be passed to the receiving facility through referral forms and/or telephone » Feedback to referring facility regarding patient outcome ▶ Support coordination and between ITC and OTC through regular (monthly) meetings. ▶ Conduct monitoring visits to provide supervision on the quality of service provided by all the facilities (ITC and OTC) within the municipality. ▶ Identify and recommend corrective actions for problems found during supervision (using check-lists) for ITC, OTCs, storage facilities, RUTF stocks and supplies (charts, registers etc.). ▶ Organize monthly coordination meetings at municipal level with OTC and ITC supervisors (reports, supplies of therapeutic products, drugs). ▶ Ensure the availability of transport and fuel for monitoring visits/supervision and coordination meetings. ▶ Establish a list of the days of consultation for each OTC in the municipality with the name and contact phone numbers of the persons in charge and disseminate this list to all OTC and ITC sites. ▶ Ensure the completion of SAM treatment monthly reports by each health facility. ▶ Take the lead in the follow-up and investigation of death cases.



Program Implementer	Roles and Responsibilities
The City/Municipal Health Officer (C/MHO) or City/Municipal Nutrition Action Officer (C/MNAO) as PIMAM Manager	▶ Compile the OTC and ITC Monthly reports (with the Municipal Information & Statistics Officer) and submit them on time to the Municipal Medical Officer and the DHMT. ▶ Submit the monthly individual and compiled reports to the Provincial/ Regional and National Nutrition Department by the second Tuesday of each month. ▶ Collate monthly and annual reports with an overview of the program achievements and constraints including survey and screening data and budgets. ▶ Organize an annual meeting at municipal level with all involved with the management of SAM in the municipality including community leaders and a representative from the National Nutrition Council for a presentation of the annual report and discussion of planned changes. Minutes of the meeting are submitted to provincial, regional and national levels. ▶ Facilitate activities of BNS and BHW for the management of SAM. ▶ Liaises with any other agencies or NGOs that collaborate in the government's program for the management of SAM.
Midwife and Public Health Nurse	The midwife in-charge or Nurse-in-charge of the Health Center/OTC works in coordination with the MNAO and under supervision of the MHO. ▶ Train the BHWs and BNSs on how to conduct systematic screening using MUAC tapes and examination for bilateral edema done during Operation Timbang, Garantisadong Pambata, Maternal and Child Care Consultation and other health/nutrition-related activities. ▶ Assign BHWs and BNSs their specific areas for screening. ▶ Coordinate with the BHWs and BNSs on management of SAM activities at each visit to the BHS. ▶ Where trained staff and equipment is available and staffing and caseload allow, also measure weight for height. ▶ Train the BNS/BHW how to conduct the appetite test for RUTF. ▶ Supervise and validate data entry in the registers and OTC charts. ▶ Take the lead in the overall supervision of the OTC including medical consultation of referred cases, their admission, discharge and appropriate referral of cases to the MHO and/or ITC. ▶ In collaboration with the BNS/BHW, follow up defaulters and non-responders from treatment. Where possible, integrate these activities with the other community-based activities (OPT, GP, maternal and child care consultation). ▶ Submit monthly statistics and logistical reports to the MHO. ▶ Meet the BHWs and BNSs regularly (every two weeks) to collect community information, provide feedback and address any difficulties that arise (e.g. logistical and technical issues related to the management of SAM). ▶ Participate and facilitate community mobilization for the management of SAM in the community. ▶ Start routine medication as described in the guidelines including antibiotics. ▶ Supervise the chain management of supply.

Program Implementer	Roles and Responsibilities
Barangay Health Workers/Barangay Nutrition Scholars/ Community Volunteers	Through the supervision of the midwife, the BNS and BHW shall: ▶ Health Volunteers to work together in conducting screenings for acute malnutrition in applying Community-IMCI assessments of children. Refer to the midwife, PHN, MHO as needed. ▶ Perform the appetite test with RUTF, start the OTC treatment and fill-up OTC treatment card and do any follow-up and home visits as agreed with the midwife. ▶ Lead in the mobilization of peer support groups, caregivers and sensitization of community leaders about the program for the management of SAM. ▶ Encourage barangay leaders to maintain their involvement in the program and provide feedback about the program. ▶ Perform IYCF counseling especially on feeding practices. ▶ Follow up absentees and defaulters from OTC treatment to encourage the caregiver to attend. If possible, determine reasons for absence or default and report findings to midwife. ▶ Report observations of any problems such as absenteeism, defaulting, lack of progress in recovery to the midwife. ▶ Refer complicated cases to midwife or directly to ITC. ▶ Assist midwife in the chain management of supply and logistic. ▶ Maintain a strong link between the health center and its services, the Barangay Nutrition Committee, barangay leaders and other community groups such as people's organization, women's groups, local NGOs and hospitals/ITC. Specifically, Barangay Nutrition Scholars shall: ▶ Record cases and update OTC registry and inform midwife of admission, discharges and referrals. ▶ Consolidate and submit monthly report to the midwife or health worker supervising the OTC.

6.7 Roles and Responsibilities of ITC Implementers

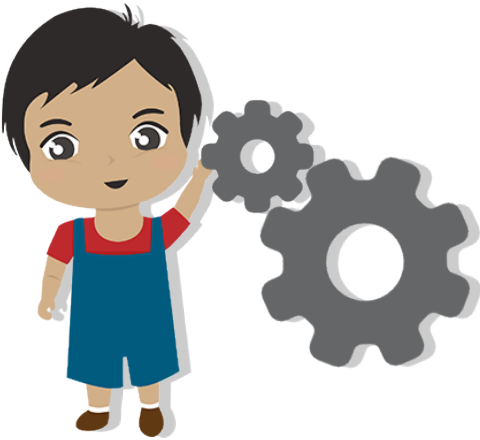
ITC Implementer	Roles and Responsibilities
ER NURSE	▶ Obtain the vital information, vital signs, history and anthropometric measurements ▶ Refer to ER Physician for clinical assessment and management
OPD NURSE	▶ Obtain the vital information, vital signs, history and anthropometric measurements ▶ Conduct Appetite Test and if ITC criteria is not met, refer or admit to OTC ▶ If the child fails the appetite test and ITC criteria is met, refer to ITC management
ER OFFICER / ITC DOCTOR	▶ Conduct clinical assessment, admits the child to ITC and gives appropriate management ▶ Follow up/monitor the patient when in the ward ▶ Facilitate discharge from ITC to OTC

ITC Implementer	Roles and Responsibilities
ITC/WARD NURSE	▶ Execute Doctor's orders and administers medications ▶ Coordinate with the doctor regarding the patient's progress ▶ Prepare the Referral Slip and take-home medications/RUTF and liaise with the OTC facility
NUTRITIONIST/ DIETITIAN	▶ Prepare and monitors the feeding for the admitted SAM child ▶ Give nutrition and IYCF counseling to the caregivers, during ITC stay and discharge ▶ Supply management
MEDICAL SOCIAL WORKER	▶ Provide social assistance to the patient ▶ Follow up the referral to OTC, ensuring the patient is admitted to the OTC
CHIEF NURSE	▶ Oversee information management for Reporting, monthly ITC census

7. IMPLEMENTATION ARRANGEMENTS

7.1 Introduction

This section complements Sections 3 and 4 of the technical guidelines and describes the practical implementation arrangements for the management of SAM.

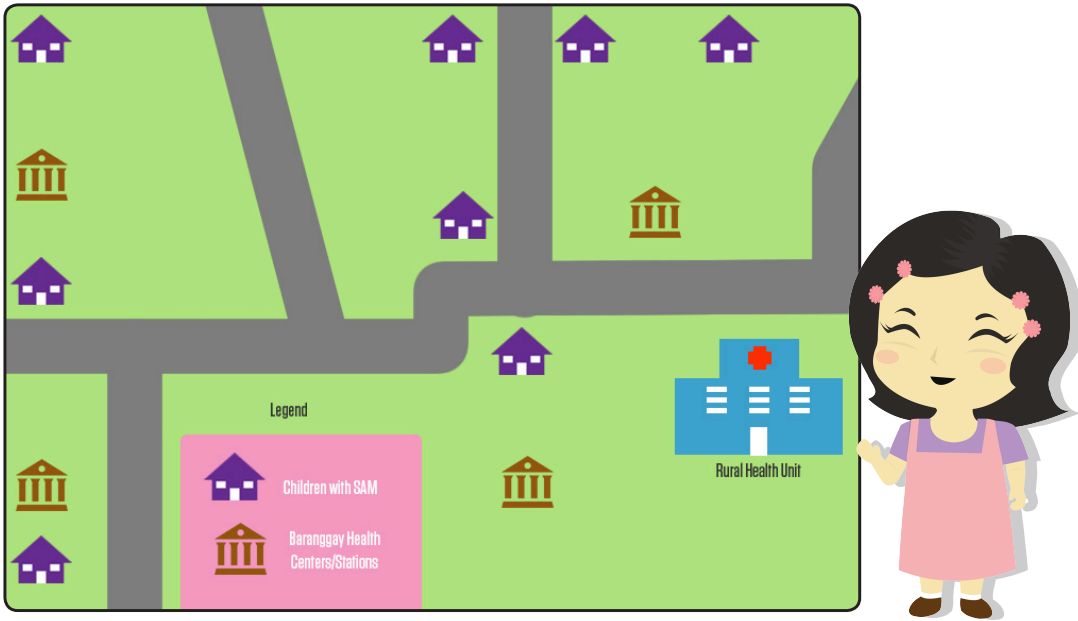


7.2 Outpatient Therapeutic Care (OTC) for SAM without complications

LOCATION

The management of SAM through OTC is a public health intervention that aims to maximize coverage and access to treatment. The distance and the cost/time to travel to obtain care can have a major effect on access to services. As such, outpatient services should be decentralized as far as possible to Rural Health Units (RHUS) and Barangay Health Centers/Stations (BHC/BHS).

The distance that children and their caregivers are able to travel will vary depending on factors such as topography and climate and may show seasonal differences. Establishing the locations of outpatient services for the treatment of SAM should provide access of the majority of cases to treatment through use of the BHS or BHC at barangay level, but access to care and treatment coverage for communities located far from a health facility may also be improved through adapting the mechanism of service delivery.





STRUCTURE

Outpatient treatment services are centered on the RHU and BHC/BHS. Normally, the health officer, midwife, or nurse will supervise the care from these treatment centers every one to two weeks, although the monitoring of recovery and delivery of RUTF to patients need not be limited to these physical structures and may be mediated through the BHW and/or BNS.

The RHU should allot sufficient space to store boxes of RUTF that may then be dispensed to the BHS or directly to the caregiver as required. Where space allows, the storage of RUTF may be done through the pharmacy, provided that the pharmacy's opening hours provide sufficient access to RUTF as needed. Under normal circumstances, the number of cases of malnutrition will be relatively low, such that medicines should be handled through the normal pharmacy storage facility. There should normally be a very limited requirement to store RUTF and medicines at BHS level. Refer to Section 8 for details regarding logistics and storage.

Where caregivers and children attend the RHU or BHS for follow-up visits during recovery, there should be adequate shelter to protect them from adverse weather conditions (heat or rain).

The monitoring of treatment requires the measuring of weight (ideally done with the patient undressed). Where possible, a private area (separate room or curtained area) should be provided to allow the weighing of patients.

Unless indicated by high patient loads or for more efficient service delivery, there is no need to allocate specific days or rooms for the treatment of children with acute malnutrition. They may be seen during regular clinic hours and services such as 'under-five clinics' or 'caregiver and child health clinics'. Ideally, the structure or staff should be provided with communication facilities allowing contact between the medical officer and the local health care team or with the hospital staff in case of the need to transfer cases with complications to inpatient care.

STAFFING

Outpatient treatment services for SAM are normally implemented within the existing capacity of the RHU/BHS. Except in times of emergency, which may require increases in support staffing, there is no requirement to employ specific staff for treating cases of SAM.

Doctor/Medical Officer: Shall see cases of SAM only once on admission and subsequently, if there are medical problems arising or the patient does not respond to care. Cases with SAM should be seen in clinics along with children with other needs/ illnesses.

Midwife/Nurse: Shall be primarily responsible for monitoring recovery and should see SAM cases during routine visits to the RHU/BHS for the delivery of other services. Children are required to be followed up on once per week at the beginning of treatment and when recovering well, may be followed up on every two weeks.

BHW/BNS: Shall assist the midwife/nurse in the delivery of care and may be requested to follow up on children at home in between visits to the BHS. These home visits are normally limited to cases not responding to treatment, being absent from follow-up visits or those recently discharged from inpatient care. See *Annex 49* for detailed role requirements.

Requests for increased staffing should be made with respect to the delivery of priority services and will rarely be required for the management of acute malnutrition alone.

TOOLS AND MATERIALS

Materials required specifically for the identification and treatment of SAM are listed below;

MINIMUM REQUIREMENTS

- ▶ MUAC tape with appropriate coloring and cut-offs
- ▶ Spring-type Weighing scale accurate to within 100g
- ▶ 20 to 30 packets of RUTF at each RHU/BHS available for appetite testing with RUTF
- ▶ 5 to 10 boxes RUTF at the RHU. Typically one box of 150 packets (net weight = 13.8kg) will be required for each treatment episode (see Section 8 for details)
- ▶ Registry/ TCL for sick children/Family folder

EXISTING REQUIREMENTS

- ▶ Routine antibiotics (typically oral amoxicillin – one bottle per treatment episode)
- ▶ Registry/ TCL/Family folder
- ▶ Patient treatment record/OTC monitoring card
- ▶ Referral slips
- ▶ Drinking water
- ▶ Soap/water for washing hands
- ▶ Thermometer
- ▶ Stethoscope (only for clinicians. Not required to identify danger signs at BHS level)

OTHER (OR “SUPPLEMENTARY”) REQUIREMENTS

- ▶ Length-Height board (used where staffing and facilities are available - typically only at RHU) – should comply with standard specifications set by the National Nutrition Council
- ▶ Child Growth Standards (CGS) charts for Weight-for-Height /length (WHO, 2006) - only where weight-for-height is used
- ▶ BMI for age charts (only where height is measured and treatment is offered) to children aged 5 - 19 years)
- ▶ BMI tables for adults where treatment services are offered for this age group

ORGANIZATION OF SERVICES

IDENTIFICATION OF CASES OF ACUTE MALNUTRITION

Acute malnutrition may be identified through three independent measures:

- ▶ Mid-Upper Arm Circumference (MUAC)
- ▶ Bilateral pitting edema of the feet
- ▶ Weight-for-height

Children with MAM and SAM are primarily identified in the community setting through the integration of MUAC and edema measurement into routine services both at the community and health service delivery units.

Community-level screening and identification of malnutrition is discussed in Sections 1 and 5. The measurement of MUAC and checking for the presence of edema should be done systematically on ALL children attending ALL treatment services. Weight-for-height may also be used to identify cases of acute malnutrition not identified by MUAC or edema. It is NOT necessary to use weight-for-height to 'confirm' a case identified using MUAC or edema. Each of these measures indicates acute malnutrition independently and may identify different children.

INITIATION OF TREATMENT

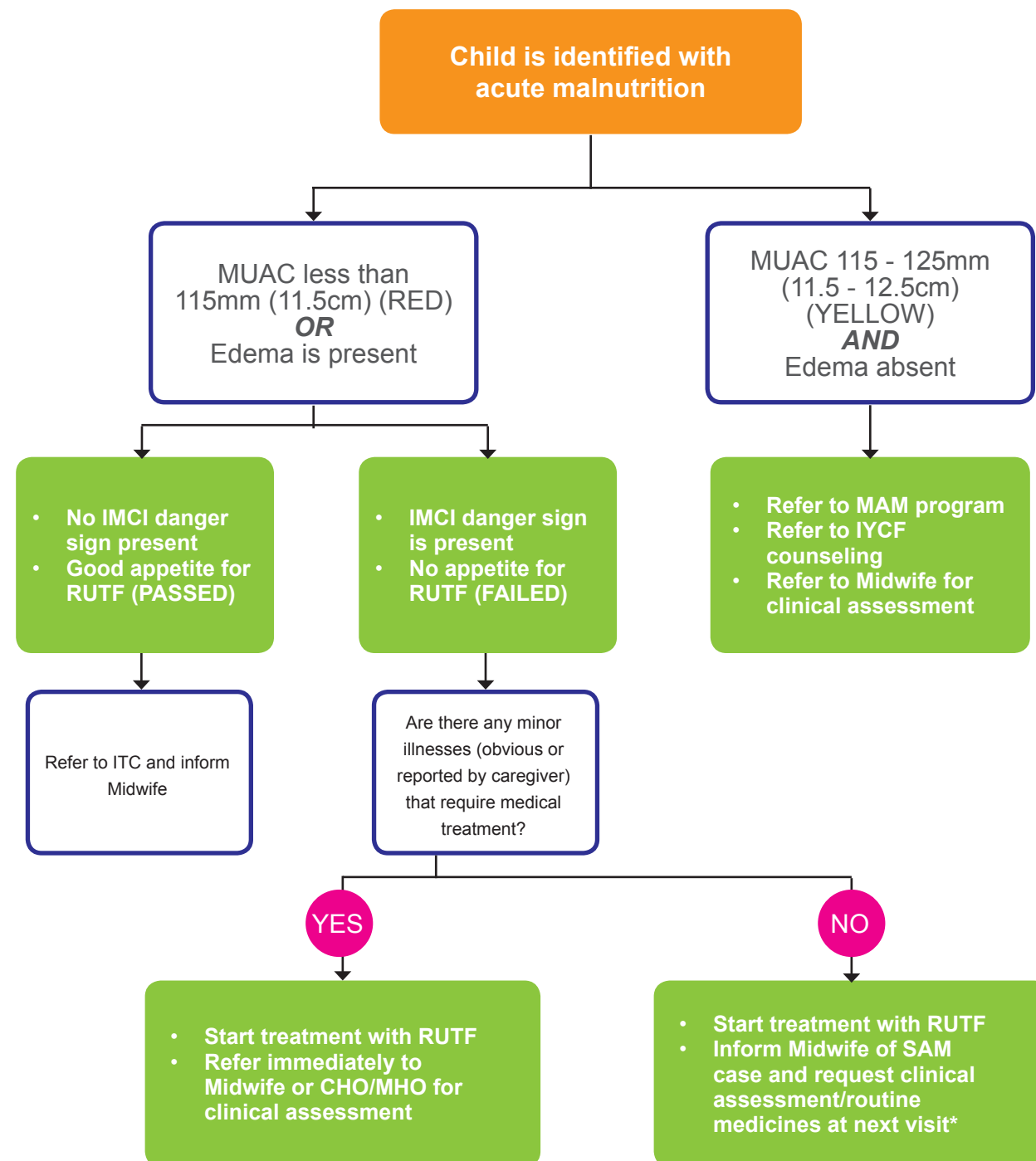
Treatment with routine medicines and RUTF should be initiated as soon as possible after identification. There is no requirement for treatment to be delayed in order to 'validate' measures of MUAC/edema made by community-based staff (BHW/BNS). It should be ensured that the staff at various levels are capacitated to perform the tasks required and that LGUs support the task allocation through updating the relevant job descriptions.

Where RUTF is available and community-based staff are able to assess the appetite for RUTF, treatment should be initiated as soon as possible after identification. The midwife should be informed of the initiation of treatment at the earliest possible opportunity.

Where the midwife/nurse is not available to make an immediate assessment, children who are obviously sick (e.g. based on IMCI) can be referred directly to the doctor/medical officer by the BHW/BNS in the same way as other sick children who do not have SAM. For children with appetite and no obvious concurrent illness, treatment with RUTF may be started and the formal clinical assessment and administration of routine antibiotics may be delayed until the next scheduled visit of the midwife/nurse (up to a maximum of one week). The BHW/BNS should perform a follow-up visit at home every two to three days until the child is seen by a midwife/nurse/clinician up to a maximum of one week (see Figure 12).



Figure 12. Algorithm for identification, initiation of treatment in OTC and referral for SAM



* If Midwife is unable to perform a clinical assessment within 48 hours of starting treatment with RUTF, a home visit must be made by the BNS/BHW every two to three days until the Midwife completes the clinical assessment up to a maximum of one week. If the clinical assessment cannot be completed within one week, the child must be referred to the health center.

FOLLOW-UP TREATMENT (refer to Figure 13)

Children will normally be identified and receive treatment services through the BHS and RHU under the supervision of the midwife/nurse.

The midwife/nurse/clinician in collaboration with the BHW/BNS should identify the best method of service delivery. Normally this will require the caregiver to bring the child to the BHS/RHU to coincide with scheduled visits of the midwife/nurse every one to two weeks. In rural areas with difficult access, service delivery may be modified in exceptional circumstances, such that the child's recovery is monitored in the community by the BHW/BNS.

The first follow-up visit for clinical assessment is ALWAYS made after one week, following the initiation of treatment.

If the child assessed at the BHS/RHU:

- ▶ Has good appetite for RUTF (passes the appetite test)
- ▶ Is gaining weight
- ▶ Has no reported illnesses requiring treatment
- ▶ And the clinician agrees to biweekly follow-up

Subsequent follow-up visits may be made every two weeks. The clinician should note this decision in the child's clinical record. If at any visit the criteria stated above are not met, the clinician must review the child weekly. If the twice-weekly clinician follow-up is used, the BNS/BHW must perform a home visit in between clinical assessments.

Children should be given any medicines required by the protocol, sufficient RUTF to last until the next follow-up visit and referred to any required complementary care services.

If the child assessed at the BHS/RHU:

- ▶ Has not gained weight for two consecutive visits
- ▶ Has reported illnesses requiring medical treatment

The child should be referred to the doctor/medical officer for review.

If the child at the BHS/RHU:

- ▶ Fails the appetite test
- ▶ Has any IMCI danger sign

The child must be referred immediately to ITC. There is no requirement for review by a doctor at the RHU where such a review may delay the initiation of emergency care.

DISCHARGE

Children may be discharged from care by the midwife/nurse when discharge criteria have been met for two consecutive visits (refer to technical guidelines).

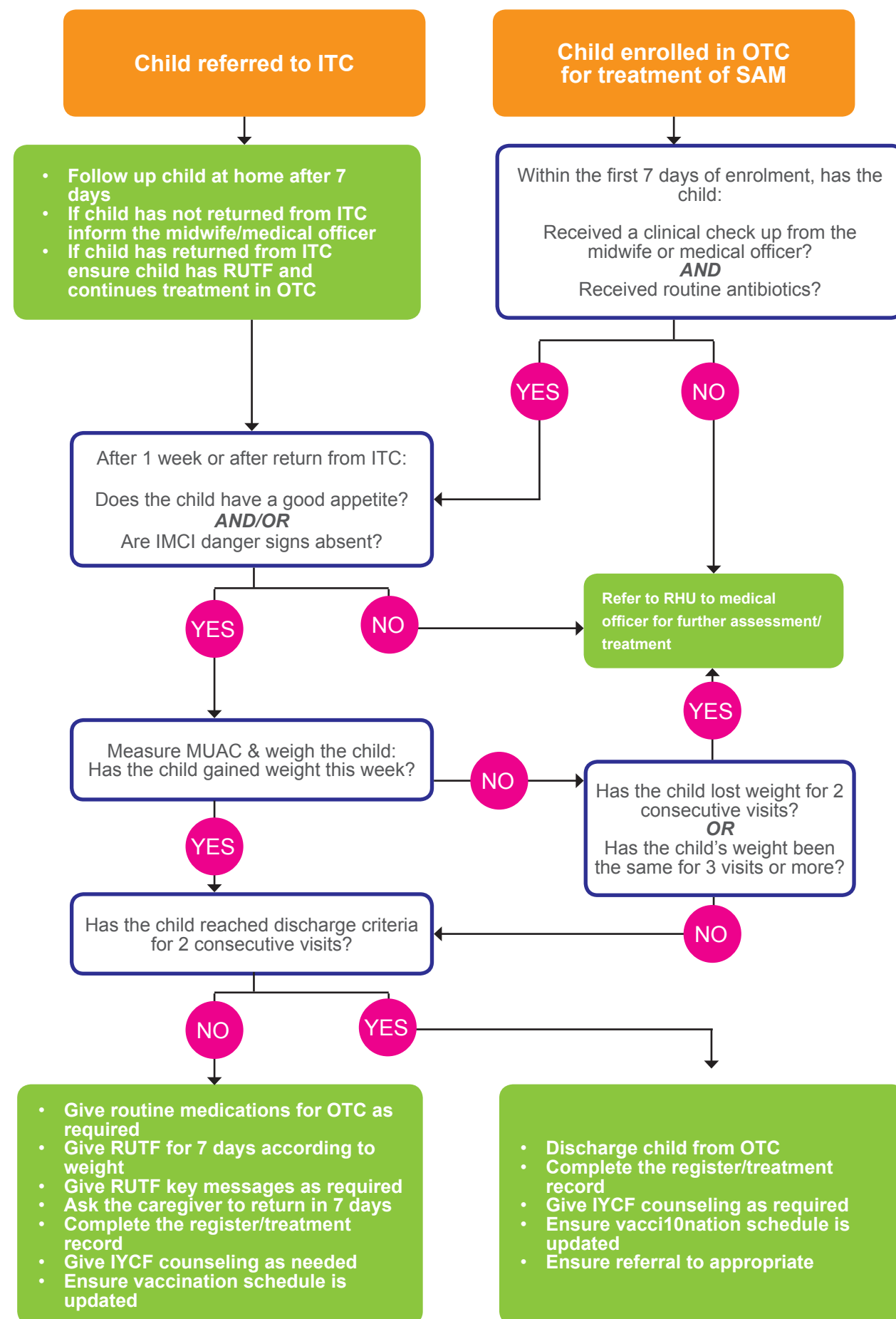
EXCEPTIONAL CARE

In some exceptional circumstances, access to routine follow-up by a clinician may be very difficult for the caregiver and child. It is preferable to allow access to care rather than the child default from treatment. In such circumstances and where no mobile team is available, the BNS/BHW may monitor the child's progress at home, provide RUTF and subsequently discharge the child from care without clinical review only with the express permission of the responsible medical officer. This may only be implemented if:

- ▶ The BNS/BHW have been trained in the recognition of IMCI danger signs
- ▶ The BNS/BHW are able to perform the appetite test independently
- ▶ The BNS/BHW can perform a weekly home visit
- ▶ The BNS/BHW can contact the clinician responsible by telephone after each weekly home visit
- ▶ The clinician responsible agrees and documents the decision to delegate responsibility to the BNS/ BHW
- ▶ Adequate supplies of RUTF are available

When cases are monitored and discharged under these exceptional arrangements, each individual case must be reported, by the clinician, to the relevant nutrition committee at monthly coordination meetings.

Figure 13. Algorithm for follow-up care in OTC



USE OF MOBILE TEAMS

A mobile team may be assembled in order to deliver health services to remote areas with little or no access to health centers and no appropriate mechanism of follow-up in the community is available or feasible. The use of mobile teams should integrate the treatment of acute malnutrition with the delivery of other health services. The team will require all of the essential and existing equipment defined earlier in this section for the delivery of treatment for SAM. The use of mobile teams may be scaled up in an emergency depending on the identified need.

For the purpose of a mobile OTC, a mobile team will typically require:

- ▶ Driver
- ▶ Midwife/Nurse (to administer protocol medicines/complete treatment record)
- ▶ BNS/BHW (for measurements, assisting with appetite test and other health/nutrition related activities) *one to two measurers (one if MUAC only is used, two if weight for height is also measured)

LINKAGE WITH OTHER SERVICES (COMMUNITY MOBILIZATION/REFERRAL/ POST DISCHARGE FOLLOW-UP)

During treatment and certainly following discharge, the child with SAM should be referred

to complementary health and social services that will continue the child's healthy growth and development and mitigate the risk of relapse. Such services may include (depending on availability):

- ▶ IYCF counseling through the BNS/BHW/ Midwife at the BHS
- ▶ Micronutrient supplementation following national guidelines
- ▶ EPI childhood vaccinations through the Midwife/Rural Health Nurse/Physician at the BHS/BHC
- ▶ Pantawid Pamilyang Pilipino Program (4Ps)
- ▶ Facilitate enrollment of father or caregiver in PhilHealth indigent program if needed
- ▶ Supplementary Feeding Program (if available)
- ▶ Food security programming (If available)
- ▶ Caregiver support groups, Promotion of Good Nutrition, routine growth monitoring through the OPT and Social welfare programs such as Sustainable Livelihood and Pantawid Pamilyang Pilipino Programs (if eligible), Kapit-Bisig Laban sa Kahirapan- Comprehensive and Integrated Delivery of Social Services (KALAHATI-CIDSS) and Self-Employment Assistance-Kaunlaran (SEA-K) Program)

The treatment of SAM is most importantly linked to other health and nutrition services at the BHS/ RHU level. Families from poor households should also be referred to the social worker to determine if beneficiaries may satisfy the DSWD targeting criteria for the 4P's program.

7.3 Inpatient Therapeutic Care (ITC)

Inpatient treatment for SAM is offered to those children with:

- ▶ Anorexia (fails the appetite test for RUTF)
- ▶ Complications (serious medical conditions, e.g. IMCI danger signs)
- ▶ Children referred from OTC
- ▶ Severe (+3) edema or a combination of edema and severe wasting
- ▶ All children with SAM where no outpatient facilities exist
- ▶ Children younger than 6 months with SAM

LOCATION

Ideally, the hospital should provide good access from the catchment areas where outpatient services for SAM are located. As such, the ITC will typically be located at the District, Provincial, or Regional DOH hospitals. For the purposes of

monitoring and supervision, the ideal distance from the ITC to the furthest OTC site should be less than four hours. As much as possible, this transport time should be minimized as it is generally the cases of SAM with life-threatening complications that require referral to ITC.

STRUCTURE

Typically the structure for the ITC will be provided within the hospital setting and allow for the separation of the different phases of SAM care. If space and staffing allow, the ITC should be separated from the pediatric ward since SAM patients with complications often have poor immunity and are highly susceptible to cross-infection. This is particularly important for children in Phase 1 or Transition Phase care.



Box 23. Typical provisions for an ITC unit

- ▶ Pediatric care spaces which conform to the Baby-Friendly Hospital Initiative guidelines
- ▶ Storage area for medical/nutritional supplies
- ▶ Preparation area for therapeutic milk
- ▶ Privacy for caregivers (especially when breastfeeding)
- ▶ A screened area for weighing/assessing children
- ▶ Adequate cooking facilities for caregivers
- ▶ Adequate toilet/bathroom facilities for caregivers
- ▶ Children's play area with age-appropriate toys

In areas of high inpatient caseload or in emergency situations, the problem of low bed availability or poor staffing should first be addressed through the establishment of OTC in the outpatient department of the hospital and at RHUs and BHSS. The OTC should also provide skilled IYCF counseling for caregivers with infants younger than six months for whom RUTF is not suitable.

In areas where OTC services are extensive and access to the District, Provincial, or Regional hospital is poor, decentralized ITC care can be established at RHUs with adequate facilities, staff and training. In emergencies, it is possible to set up ITC treatment facilities in temporary structures such as tents; however, this need for the treatment of SAM is unlikely in the Philippine context.

ARRANGEMENT OF SERVICES

The arrangement of services depends largely on the facilities and staffing which are available. Child mortality during inpatient care typically occurs at night as a result of poorly implemented feeding schedules, poor staffing and rotation of staff with limited skilled supervision. The implementation of ITC with reduced hours or staffing (particularly at night) should be implemented only as a temporary measure as a necessity (e.g. in emergencies).

1. **24-hour inpatient hospital care:** This is the ideal arrangement that allows for therapeutic feeding every two to three hours for children in Phase 1 and Transition Phase that may be particularly vulnerable. Preparing the therapeutic milk night feeds during the day,

which can then be distributed at a later time, may reduce the workload of staff at night. This arrangement may only be used in facilities where the therapeutic milk can be refrigerated.⁴² A more practical alternative to using F100 therapeutic milk in Phase 2 is to use RUTF. Children in Phase 2 who cannot be discharged to an OTC can be cared for on a standard pediatric ward as they are less vulnerable than children in Phase 1 and the Transition Phase, can eat RUTF and require less supervision.

2. **Day care ITC units:** This arrangement should be used only as a very short-term temporary measure where staffing does not allow 24-hour care. The schedule of treatment of children in Phase 1 should minimize the time between the last night feed and first morning feed of therapeutic milk. Children in Phase 1 should be fed at intervals no greater than six to eight hours at night and must be closely monitored during the day to ensure that ALL of the therapeutic milk has been taken.⁴³ Children in Phase 2 can use RUTF and be monitored on an outpatient basis.

Child deaths in ITC typically most frequently occur at night. The use of day care for children in Phase 1 with no supervision overnight should never be used as a standard form of care. Hospitals and other health facilities should abide by administrative orders requiring minimum staffing levels at all times.

Where no OTC facilities exist in the community, children requiring Phase 2 care and who have appetite for RUTF may be discharged from inpatient care and treated in the OTC established at the hospital. If the caregiver lives a great distance from the hospital, compliance with treatment as an outpatient until cure may be facilitated by:

- ▶ Providing local accommodation allowing the caregiver to remain in the local area
- ▶ Requesting the attendance of the caregiver at the hospital based OTC every two weeks and provide assistance with transport costs

See "Arrangement of services – Exceptional care" in the OTC subsection of Implementation Arrangements in this operations manual.

STAFFING

- ▶ All ITC medical and nursing staff must be trained in SAM treatment protocols before managing SAM patients. The personnel of the ITC, the OPD and the emergency ward should be trained in the National Guidelines for the Management of SAM and undergo retraining regularly.
- ▶ There should be a minimum number of clinical staff plus an appropriate number of care assistants assigned to the ITC unit on every shift according to the bed capacity of the hospital.⁴⁴ (AO -2012 -0012)
- ▶ Senior nursing or medical staff should not be rotated at the same time as junior staff. Staff rotation and inadequate supervision of junior staff may lead to increased child mortality.

MATERIALS

ANTHROPOMETRY

Box 24. Anthropometric requirements for ITC

- ▶ MUAC tape
- ▶ Weighing scales accurate to 100g (for children 6 - 59 months)
- ▶ Weighing scales accurate to 10g (for Children younger than 6 months)
- ▶ Height board accurate to nearest 1mm
- ▶ Weight for height charts (WHO 2006, for children 0 - 59 months)
- ▶ BMI for age charts (WHO 2006, for children aged 5 - 19 years)

DIET

Box 26. Dietary Requirements in ITC

- ▶ Pre-packaged F75 Therapeutic Milk
- ▶ Pre-packaged F100 Therapeutic Milk
- ▶ Therapeutic Milk look-up tables
- ▶ Pre-packaged RUTF*
- ▶ Pre-packaged ReSoMal
- ▶ Cups
- ▶ Nasogastric tubes (Size 5 - 8)
- ▶ Mixer
- ▶ Drinking water
- ▶ Sugar
- ▶ Measuring jugs

* RUTF should be available in the Emergency Room and Outpatient Department for the purposes of appetite testing.

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RECORD-KEEPING

Box 25. Requirements for record-keeping in ITC

- ▶ The registration book (*Annex 50*). A separate register is kept for malnourished patients.
- ▶ The Inpatient Therapeutic Care chart (*Annex 27*) is the primary tool used in ITC. Other charts should not be used. Medical and nursing staff use the same multi-chart to record all the information needed to manage the malnourished patient – separate charts are not used by different categories of staff.
- ▶ The Critical-Care chart (*Annex 51*) is used for patients with complications who require more intensive monitoring during the acute treatment of the complication (e.g. hypovolemic or septic shock, hypothermia).
- ▶ ITC Monthly report form
- ▶ Referral forms (from ITC to OTC)

MEDICINES

Box 27. Medicine requirements for ITC

- ▶ Routine intravenous/oral antibiotics (1st and 2nd line)
- ▶ Deworming medication
- ▶ Anti-malarials
- ▶ Furosemide
- ▶ Intravenous fluids, Intravenous glucose, Intravenous magnesium sulfate

42 Therapeutic milk should be used within two hours at room temperature or may be kept for a maximum of 16 hours if refrigerated.

43 The risk of nocturnal mortality in Phase 1 due to hypoglycemia may be reduced by ensuring that the whole ration of therapeutic milk has been taken during the daytime feeding schedule.





EQUIPMENT

Box 28. Equipment requirement in ITC

Examination equipment	▶ Thermometer ▶ Stethoscope ▶ Otoscope
Other items/ equipment	▶ National Guidelines for the Management of SAM ▶ IYCF counseling materials ▶ IEC material for health education ▶ Age-appropriate toys ▶ Beds for caregiver and child (cots should not be used in Phase 1 particularly) ▶ Impregnated bed nets (for malaria endemic areas) ▶ Soap ▶ List of OTCs and operating schedules ▶ Kitchen equipment for making/refrigerating therapeutic milk ▶ Kitchen equipment & eating utensils for caregivers

LINKAGE OF SAM TREATMENT WITH OTHER SERVICES

STRENGTHENING OF SAM TREATMENT SERVICE LINKAGES

The treatment of SAM provides a continuum of care. Through this program, children with SAM no longer need to go to the hospital for treatment. However, providing treatment in the community brings extra responsibilities in terms of maximizing compliance with treatment, ensuring that children are referred smoothly between the treatment components when necessary and that onward care after cure is provided to prevent future relapses.

Advocacy should be conducted for standardized referral forms for community workers referring children to health facilities and between health facilities. Until such forms are available, the referral forms currently used in various regions for referral should be adapted to include the measurement of MUAC and other information relevant to the treatment of SAM. The MUAC reading and other information may be indicated under the 'Complaints' section of the referral form. These may be used where no referral forms currently exist (e.g. during emergencies). However, standard hospital referral forms (and referral from hospital to RHU forms) may be used provided the relevant information is presented (see technical guidelines).

Referral forms are normally given to the caregiver; however, this does not necessarily imply that the caregiver will be compliant with the referral. In addition, the midwife/doctor supervising the child's care at the OTC should:

- ▶ Liaise with the referral health facility or hospital by phone/fax/email to advise them of transfer
- ▶ Request a BNS/BHW to follow-up the caregiver in the community after referral to check on compliance

If the caregiver has accepted transfer from OTC but has not returned for further care, a BNS/BHW should perform a home visit within a week to follow up on the child and encourage a return to the treatment program if they have not already done so.

If a caregiver has refused transfer, the BNS/BHW shall advise them that the child's health is at risk but that, as a minimum, treatment should be continued as an outpatient.

LINKAGES TO OTHER HEALTH AND NUTRITION SERVICES

Care during treatment for SAM may involve accessing other services, which enhance the wellbeing of the child and assist in preventing relapses in the future.

Some of these services are as follows:

Wet Nursing/Cross Nursing/Milk bank: Children younger than six months may, in some circumstances, benefit from prescriptions of breast milk obtained from a wet nurse or a milk bank. Guidelines on milk banking should be consulted for details.

EPI: Children who have not completed the schedule of childhood vaccinations should either be provided with the vaccinations where the vaccines are available or be referred to the next EPI session in their local community.

OPT/GP: Children discharged from OTC should

be referred to OPT for growth monitoring if not already enrolled. Caregivers of OTC discharges should also be encouraged to participate in local GP activities and receive vitamin A and deworming appropriate to age.

Micronutrient supplementation: Micronutrient supplementation may be recommended by the clinician but only after discharge from treatment with RUTF. Giving micronutrient supplementation during treatment with RUTF may interfere with the nutrient balance required for proper recovery. After discharge from treatment for SAM, micronutrient supplementation of complementary foods is recommended.

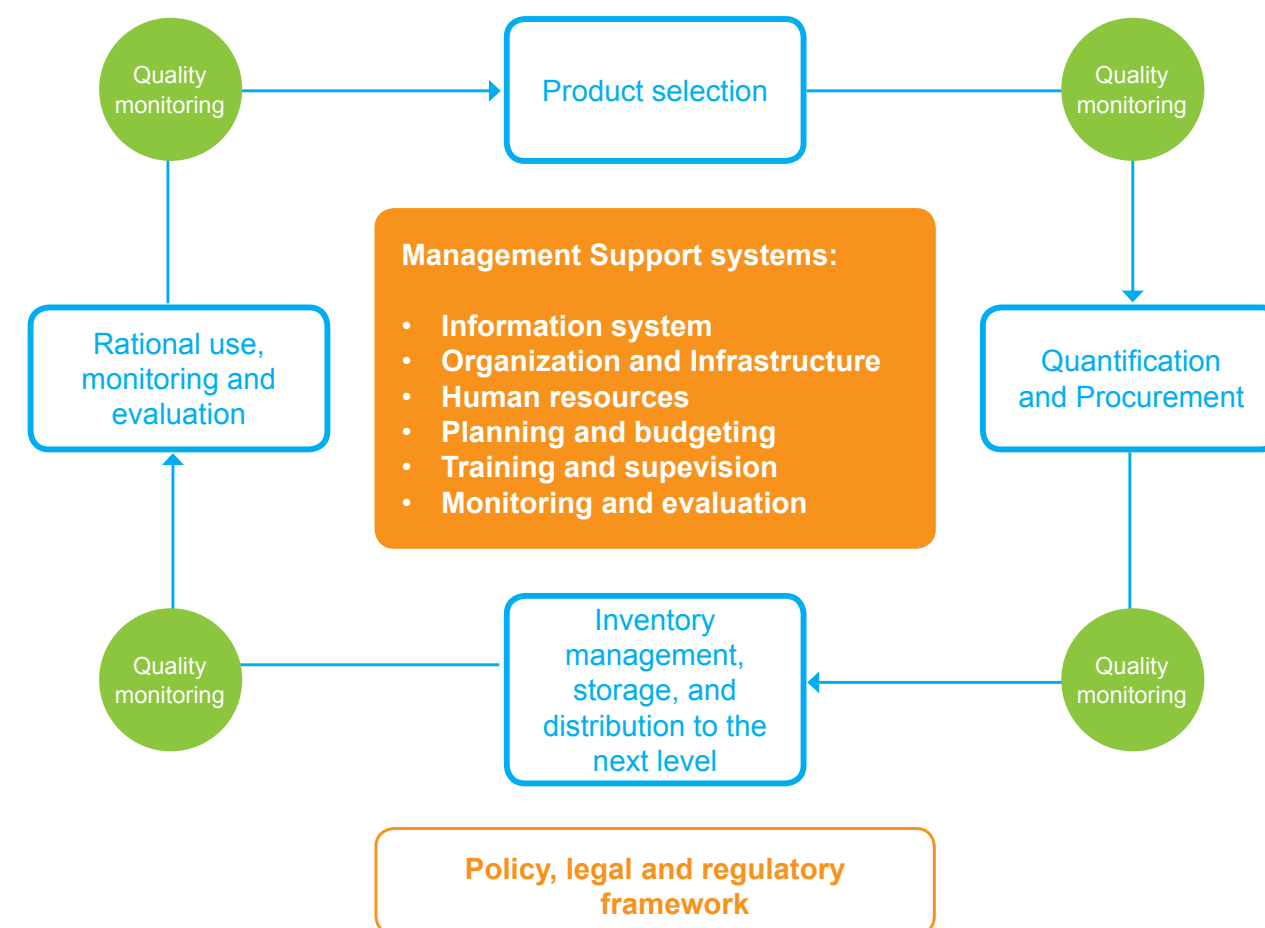
8. LOGISTICS AND SUPPLY MANAGEMENT

8.1 Introduction

The provision of sufficient and consistent supplies of diagnostic equipment, medicines and RUTF are essential pre-requisites for implementing quality CMAM services at the community level.

Adequate supplies promote positive impressions of the CMAM service in the community, improving participation and adherence to treatment, which leads to reduced child mortality from SAM.

Figure 14. Management cycle for medicines and nutrition supplies



8.2 Relevant Policies

The relevant policies listed below are based on existing Laws and Administrative Orders and established systems on Logistics Management and Procurement.

1. The overall management of all drug supplies and diagnostic supplies and the development and dissemination of corresponding policies and guidelines shall be the responsibility of the DOH with the support of the Materials and Management Division (MMD/DOH) and the local government units (Table 17).
2. The local government units shall ensure that policies and guidelines for SAM treatment supplies management are implemented properly at their level. They shall also actively participate in the monitoring and evaluation of the implementation of these policies and guidelines.
3. DOH shall ensure that medicines and nutritional products selected for the use of the program is in accordance to WHO international guidelines, National Guidelines for the Management of SAM, registered with the Philippines FDA and included in the national formulary. The DOH, with the support of FDA, shall ensure the quality of supplies used in the program.
4. Quantification and ordering shall be based on utilization rate, projected increase of cases due to strengthened case finding and provision of buffer stocks. RUTF buffer stocks should be maintained at 20%.
5. Procurement of SAM treatment supplies at the national and local government level shall follow the "Government Procurement Reform Act" or RA 9184 and the DOH policies, guidelines and standards for the procurement of supplies.
6. Medicines and nutrition supplies shall be stored under appropriate conditions and accounted for through proper recording and reporting. Stock status should be reflected in the National Online Stock Inventory Reporting System (NOSIRS).
7. The DOH Regional Offices, PHOs and CHOs shall ensure that drugs and diagnostic supplies are promptly distributed to the next level. The DOH central office shall deliver the commodities to the DOH Regional Offices.

DOH Regional Offices shall deliver the commodities to the PHOs/CHOs. PHOs and CHOs shall ensure the prompt delivery of the commodities to RHUs/HCs.

8. Disposal of expired and damaged medicines and nutritional supplies shall follow the government rules and regulations.
9. The DOH Regional Offices shall be responsible for the reproduction of all forms used in the treatment of SAM to be distributed to PHOs/CHOs, RHUs.
10. LGUs shall set aside funds for the emergency procurement of sufficient quantities of drugs and nutrition supplies in times of impending shortage to ensure continuous availability of SAM treatment commodities at their service delivery points.



Table 17. Management component and responsible unit for managing SAM treatment commodities	
Component	Responsible Unit
Selection	National Program Management Team (NPMT)
Procurement	National level for national procurement LGU for local procurement
Distribution	Allocation: DOH Regional Office, PHO and CHO Distribution: MMD, DOH Regional Office warehouse and PHO/CHO warehouse
Storage	DOH MMD, DOH Regional Office Warehouses, PHO warehouses RHUs
Use	RHU/BHS, hospitals

8.3 Considerations in Supply Chain Management

The availability of RUTF at the point of service delivery is absolutely vital to the successful treatment of children aged 6 - 59 months with SAM. The supply requires careful management at each point in the chain. Some considerations are identified to the right (see Box 29).

Box 29. Considerations in Supply Chain Management

- ▶ Time taken from order to delivery of stock
- ▶ Cost of commodities
- ▶ Storage capacity
- ▶ Buffer stock requirements
- ▶ Seasonal fluctuations of SAM
- ▶ Emergency or integrated program
- ▶ Start-up or existing program
- ▶ Efficacy of stock management system (particularly reordering of stock at point of service delivery)

8.4 Procedures

The estimation of supplies and medicines required annually is made from the most recent National Nutrition Survey data or, if available, localized prevalence estimates (e.g. from Nutrition Surveys). The requirement should be based on the lowest level of data available, i.e. Region/Province/City or Municipality.

ESTIMATION OF SUPPLIES

Annex 54 details how the formula ‘Caseload⁴⁵ = N x P x K x C’, based on a series of indirect estimates, assumptions and the country’s current context and capacities, was derived to help in estimating the number of SAM cases which in turn can help estimate the RUTF needs.

CASELOAD = N x P x K x C

45 Case load = N x P x K x C (N = size of population aged 6 - 59 months; P = estimated prevalence of SAM; K = correction factor to account for incident cases over a period of 1 year; C = mean program coverage in 1 year). For startup programs, the following values can be used to estimate SAM Caseload in the Philippine Context: K = 1.6 and C = 50%. For continuing programs, the various factors (N, P, K and C) may be based on available data from coverage or nutrition surveys or databases.

Table 18. Estimation of supplies required for SAM treatment		
Supply	Globally Recommended Units for Treatment per Child	Calculations
Therapeutic spread, sachet 92g/CAR-150	Outpatient and Inpatient Therapeutic Care Requirements 1 carton/child	SAM Caseload: Total Population x 12.15% x SAM Prevalence x K x Coverage # of RUTF Cartons Needed = SAM Caseload
F-75 therap. diet, sachet, 102.5g/CAR-120	Inpatient Therapeutic Care Requirement 12 sachets/child; 120 sachets in one carton	SAM Caseload ⁴⁶ x (Estimated or actual rate of complicated cases) # F-75 Cartons Needed: (SAM Caseload X 10% ⁴⁷ X 12)/120
F-100 therap. diet, sachet, 114g/CAR-90	Inpatient Therapeutic Care Requirement 4 sachets/child; 90 sachets in one carton	SAM Caseload ⁴⁵ x (Estimated or actual rate of complicated cases) # F-100 Cartons Needed: (SAM Caseload X 10% ⁴⁶ X 4)/90
ReSoMal,42g sachet for 1 liter/CAR-100	Inpatient Therapeutic Care Requirement 0.2 sachets/child	SAM Caseload ⁴⁵ x (Estimated or actual rate of complicated cases) # ReSoMal Cartons Needed: (SAM Caseload X 10% ⁴⁶ X 0.2)/100
MUAC, Child 11.5 Red/PAC-50	Outpatient and Inpatient Therapeutic Care Requirements 10 packs per RHU/Hospital	# of MUAC Packs = 10 packs X Number of RHUs/Hospital
Amoxici.pdr/oral sus 125mg/ 5mL/BOT-100mL	Outpatient and Inpatient Therapeutic Care Requirements ⁴⁸ 1 - 2 bottles per SAM child	# of Amoxicillin bottles Needed: SAM Caseload X 1.5
Mebendazole 500mg chewable tabs/PAC-100 OR Albendazole 400mg tabs/ PAC-100	Outpatient and Inpatient Therapeutic Care Requirements 1 tablet/child	# of Mebendazole/Albendazole Packs Needed: (SAM Caseload)/100

Acute malnutrition typically shows seasonal fluctuations. It is important to remember that the calculation is only an estimate. For start-up programs, the correction factor, K, can be assigned the value of 1.6 while the Coverage, C, can be assigned the value of 50%. Both values are conservative enough for estimating initial RUTF needs to be procured in the startup year. However, once nutrition survey data or programming data are available, the values should be reviewed and revised quarterly based on actual caseloads.

The number of cases identified in a catchment area may be variable depending on the quality of screening services to identify SAM. Calculations

of requirement according to nutrition survey data should be checked against local wasting and severe wasting data on OPT. If the numbers of cases identified in OTC within a catchment area are greater than the numbers identified by the prevalence of the nutrition survey this number should be used as the ‘prevalence’ (B) in the calculation above.

If stocks requirements are overestimated, there may be a need to recall RUTF for redistribution to other areas prior to expiry of the shelf life. RUTF which is within three months of its stated ‘Expiry’ or ‘Best Before’ date should be recalled for redistribution.

46 6 - 59 month children from outpatient care programs. If there is no outpatient program the hospitals should continue using their current supply routines but could be supplied with an amount of RUTF to treat children >6 months in Phase 2.
47 For start-up calculations, 10% can be used to estimate complicated SAM cases.
48 SAM child with Complications may require other systemic antibiotics.

REQUEST AND ISSUANCE OF SUPPLIES BY CHO/MHO

Once the respective estimates have been calculated, the CHO or MHO will then follow the usual government procedures to request for the needed quantities of commodities and supplies (see Annex 55 for example procedure).

- 1. Present duly accomplished Requisition and Issue Slip (see Annex 56) to the PHO/DOH Regional Office for Approval
- 2. Submits Requisition and Issue Slip to the Supply Office
- 3. Accept/receive the supplies

8.5 Receiving of Medicines and RUTF

The point person (e.g. PHN) for drug management shall perform the following procedures when receiving medicines and supplies delivered to the facility:

Procedure

Step 1 Obtain the supply receipt forms accompanying the delivery.

Step 2 Check for the following: quantities for each item listed, check medicine labels for name, strength and dosage form, and inspect for damages and note the expiry dates.

Step 3 Record discrepancies noted and send feedback to the distributing unit. Record the quantity of good items and quantity of missing or damaged on the receipt form.

Step 4 Sign the receipt form. If possible, have a fellow health worker verify and sign for the quantities received as well.

Step 5 Keep a copy of and file the delivery receipt form for your records.

Step 6 Encode data into NOSIRS or supply database/logbook being used.

8.6 Storage of Drugs and Nutrition Supplies

- Maintain clean storeroom with regular cleaning, prohibit food consumption where stocks are kept, remove spoiled products and clean affected areas immediately. Perform regular inspections to check for signs of theft, pest, water damage, or deterioration due to high humidity.
- Organize RUTF/medicine boxes so labels can be easily read (product name, batch number, expiry date).
- Promote air circulation in the storage room – high ceilings with vents; if feasible, install air conditioner, an exhaust fan, or a window or air vents. Allow more space between shelves. Leave adequate space (about 10 - 15cm) between the walls and the shelves or stack of medicines for better circulation. Monitor and record daily the temperature in the storage area.
- Keep medicine containers closed to avoid exposure to humid air. Light sensitive products must be kept in their original packaging and stored in closed cupboard or in a shady corner.

- Store RUTF boxes under recommended storage conditions:
 - » Maximum stack height 2.4m
 - » Temp < 40°C (Keep in a cool shaded room if no temperature monitoring is available)
- Store RUTF/medicines only on shelves or pallets, never on the floor. Do not store medicines near the ceiling where temperatures are higher. Do not stack RUTF higher than 2.4m.
- Check the expiry date on the label. Practice First Expiring First Out (FEFO) to avoid expired medicines/RUTF and wastage. Alert the CHO/PHO of any stocks which will expire within three months.
- Remove all expired or damaged items from the usable stocks and place in a clearly marked area for such items. Maintain records of expired or damaged medicines/RUTF.
- Return excess medicines to the provincial/city NTP coordinator for redistribution. Record all items that were returned.
- Access to the storage area must be restricted and those authorized to handle supplies shall be accountable for their actions. Fit doors with security locks and install bars on storeroom windows. Maintain inventory records for accountability.

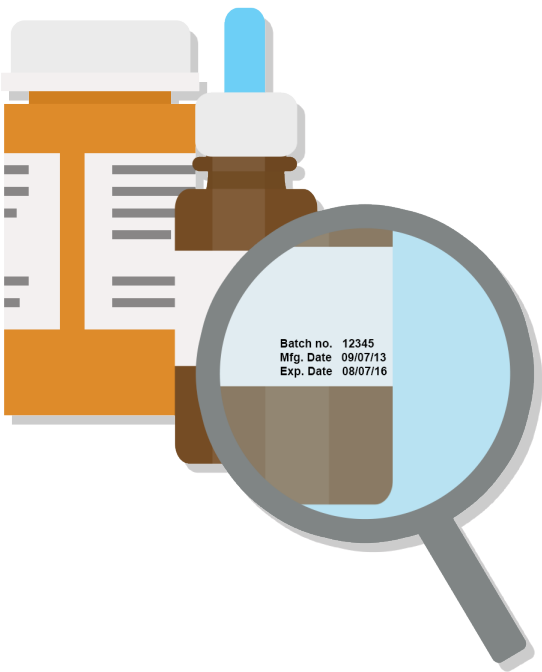
Box 30. Expiry and Best Before dates

- Imported RUTF typically has a shelf life stipulated by the manufacturers of 24 months.
- The shelf life of RUTF is indicated by an "Expiry" date or a "Best Before" date. Both of these measures indicate the shelf life of the product.
- Any RUTF product which is within three months of its Expiry or Best Before date must be recalled and redistributed for use before the shelf life ends.
- The nutritional composition of RUTF cannot be guaranteed after the shelf life has passed. In emergencies in the event of extreme shortages there may be requests to use RUTF beyond its Expiry or Best Before dates. This is not recommended and must only be done after rigorous further testing of the physical and nutritional properties of the batch of RUTF. The certification and period of extended shelf life must be endorsed by the FDA.

8.7 Maintaining Records for SAM Treatment Medicines and Diagnostic Supplies

The facility shall maintain proper records for medicines and supplies to facilitate monitoring of available stocks and consumption.

- 1. Maintain and update medicine and nutrition supplies stock records in order to track:
 - a. Supplies ordered
 - b. Supplies delivered (and condition on delivery)
 - c. Supplies consumed (First Expiring, First Out - FEFO)
 - d. Supplies loaned to another facility or returned
 - e. Expiry date(s)
- 2. Perform a physical stock check at least monthly to monitor stock levels. Compare quantities written on the stock records with the physical amount in storage.
- 3. Identify any RUTF which will expire within three months of the stock check and alert the CHO/PHO (If there is no immediate requirement at the facility, stocks which are soon to expire may be returned and redistributed to other health facilities).
- 4. Encode and update in NOSIRS/Supply Database/Logbook monthly.





8.8 Rational Use of Supplies

Preparing and administering treatment to patients is the focus of all health care activities in the facility. Treatment must be based on the National Guidelines for the Management of SAM for treatment regimens and administration and the

amounts of medicines and/or RUTF should be recorded on patient treatment cards and in the treatment records, OTC follow-up forms (or ITC milk monitoring card), TCL and Family Folders.

8.9 Stock and Drugs Delivery

Storage facilities are a necessity at municipal level to allow at least 20% buffer-stock for the therapeutic products and routine medicines for

the treatment of SAM and an adequate stock of the other materials and tools needed.

8.10 Disposal of Expired Products

RUTF which has expired and has not been tested for an extended shelf life must be destroyed by incineration, along with other expired medical

supplies. Disposal methods should conform to the environmental laws of the Philippines.

9. SUSTAINED FINANCING AND REGULATION FOR QUALITY SERVICES

9.1 Introduction

The provision of quality SAM treatment services can contribute to a reduction of mortality in children younger than five years. The continuous provision of services is largely dependent on the available resources that the national and local governments can mobilize for the procurement of RUTF. In order to ensure this supply, there is a need to exhaust all possible schemes that could generate funds to finance SAM treatment. In addition, funds are also needed for the following interventions:

- Orientation and training of staff in the management of SAM
- Regular conducting of prevalence surveys, preferably with provincial breakdown, as helpful guide in prioritizing areas and population groups to be assisted
- Supply and maintenance of materials and tools (MUAC tapes, weighing scales and height boards)
- Design and production of IEC materials and conduct of other case finding and health promotion activities
- Program implementation review and planning
- Other operational requirements (e.g. transport cost of RUTF, monitoring and evaluation, coordination meetings, etc.)

The role of regulations in the provision of SAM treatment supplies cannot be overemphasized.

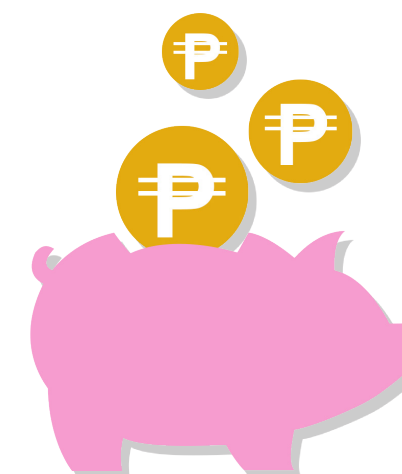
The Food and Drug Administration (FDA) safeguards the delivery of quality RUTF through the procurement of supplies that have undergone testing and registration. Regulating the price of RUTF can likewise facilitate the access of clients to the micronutrient supplements they need.

As provided for in the 1991 Local Government Code, the LGUs are primarily responsible for the provision of basic services to their constituents. Each LGU must be able to mobilize and establish financing schemes to support integrated management of SAM interventions in their respective localities. Financing the integrated management of SAM can be addressed through the following five (5) tracks that need to be organized and harmonized to ensure more efficient use of resources:

1. Budget allocation for health
2. Accreditation to PhilHealth Benefit Packages (e.g. Outpatient Benefit Package, Inpatient Benefit Package, Malaria Outpatient Benefit Package, Newborn Care Package)
3. Establishing local finance schemes
4. Provision of DOH grant assistance
5. Mobilization of external donors funds

9.2 Local Financing

- Advocate for local officials to allocate budget for SAM treatment interventions in their regular and supplemental budget or in their 20% development fund (as a component of a comprehensive nutrition strategy).
- Source additional funds from the provincial governments including contributions from the barangays.
- Design and implement other local financing schemes in support of interventions as long as it does not deprive or discourage clients from accessing and availing themselves of commodities and services.
- Mobilize funds directly from other officials or benefactors within and outside one's respective jurisdictions; (e.g. local industries, balikbayans).





- Include establishment of programs for the integrated management of SAM as requirements for the Department of Interior and Local Government's annual awarding of the Seal of Good Local Governance (SGLG). The SGLG monitors and awards LGUs with good performance specifically in the areas of internal financial housekeeping, social protection, disaster preparedness, business-friendliness/competitiveness, peace and order and environmental management. LGUs who are awarded with the SGLG will enable

- them to avail of incentives such as access to the Performance Challenge Fund and other national performance-based programs. LGUs who want to earn the seal should be able to comply with the minimum requirements as described in the guidelines for the management of SAM/ Manual of Operations.
- Coordinate with other government offices (e.g. DSWD, DepEd, etc.) for technical assistance and other contributions they can provide.

- from the informal sector to make them eligible for PhilHealth reimbursements.
- » Ensure that the supplies procured are

the ones listed in the Philippine National Formulary (PNF) to make these eligible for reimbursement by PhilHealth.

9.3 DOH Assistance

The provision of supplies for the management of SAM is a shared responsibility between the national and the local governments for severe acute malnutrition that has reached levels of public health significance. For this purpose, it is important to become aware of the local government's role in as far as procurement of commodities for the management of SAM is concerned. Meanwhile, one must be able to mobilize the assistance of the DOH and other development partners to meet logistic and supply requirements.

Prioritize procurement for the following micronutrient supplements requirements through the LGU budget:

Mobilize the following medicines from the DOH:

- Amoxicillin syrup 125mg/5mL
- Amoxicillin tablets 125mg/250mg
- Albendazole 400mg
- Mebendazole 500mg

- Therapeutic dosages of vitamin A for those with xerophthalmia or measles
- Coordinate with DOH, DOH Regional Offices, provincial government units and development partners for a rationalized sharing of resources for the management of SAM

9.4 PhilHealth Reimbursements

- Primary health care facilities that treat SAM cases may currently avail of PhilHealth reimbursement as malnutrition is included in the list of medical case rates (*Annex 52*); malnutrition is classified under E40, E41, E43, E44.1 – although the revision of definitions and labels (clearly identify as "SAM") is suggested for PhilHealth in line with recent changes in the understanding of acute malnutrition.
- Maximize the different PhilHealth Benefit Packages to help finance needs for the management of SAM. The following are PhilHealth Benefit Packages which can be tapped:
 - » Outpatient Benefit Package. LGUs can use a portion of the 80% of the capitation funds received from PhilHealth to procure additional needs for the management of SAM.
 - » Inpatient Benefit Package. Case rate amount shall be deducted by the health care facility from the member's total bill, which shall include professional fees of attending physicians, prior to discharge. The case rate amount is inclusive of hospital charges and professional fees of attending physician.
 - » Malaria Outpatient Benefit Package. The supply of drugs and medicines for malaria clients can also be reimbursed through this benefit package from PhilHealth.
- To avail of the above packages, one must undertake the following:
 - » Ensure that the facility has met and sustained the accreditation requirements of PhilHealth.
 - » Advocate among local officials to enroll indigent clients to the PhilHealth Indigency Program or sponsor members

9.5 Resource Mobilization from Development Partners, NGOs and the Private Sector

Mobilize resources from the donor community and other development partners.

- Develop capability or skills in formulating project proposals which can be forwarded to the donor community for funding support.

- Mobilize the private sector. Negotiate with the employers (e.g. private companies, private institutions, HMOs, CBAs, etc.) to finance requirements for the management of SAM.

9.6 Regulations for the Management of SAM

The overall purpose of regulatory measures in support of the integrated management of SAM is to ensure the quality of SAM services provision by health care providers and ascertain that the costs of those services are within the reach of the clients. Regulatory measures that can be promoted among concerned health offices and stakeholders include the following:

- Procurement of quality supplies for the management of SAM
 - » Ensure that procurement of SAM supplies adhere to DOH standards. Patronize only supplies that have passed the DOH standards and those listed in the Philippine National Drug Formulary (PNDF).
 - » Establish own list of essential drugs which includes RUTF following the technical specifications recommended by DOH.
 - » Ensure that RUTF which is LGU procured is reviewed for proper certification by local FDA committee.

- Pricing of supplies for the management of SAM
 - » Coordinate with DTI for the regular monitoring of RUTF in terms of price/cost to improve clients' access to these products.
- Support the implementation of other regulations that indirectly support the implementation of integrated management of SAM:
 - » Health facilities meeting the licensing requirements of DOH
 - » Adherence of health facilities and health staff to the Milk Code provision
 - » Compliance of health facilities and households with the provisions of the Environmental Sanitation Code

10. MANAGEMENT OF SAM IN EMERGENCIES

10.1 Introduction

The Philippines is regularly affected by hazards, which may develop into emergencies resulting in the destruction of property, services and the loss of life. It is critical during times of emergency to ensure that sufficient and timely information is available to enable the safe management of the proper logistical requirements.

Since 2007, the Philippines has adopted the Cluster System in responding to disasters and emergencies. Under Republic Act (RA) 10121, the National Disaster Risk Reduction and Management Council (NDRRMC) is the designated coordinating body in charge during emergencies and disasters. Responding to emergency public health issues is managed by the Health Cluster, which is one of eight National Response Clusters chaired by the Department of Social Welfare and Development (DSWD). The Health Cluster is further composed of four sub-clusters: Public Health, WASH, Mental Health and Psychosocial Services and Nutrition. The Department of Health- Health Emergency Management Bureau (DOH-HEMB) was initially designated as the government lead for each of these four sub-clusters, but responsibilities have since been reassigned. In 2013, the National Nutrition Council was designated as the new chair of the National Nutrition Cluster (under Department Personnel Order 2007 - 2492-A: "Creation of Health Emergency Management (HEM) Clusters"). DOH-HEMB still remains as overall Health Cluster lead (Quad Cluster) and representative to the NDRRMC.

The Nutrition Cluster is composed of partner agencies from government, the United Nations and non-government organizations all of whom have active roles and responsibilities for ensuring preparedness and response mechanisms for nutrition in emergencies. The National Nutrition Council serves as Chair while UNICEF serves as co-lead. The cluster's emergency preparedness and response actions are guided by documents such as the Policy Guide on Nutrition in Emergencies, the Policy and Implementing Guidelines on Reporting and Documentation in Emergencies and Disasters, Policy and Guidelines on Logistics Management in Emergencies and Disasters and the Nutrition Cluster Emergency Preparedness and Response Plan.

Coordination during disasters and emergencies is of the utmost importance and it is vital to coordinate responses through the cluster system under the NDRRMC. Key staff should be trained in Nutrition in Emergencies, Cluster Coordination, IYCF-E and Community-based Management of Acute Malnutrition among others.⁴⁹ Other emergency-related laws, plans and policies such as the IYCF-E plan, milk banking in emergencies and enforcement of the Milk Code (EO51) should be supported during interventions related to the management of SAM.

10.2 Funding Sources for Emergencies

- ▶ Local Disaster Risk Reduction Management (LDRRM) Funds
- ▶ Quick Response Funds
- ▶ Calamity Funds
- ▶ Government QRF

In larger emergencies where international assistance is requested, resources may be available through UNICEF as Nutrition Cluster Co-Lead and/or through implementing cluster partners though normally these are provided through supplies or human resource support.

10.3 Responsibilities during Emergencies

General reporting and coordination requirements follow the Policy and Implementing Guidelines on Reporting and Documentation in Emergencies and Disasters as governed by Administrative Order 2012-0014 and enshrined in the Health Emergency Alert Reporting System (HEARS) managed by DOH-HEMB which includes Surveillance in Post Extreme Emergencies and Disasters (SPEED). The SPEED system monitors 21 common causes of morbidity during emergencies and disasters, including acute malnutrition. For details on SPEED and the activation of SPEED protocols, the relevant guidelines should be consulted.

Under Rule 11 of Republic Act No 10121, the Local DRRMC takes the lead based on the following criteria:

1. The City/Municipal DRRMC if two or more barangays are affected
2. The Provincial DRRMC if two or more cities/ municipalities are affected
3. The Regional DRRMC if two or more provinces are affected
4. The National DRRMC if two or more regions area affected

The Nutrition Cluster at sub-national level (regional, provincial, or LGU) will coordinate with the Nutrition Cluster at national level to relay critical information that will determine necessary emergency nutrition interventions as needed. The Nutrition Cluster at national level may provide cluster coordination and information management support as well as other assistance as necessary.

If established, the involved PIMAM Management Teams shall oversee the management of the program or request technical assistance from higher levels as needed. Coordination of activities and reporting of results via the Nutrition Cluster are critical responsibilities of the PIMAM Management teams (see section below on 'Areas where SAM treatment is Implemented' for details). If Local/Hospital PIMAM Management Teams are not yet established/non-functional, coordination of programming for the treatment of SAM should be done through the relevant local authorities and the Nutrition Cluster under the LDRRMC (see section below on 'Areas where SAM treatment is not Implemented' for details).

Reminders

The responsibilities for action following onset of emergency lie with the following:

1. Municipal Health Office/City Health Office - upon the declaration of a state of calamity by the Local or National Government; or
2. Provincial Health Office - if the emergency is of regional and/or provincial concern; or
3. Regional Office for Health - if the emergency is of regional concern; or
4. Department of Health Central Office - if the emergency is of nationwide concern as declared by the Office of the President or the National Disaster Risk Reduction and Management Council (NDRRMC). If the emergency caused the local and regional health sector to be non-functional DOH-CO may take lead.



⁴⁹ Trainings available through DOH-HEMB and DOH-NNC



10.4 Scenarios in an Emergency/Disaster

Nutrition Cluster interventions are guided by the Minimum Service Package as outlined in the Emergency Preparedness and Response Plan (Annex 53).

RAPID AND COMPREHENSIVE NUTRITION ASSESSMENTS

The initial rapid assessment aims to determine the current risks and possible scenarios in the immediate post-emergency period. In areas where SAM treatment is implemented, the increase in resources to ensure continued access and to prepare for a possible surge in number of cases should be based on whether an increase in SAM caseload over the coming weeks to months is anticipated (e.g. where the risk of water-borne disease, infectious disease outbreaks, or of prolonged food insecurity is high). A rapid nutrition assessment may include case finding for SAM cases using MUAC and edema.

Care should be taken when interpreting results as cases of acute malnutrition may have pre-existed prior to the emergency or may appear to be 'new cases' where the current SAM case coverage is poor. Results may be cross-checked with existing databases of SAM cases. Results should also be discussed by the local Nutrition Cluster to agree on the appropriate course of action.

Except for the additional deployment of mobile teams for communities cut off from access to health services, the decision to increase support for the program shall be made in line with support for other existing health services.

Conducting comprehensive in-depth assessments that build on secondary data, primary data (now including purposive and representative sampling) and data from (re)established monitoring systems may also be needed. The level of assessment may include community-level, complemented by household- and individual-level, assessment. For the Nutrition Cluster, this refers to surveys that collect data on anthropometrics, access and coverage, or KAP surveys with more elaborate and standardized sampling methods. Such surveys require a large input of time and resources and should only be conducted in relation to an identified need. Before starting a survey, it is important to identify how the results will be shared and how they will be linked to action if a problem is identified.

COORDINATION AND INFORMATION MANAGEMENT

The Philippine Nutrition Cluster remains active throughout emergency and non-emergency situations. A Cluster Coordinator and Information Management Officer should be designated to facilitate coordination and IM mechanisms. Assistance provided by local or international NGOs should be coordinated through the relevant local nutrition clusters and nutrition committees at each level and with at national level with the PMT. Inter-cluster coordination with Food Security, Health and WASH should be established to ensure the availability of routine medicines, supportive services and preventive services for high-risk areas.

A stakeholder analysis should be used to identify specific partners to support the required interventions.

CHOICE OF INTERVENTION

An increase in SAM may be prevented through the implementation of or support for currently existing programs that prevent the spread of communicable disease and/or preserve the food security of the affected communities.

Responses specific to supporting the treatment of SAM will differ according to whether the treatment service is already implemented in the emergency/disaster affected area or is currently not available but will be required.

Reminder



→ If members of the local/hospital PIMAM Management Teams are directly affected by the emergency/disaster, technical assistance from higher levels for augmentation of human resources or supplies may be requested via the Nutrition Cluster as needed.



AREAS WHERE SAM TREATMENT IS IMPLEMENTED

Scale up of support in areas where SAM treatment is already implemented should include:

- ▶ Support for BNS/BHW in screening for cases of SAM in the community. Support should aim to augment rather than replace current services and care taken in the provision of incentives or payments so as not to undermine services.
- ▶ Volunteers/assistants may provide ancillary help at the BHS/RHU.
- ▶ The provision of mobile OTC teams for communities unable to access health care.
- ▶ The provision of temporary sites in camps where health centers and/or health staff are affected by disaster.
- ▶ Additional resources such as medicines and RUTF – based on calculated post-emergency caseload (note that buffer stocks from regular program may be used to ensure that children who need it are provided the service immediately upon identification).
- ▶ Implementation of IYCF in emergencies services (especially breastfeeding and complementary feeding counseling).
- ▶ Emergency ITC if hospital services for cases of SAM with complications where hospital services become inaccessible.
- ▶ Micronutrient powders for children who are not SAM.
- ▶ If SFP is not normally available but becomes part of the emergency package, ensure proper screening and referral of children with MAM (refer to MAM guidelines for admission and discharge criteria).

Caseloads can be managed more efficiently to reduce the workload on health center staff by providing stable cases with bi-weekly supplies of RUTF provided they have:

- ▶ Good appetite for RUTF
- ▶ Consistent weight gain
- ▶ No illnesses requiring medical treatment
- ▶ Caregiver has previously been compliant with care
- ▶ Instruction is given to return to the health center if any illness or loss of appetite occurs



AREAS WHERE SAM TREATMENT IS NOT IMPLEMENTED

Where no SAM treatment service is currently implemented, the implementation will likely require the assistance of neighboring local government units or local or international NGOs with previous experience of SAM treatment in emergencies for the rapid provision of the minimum requirements for OTC/ITC and community mobilization. Coordination of programming for the treatment of SAM should be done through the relevant local authorities and the Nutrition Cluster under the LDRRMC.

With the management of SAM public health approach defined in these guidelines, the focus is on achieving high treatment coverage and early admission to treatment before complications can develop. As such, community mobilization and OTC services should always be prioritized over ITC. Before implementation, the emergency program must have a well-defined 'transition plan'. Possible scenarios and recommended actions during emergencies are detailed in the SPEED operations manual. Actions specific to SAM treatment are noted in Table 19.



Table 19. Possible scenarios and recommended actions in emergencies and disasters

Scenario	Recommended Options	By Whom	Time Frame
Increase of malnutrition is reported	1. Rapid assessment to identify MAM/SAM using MUAC/edema 2. Coordinate with nutrition cluster	3. BNS/BHW/trained volunteers via LGUs 4. National/Regional DOH, NNC, NGO	1 - 2 days
OTC required	1. Plan and coordinate with concerned LGU Health and Nutrition Staff (length of OTC program, strategic location, staffing, how to transition)	1. Nutrition Cluster	1 day
	2. Train BNS/BHW/ volunteers in active case finding	2. National/Regional DOH, NNC, NGO	1 day
	3. Train BNS/BHW/ Midwife in SAM treatment protocols	3. National/Regional DOH, NNC, NGO	1 - 2 days
	4. Establish OTC using mobile teams or temporary sites (safe structure/ tent/evacuation center) and support implementation	4. National/Regional DOH, NNC, NGO	2 - 5 days
	5. Identify permanent OTC sites as needed	5. Nutrition Cluster/DOH	As early as possible
	6. Transition services to LGU or close program	6. Nutrition Cluster/DOH	End of response
ITC required	1. Plan and coordinate with concerned Hospital Health and Nutrition Staff (length of ITC program, strategic location, staffing, how to transition)	1. Nutrition Cluster	1 day
	2. Train physicians/ nurses (licensed and in-training) in active case finding	2. DOH/NGO	1 day
	3. Train physicians/ nurses/midwives/ nutritionist-dietitians in SAM treatment protocols	3. DOH/NGO	1 - 2 days
	4. Establish ITC (safe structure/ tent/evacuation center) and support implementation	4. DOH/NGO	2 - 5 days
	5. Transition services to Hospital or close program	5. Nutrition Cluster/DOH	End of response

10.5 Logistics during Emergencies

The Policy and Guidelines on Logistics Management in Emergencies and Disasters is governed by Administrative Order 2012 - 0013. The objectives of this policy are to:

1. Ensure the availability of all necessary logistics during emergency and disaster preparedness and response.
2. Provide standards and guidelines in the management of goods necessary for interventions during emergencies and disasters.

3. Define specific roles and responsibilities of all the offices with a stake in logistics management.
4. Identify innovative and flexible strategies and potential partners necessary for the provision of logistics in emergencies and disasters.

10.6 Reporting in Emergencies

Reporting in emergencies is guided by the Nutrition Cluster monitoring frameworks (based on international guidelines). For the management of SAM, the same indicators (e.g. number of children screened, number of admissions) are monitored as in the regular program and the same performance benchmarks are applied (cure, death, default) or evaluation.

The Nutrition Cluster through the Information Management Officer should ensure that SAM treatment data is shared and included in emergency surveillance systems such as HEARS and SPEED. Standard monthly and quarterly reporting forms are provided in *Annexes 44 and 45*.

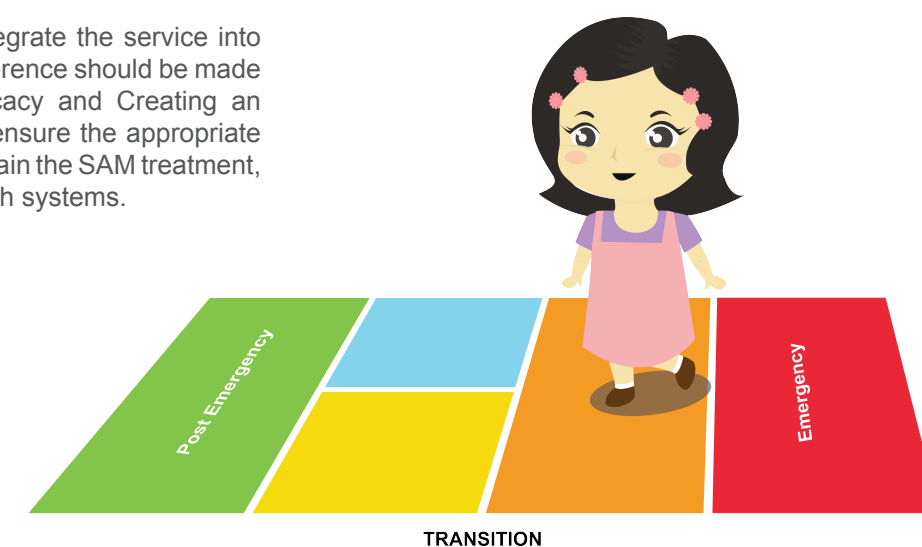
10.7 Transition (Post-emergency)

The transition of the program to treat SAM following the emergency should be made according to the 'transition plan' which is defined before the emergency intervention is started.

If there is no intention to continue the treatment service then the program is discontinued typically when the prevalence of SAM has returned to normal pre-emergency levels.

Where it is intended to integrate the service into routine health services, reference should be made to the Section 5.2 "Advocacy and Creating an Enabling Environment" to ensure the appropriate systems are in place to sustain the SAM treatment, integrated within local health systems.

In either case, it is **absolutely essential** that there is great effort exerted in sensitization of the Chief Executives, Local Nutrition Committees and members of the community in explaining the transition plan. The transition plan should be coordinated through the health and nutrition clusters and ensure that all necessary systems are in place prior to the cessation of the emergency service.



11. PROGRAM MONITORING AND REPORTING

In order to ensure that the service is achieving the objectives of identifying, treating and curing severe acute malnutrition, activities and outcomes must be monitored. A well-designed monitoring and reporting system can identify gaps in implementation of respective components, provide information for on-going needs assessment, advocacy, planning, redesigning and accountability.

Monitoring of the program is comprised of three major components:

Assessment of quality of treatment (i.e. proportion of children treated effectively)

Assessment of program coverage (i.e. proportion of the target group being reached with treatment) and appropriateness of the program for communities.

Assessment of aspects of service delivery (i.e. supply, human resources) which impact the above.

effectiveness and coverage will determine the impact/or program outcome hence:

**Treatment
quality
+ coverage
program
effectiveness**

The monitoring system in place to assess these components must include data capture, compilation, analysis and feedback if it is to function effectively. It aims to integrate into current health management information systems (HMIS) to the extent that it is possible i.e. a few selected indicators.

Even for a service that is achieving good clinical outcomes (high cure rates and low death rates), impact is diminished if it only achieves low levels of coverage. The combination of treatment

11.1 Program Performance Indicators and Standards

INDICATORS

The following program performance indicators collected on a monthly basis help in monitoring whether the service for management of SAM is achieving its objectives or not:

Number of admissions: The total number of children admitted into the program during the reporting month.

Cure rate: The number of children successfully discharged cured, as a percentage of all discharges during the reporting month.⁵⁰

Death rate: The number of children who died during treatment, as a percentage of all discharges during the reporting month.

Default rate: The number of children who defaulted, as a percentage of all discharges during the reporting month. Default is defined as absent for three consecutive visits in OTC or three days in ITC.

Non-cured rate: The number of children discharged as non-cured, as a percentage of all discharges during the reporting month. Non-cured is defined as not reaching discharge criteria after four months in the program as long as all possible investigations and follow-up have been attempted.⁵¹

All non-cured cases must be transferred to another health, nutrition, or social service for continuing care.

Human Resources Coverage: Number of

health workers who have been trained on SAM management as a percentage of all health workers in SAM implementation/target areas

Treatment Coverage: The percentage of eligible patients (primarily children 6 - 59 months old with SAM) existing in the area who are reached by the service.⁵²

Geographical Access/Coverage: the number of health facilities in an area which offer management of SAM services as a percentage of all health facilities in SAM implementation/target areas. This is a useful measure of the availability of the service (see Annex 43 for calculations)

PROGRAM PERFORMANCE STANDARDS

Program performance indicators are compared with standard cut-offs in order to monitor health facility performance and take corrective action as needed. They are also used to assess the performance of the service as a whole (i.e. at municipality level or at regional/national level) using compiled figures from all facilities.

The targets indicated in Table 20 were developed for use in emergency settings, but are currently accepted for use in non-emergency settings as well. Each facility and the program as a whole should achieve them.

Reminders

- Children referred between inpatient and outpatient components of management of SAM are not recorded as discharges as they remain within the therapeutic service though they are recorded as exits from a particular facility.
- Figures for Inpatient and Outpatient therapeutic care should be combined in order to appropriately assess the performance of the service for SAM as a whole. However, particular indicators may be useful to look at separately to assess particular aspects of treatment (e.g. length of stay in inpatient care).

Table 20. Minimum performance standards for the management of SAM⁵³

Recovery rate	> 75%
Death rate	< 10%
Defaulter rate	< 15%
Coverage	> 50 - 70%*

* Treatment coverage for Rural areas >50%, urban centers >70%, refugee camps >90%

11.2 Program Process Indicators and Standards

In addition to the monitoring of program performance there are a number of key program process indicators that should be monitored. Tracking these indicators will help to identify the cause of poor performance and therefore areas to focus attention.

GEOGRAPHICAL ACCESS TO TREATMENT

- ▶ Percentage of health facilities providing treatment for SAM (Geographical coverage – see Annex 43)

SENSITIZATION ACTIVITIES

- ▶ Location and type of sensitization activity
- ▶ Number and type of community members attending sensitization meetings
- ▶ Plan for sensitization activities in locations not attended that month

SCREENING AND REFERRAL

- ▶ Location of case-finding activities
- ▶ Number of cases of SAM identified in each location
- ▶ Number of cases of SAM admitted for treatment
- ▶ Plan for case-finding activities at locations not visited in the last month

COORDINATION MEETINGS RELATED TO COMMUNITY MOBILIZATION FOR SAM TREATMENT

- ▶ Association of Barangay Captains
- ▶ City/Municipal Mayor or other Chief Executives
- ▶ City/Municipal PMT
- ▶ City/Municipal Nutrition Councils

⁵⁰ Where all discharges is the sum of children recovered + died + defaulted + non-cured

⁵¹ Where there is no OTC and full treatment is taking place in ITC this criteria refers to the number of children who are transferred out of the service to a higher level health facility for further investigation after a period of 40 days in ITC

⁵² Note that due to the lack of clear measures of SAM in infants at community level they are not usually included in standard coverage assessment. Coverage can be assessed for MAM but modifications are required to the standard methodologies to do this.

⁵³ SPHERE 2011. The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response.

FACILITY

- Percentage of health workers trained on Management of SAM
- Number/percentage of facilities with stock outs of RUTF (or F75) in the previous three months

11.3 Monitoring Formats and Systems

Monitoring and data collection in order to report on the above indicators is performed through meetings, registration and reporting from community and health facility level and through specific assessments conducted at municipality level of coverage. Collation can be performed at the municipality level and at health facilities. Computers are not required for compilation, but they can make the process easier.

COMMUNITY LEVEL

On-going monitoring of community sensitization and mobilization efforts is required. This mainly involves constant dialogue, in which the communities periodically voice their views and suggest alternative courses of action. This entails regular meetings (monthly and/or quarterly) with key community representatives, health staff from the nearest health facility, beneficiaries and other partners to discuss different aspects of the program, such as:

- Reviewing the selection and motivation of community workers conducting case-finding
- The community's perspective of the program which may include identifying new barriers to access
- Joint solutions to problems limiting the impact of the program. This promotes community ownership of program development and implementation.

Reporting on case finding is kept simple. As house-to-house screening or mass mobilization and screening is not going to be the most common method of case finding it is not possible to draw conclusions on prevalence or trend in acute malnutrition based on information on cases/numbers screened. Therefore, reporting focuses just on the number of cases of SAM and MAM identified and referred or counseled (where no additional treatment for MAM is available) and who enter treatment. This can be achieved using existing BNS/BHW reporting.

FORMAL EVALUATION ACTIVITIES

- Coverage assessment activities (E.g. LQAS/ SLEAC or SQUEAC)
- Feedback from the community regarding the SAM treatment service
- NNC - MELLPI evaluations

In addition, BNS/BHW's have existing sick child reporting formats (*Annex 4*) which can be used to record the outcome of any follow-up visits. Additional formats for the follow-up of children who have defaulted are given in *Annex 51*. One of the key responsibilities of the BHS/BHW and/or Rural Health Unit/Main Health Center and Municipal Health office team is to maintain records of the community members screened and referred, any health education sessions conducted, as well as the analysis and submission to health facilities.

FACILITY LEVEL

Monthly reporting formats for the recording of admissions and exits according to a number of categories should be filled at each facility implementing management of SAM.

These formats can be completed using a simple tally sheet and the patient cards or from the register book where this is in use. Compilation should occur at municipality level compiling results for all health facilities implementing the management of SAM.

See *Annex 44 and 45* for reporting formats for use at facility and consolidation (LGU, Regional and National) levels.

The responsibilities and schedule for reporting are noted in Table 21.

The TCL for Sick Children may be used to record cases of SAM and data entered online.

Monthly reporting forms for the RHU, City/ Municipality, Province and Region are provided in the technical guidelines where the use of TCL for sick children is not possible, or newly established OTCs not located in health centers or for mobile teams.

Table 21. Reporting schedule and responsibilities

Focus of Responsibility		Recording Tools	Forms	Frequency	Schedule of Submission to higher level
Office	Person				
BHS (OTC)	Midwife/ Physician	Registry Book/ OTC Chart/TCL ITC Chart/	Facility level Form (<i>Annex 44</i>)	Monthly	every second week (Tuesday) of succeeding month to City/Municipality
		Critical Care Chart	Consolidation Form (<i>Annex 45</i>)	Annually	every second week of January to City/ Municipality
RHU (OTC)	PHN/Midwife/ Physician	Registry Book/ OTC Chart/TCL	Consolidation Form (<i>Annex 45</i>)	Quarterly	every third week of the first month of the succeeding quarter to City/Province
				Annually	every third week of January to City/ Province
Hospital (ITC)	Nurse/ Physician	Registry Book/ OTC Chart/TCL ITC Chart/ Critical Care Chart	Facility level Form (<i>Annex 44</i>)	Monthly	every second week (Tuesday) of succeeding month to City/Municipality or DOH Regional Office (for DOH Hospitals)
			Consolidation Form (<i>Annex 45</i>)	Quarterly	every third week of the first month of the succeeding quarter to City/Municipality or DOH Regional Office (for DOH Hospitals)
				Annually	every second week of January to City/ Municipality or DOH Regional Office (for DOH Hospitals)
PHO/ CHO/ MHO	Province/City/ Municipal NAO or ES/FHSIS Coordinator		Consolidation Form (<i>Annex 45</i>)	Quarterly	every fourth week of the first month of the succeeding quarter to DOH Regional Office
				Annually	every fourth week of January to DOH Regional Office
DOH Regional Office	Regional ESU or ND or FHSIS Coordinator		Consolidation Form (<i>Annex 45</i>)	Quarterly	every second week of the second month of the succeeding quarter to DOH Central Office
				Annually	every second week of March to DOH Central Office

TREATMENT COVERAGE ASSESSMENT

Along with all assessment of coverage is the identification of major barriers and boosters to coverage. These two aspects can be best assessed fully through the periodic use of the formal direct coverage assessment methods outlined in Annex 43, in particular a SQUEAC assessment.

It is important to note that barriers to coverage, though more likely to operate when the service is already up and running, can also develop at any time. Therefore in addition to periodic assessment, data already collected can be tallied and used at the health facility and municipality level on an on-going basis to give an indication of whether any major barriers to coverage are operating. This can be done through simple tallies and can be supported during supervision visits. Information can trigger further investigation either by assessment or by community focus group discussion and includes:

Trends in admissions. Plotted against the seasonal calendar (see Figure 2) – this information from the monthly reports can be plotted for the year so that any unusual patterns can be identified. An unusual unseasonal drop in admissions may indeed be due to a drop in prevalence of SAM, but it is also likely to be due to the occurrence of a particular barrier to coverage.

Spread of MUAC on admission. When a child has SAM, the condition should ideally be treated as early as possible. When community mobilization for MANAGEMENT OF SAM is done effectively, the MUAC measurement when the child starts treatment should be between 110 - 115 mm (11.0 - 11.5cm). This is called ‘early’ admission for treatment. If the MUAC is less than 110mm (11.0cm) then this is ‘late’ admission. A late admission means that treatment has been delayed and may occur for a number of reasons (lack of knowledge, long distance or caregiver’s workload, for example). Delaying treatment increases the risk of complications, hospitalization and increases the cost and time taken for treatment. It may also increase the risk of death. A simple plot can give this information (see Figure 15).

Location. It is always worth noting the location where cases are coming from, since this may indicate areas where a particular problem with SAM exists. An absence of cases from a particular area may also indicate a lack of awareness of SAM or difficulties in accessing treatment. Other factors affecting access to treatment such as distance, difficult terrain or climatic conditions should be considered.

Defaulter rates and reasons for default. When a child discontinues treatment against health workers’ advice before being cured, the caregiver can be interviewed and a form completed which identifies the reasons for stopping treatment. The information from the interviews (see Figure 16.) can be compared with other factors such as MUAC on admission or location to identify difficulties in program implementation and assist in adjusting the program to make treatment more accessible.

Simplified estimation of coverage. A simplified estimation of coverage may be accomplished in order to check that children are accessing treatment for SAM. In any community the health and nutrition team undertake an activity to find all cases of SAM in the community using active case finding techniques. During case finding, if we find children who are SAM but not attending treatment we can interview the caregiver to find out why.

For a rural community a ‘good’ coverage is above 50% while for an urban community coverage is expected to be above 70%. If the proportion of children with SAM undergoing treatment in the program is above these levels then the coverage can be classified as ‘high’ or, if the proportion is lower, classified as ‘low’. For example:

Total number of cases of SAM in the community = 10
Total number of SAM cases in treatment = 8
Coverage = 8/10 = 0.8 (or 80%)

Therefore coverage can be classified as “high” (i.e. above 50%).

This method can only classify coverage as high or low. It cannot be used to express program coverage as a percentage (in this example we cannot say coverage is 80%) because the sample size may be too low).

Figure 15. Simple tools for monitoring barriers to access

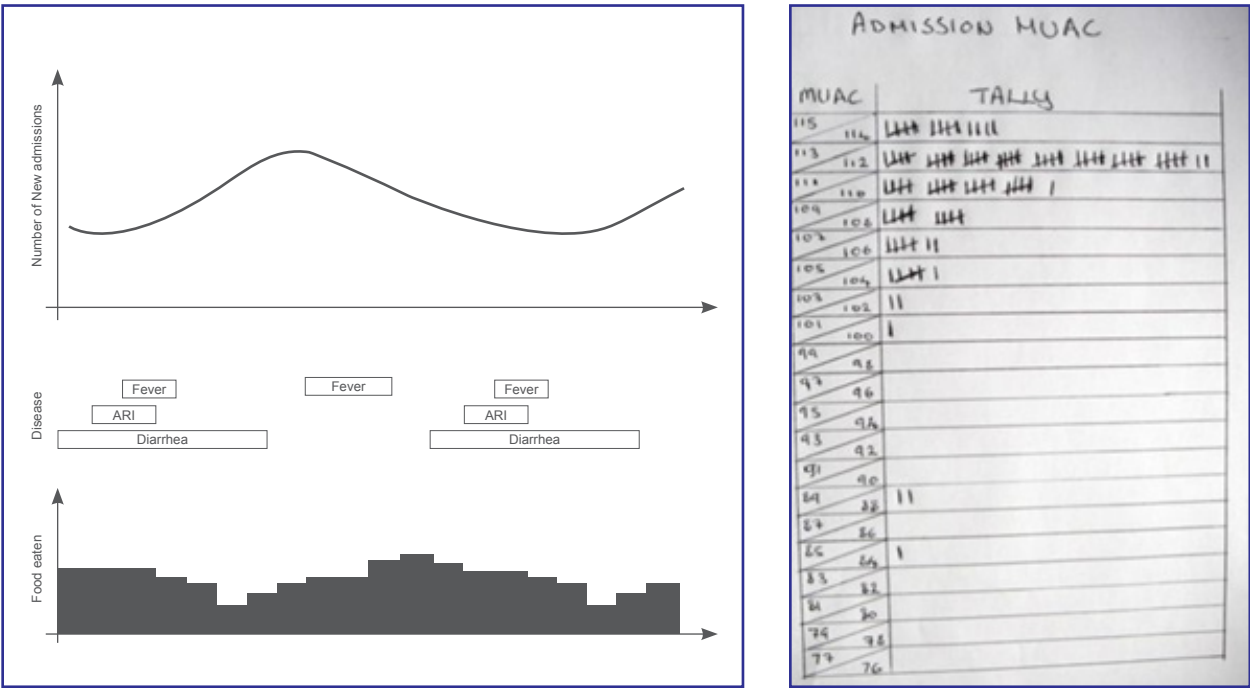
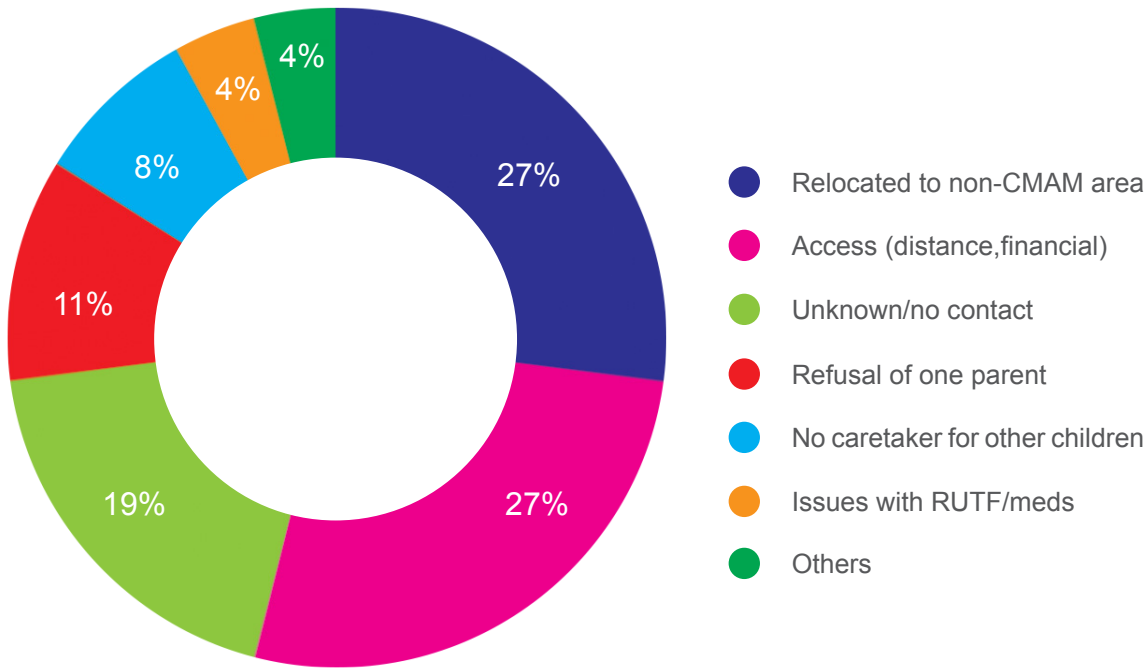


Figure 16. Defaulter analysis conducted for the CMAM pilot program in Maguindanao Province 2011, based on home visits and outreach by BHWs and field volunteers



11.4 Analysis and Feedback

Analysis based on the above information should focus on:

Treatment coverage and barriers to access. To identify any potential actions/modifications that need to be made to the service (e.g. further decentralization, increase in number of days dedicated to the service due to long waiting times).

Numbers and trends in admissions. To identify seasonal patterns for resource planning, to identify anomalies in these trends that require further investigation, to track the effects of mobilization and scale-up efforts and potentially (in programs with good coverage) to identify deterioration in the nutrition situation. This information will also be used to decide on when additional support is required.

Recovery, default, death and non-recovered. As a proportion of exits as measures of program quality. These indicators can identify issues with adherence to treatment protocols, management of the service (waiting times, approach to children and caregivers etc.), sharing of RUTF, insufficient community mobilization and poor coverage.

Numbers of patients transferred to inpatient care. As a proportion of admissions; this can indicate issues with adherence to treatment protocols, difficulties with referral mechanisms and/or coverage issues (poor coverage = a lot of late presentation = large number of referrals).

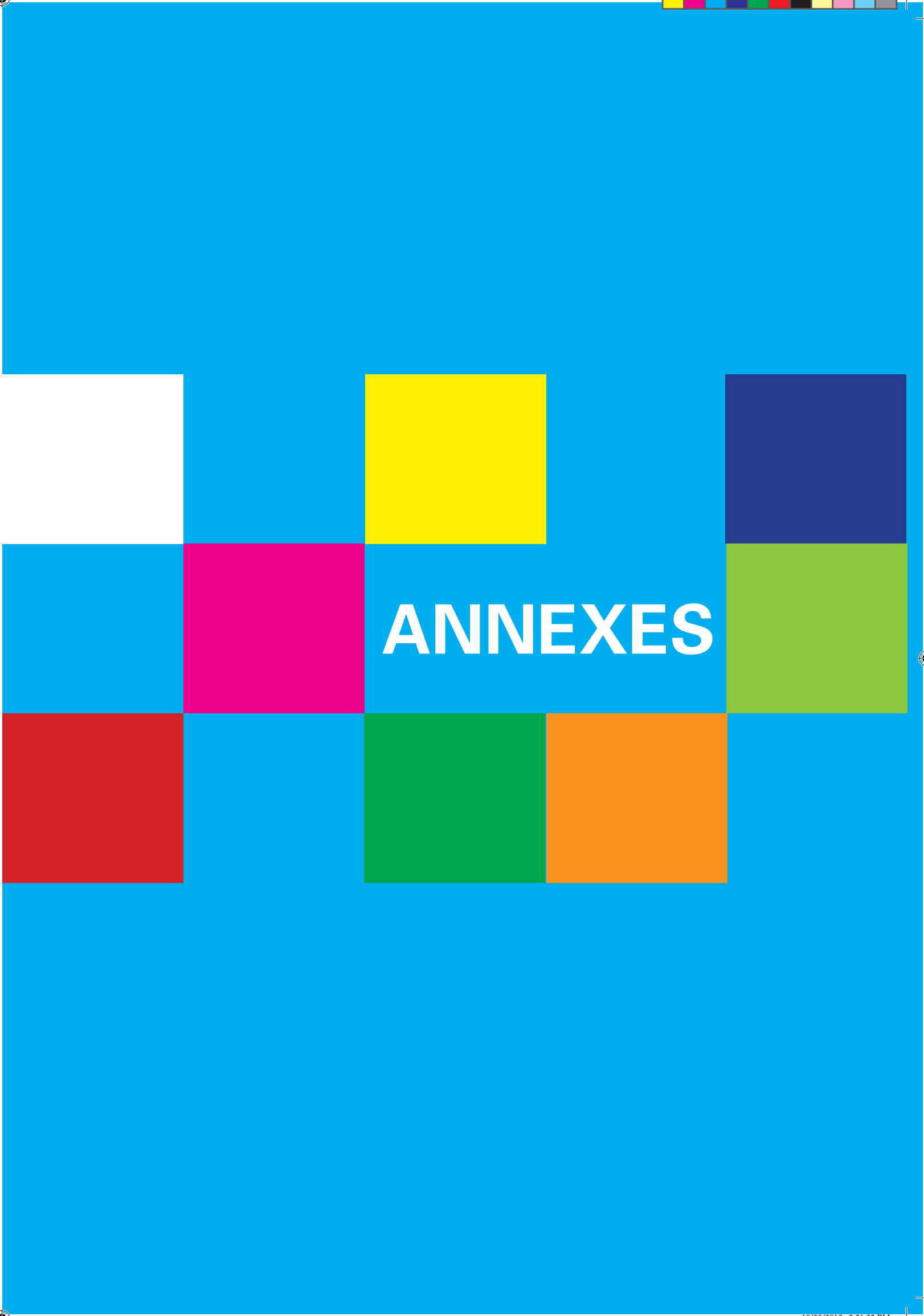
Numbers and trends in the proportion of ‘other’ admissions. Mainly other age groups; an indication of the need for further program support in identification and treatment of those groups. An increase may also indicate deterioration in the nutrition situation.

Numbers and locations of referrals This allows the tracking of the activity of community workers, identification of areas where additional services may be justified and to identify areas where there may be gaps in coverage (low numbers of referrals may reflect low levels of SAM or poor identification of cases).

This analysis should also include review of the program process indicators in Section 11.2 and the experiences during supervision visits in order to identify possible causes for the above and to point towards appropriate remedial actions.

At provincial, municipal and city levels, reports and their interpretation should be shared with stakeholders and fed back to facilities and to community workers through supervision visits and meetings. The information should form the basis for focusing supervision, support and resources in particular areas, such as increased supply chain support, deciding on on-going training focus for staff, triggering further investigation visits and potentially further coverage investigation.

Bottleneck Analysis indicators and steps can be found in *Annex 59*.





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ANNEX 1

Example of local event calendar for calculation of age

January	February	March	April	May	June	July	August
RAINY SEASON	DRY SEASON						
Land Preparation - Rice		Land Preparation - Corn (LPC)			Land Preparation - Rice		Planting - Rice
	Planting - Rice				Harvest - Corn		Land Preparation - Corn (LPC)
Hunger Gap				Harvest - Rice		Hunger Gap	
		ARI		Skin Disease			ARI

ANNEX 2

Taking measurements

Checking for bilateral edema

Bilateral edema is the sign of Kwashiorkor. Kwashiorkor is always a severe form of malnutrition. Children with bilateral edema are directly identified to be acutely malnourished. These children are at high risk of mortality and need to be treated in a therapeutic feeding program urgently.

In order to determine the presence of edema,

- » Normal thumb pressure is applied to the both feet for at least three seconds.
- » If a shallow print persists on the both feet, then the child has edema.

Only children with bilateral edema are recorded as having nutritional edema.¹

You must formally test for edema with finger pressure. You cannot tell by just looking.



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¹ There are other causes of bilateral edema (e.g. nephrotic syndrome) but they all require admission as an inpatient.

Severity of the edema		Recording
Mild	Both feet	+
Moderate	Both feet plus lower legs, hands and lower arms Intermediate between mild and severe	++
Severe	Generalised edema including both feet, legs, hands, arms and face	+++

Taking MUAC

MUAC is used as an alternative measure of “thinness” to weight-for-height. It is particularly used in children from one to five years; however, its use has been extended to include children more than 6 months (under 67cm in height).

The technique for taking the MUAC measurement can be seen on page 124.

Step 1 Ask the mother to remove clothing that may cover the child’s left arm.

Step 2 Calculate the midpoint of the child’s left upper arm. This can be done by taking a piece of string (or the tape itself), place one end on the tip of the child’s shoulder (Arrow 2) and the other on the elbow (Arrow 3), now bend the string up in a loop to double it so the point at the elbow is placed together with the point on the shoulder with a loop hanging down – the end of the straightened loop indicates the mid-point.

Step 3 As an alternative, place the tape at zero, which is indicated by two arrows, on the tip of the shoulder (Arrow 4) and pull the tape straight down past the tip of the elbow (Arrow 5). Read the number at the tip of the elbow to the nearest centimeter.

Step 4 Divide this number by two to estimate the midpoint. Mark the midpoint with a pen on the arm (Arrow 6).

Step 5 Straighten the child’s arm and wrap the tape around the arm at the midpoint. Make sure the numbers are right side up. Make sure the tape is flat around the skin (Arrow 7).

Step 6 Inspect the tension of the tape on the child’s arm. Make sure the tape has the proper tension (Arrow 7) and is not too tight so that the skin is compressed or too loose so that the tape does not contact the skin all the way round the arm (Arrows 8 and 9).

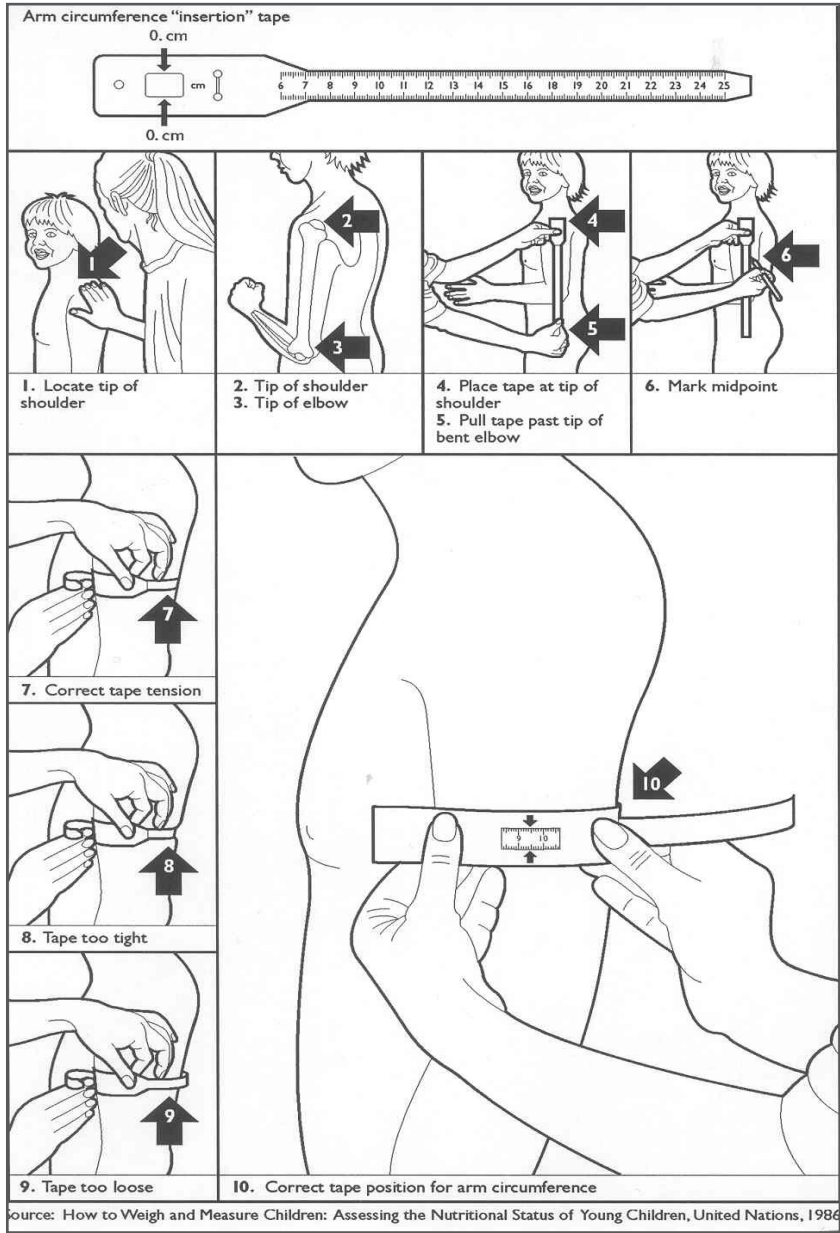
Step 7 Repeat any step as necessary.

Step 8 When the tape is in the correct position on the arm with correct tension, read and call out the measurement to the nearest 0.1cm (Arrow 10).

Step 9 Immediately record the measurement.



Photograph sourced from UNICEF



- 1

Locate tip of shoulder
- 2

Tip of shoulder
- 3

Tip of elbow
- 4

Place tape at tip of shoulder
- 5

Pull tape past tip of bent elbow
- 6

Mark midpoint
- 7

Correct tape tension
- 8

Tape too tight
- 9

Tape too loose
- 10

Correct tape position for arm circumference

Taking the weight

Children may be weighed by using a 25kg hanging sprint scale graduated to 0.100kg or an electronic balance (e.g. UNISCALE).

Step 1 Do not forget to re-adjust the scale to zero before each weighing.

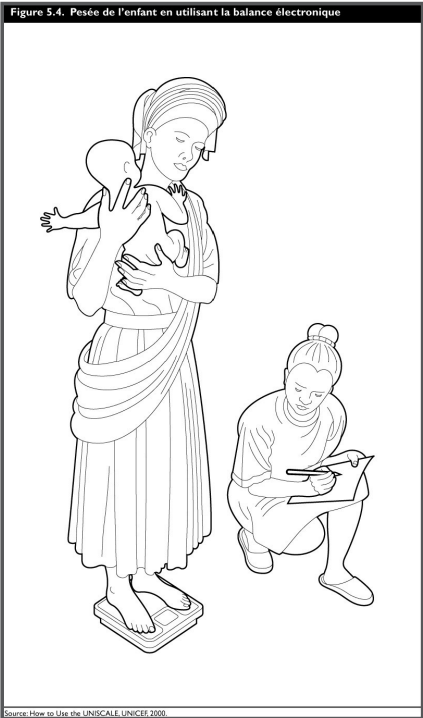
Step 2 A plastic washbasin should be attached by four ropes that go underneath the basin. The basin needs to be close to the ground in case the child falls out, and to make the child feel secure during weighing.

Step 3 If the basin is dirtied then it should be cleaned with disinfectant. This is much more comfortable and familiar for the child, can be used for ill children and is easily cleaned. Weighing pants that are used during surveys should not be used – they are uncomfortable, difficult to use, inappropriate for sick children and quickly get soiled to pass an infection to the next patient.

Step 4 When the child is steady, read the measurement to the nearest 100 grams, with the frame of the scale at eye level. Each day, the scales must be checked by using a known weight.

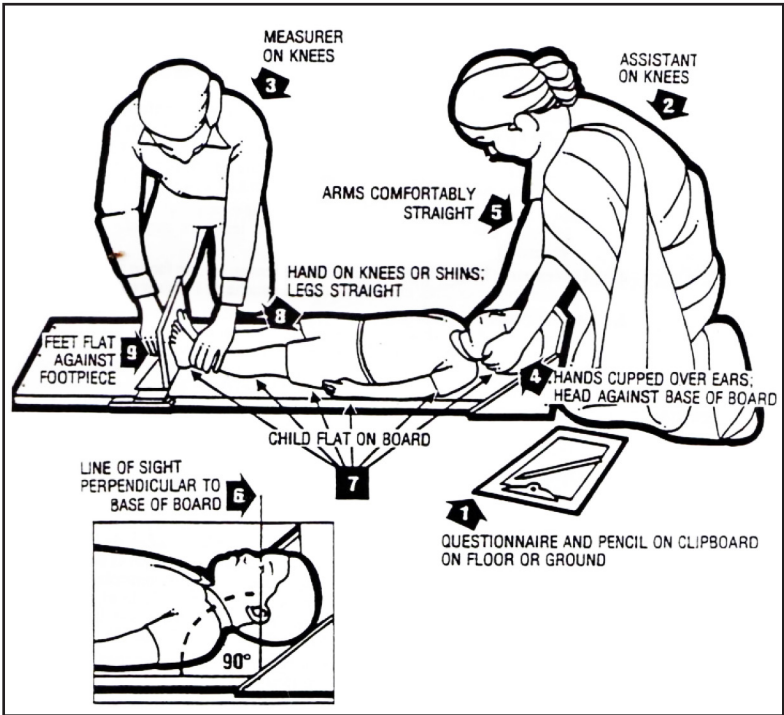
Photo on right:
Source: Guidelines for the management of the severely malnourished:
version January 2007 by Pr. Michael Golden and Yvonne Grellety, ACF.

Photos on left courtesy of ACF Liberia



Taking the length/height

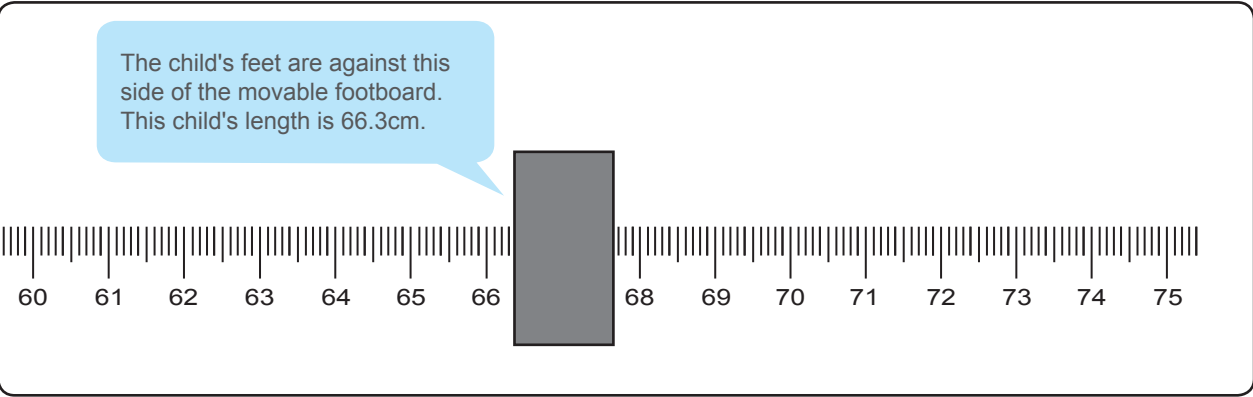
For children less than 87cm, the measuring board is placed on the ground. The child is placed, lying along the middle of the board. The assistant holds the sides of the child's head and positions the head until it firmly touches the fixed headboard with the hair compressed. The measurer places her hands on the child's legs, gently stretches the child and then keeps one hand on the thighs to prevent flexion. While positioning the child's legs, the sliding footplate is pushed firmly against the bottom of the child's feet. To read the measure, the footplate must be perpendicular to the axis of the board and vertical. The height is read to the nearest 0.1 centimeter.



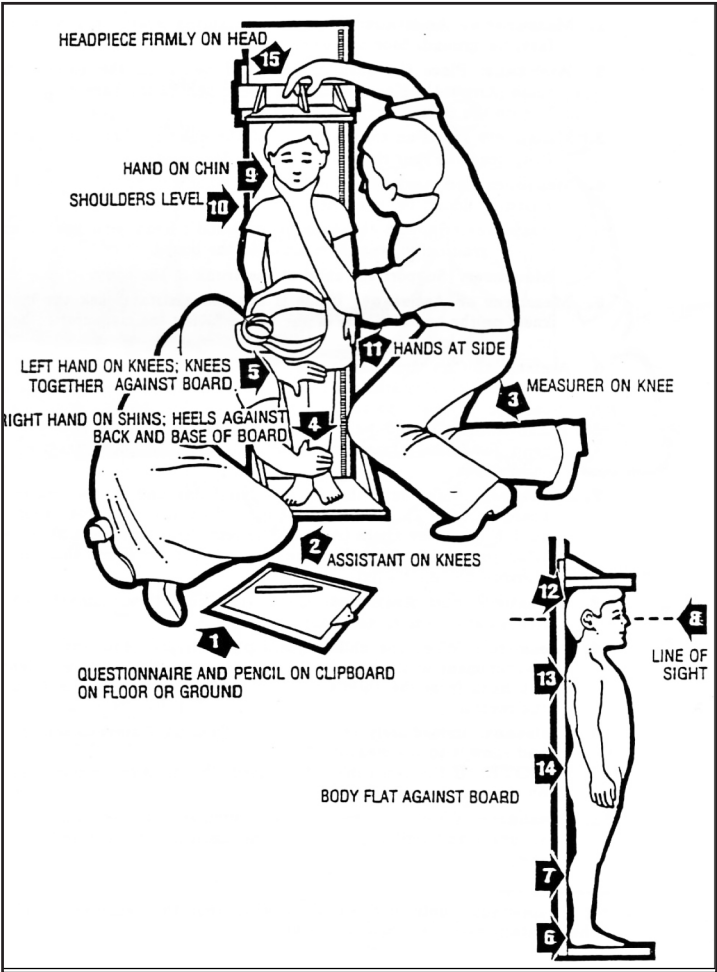
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- 1 Questionnaire and pencil on clipboard on floor or ground
- 2 Assistant on knees
- 3 Measurer on knees
- 4 Hands cupped over ears; head against base of board
- 5 Arms comfortably straight
- 6 Line of sight perpendicular to base of board
- 7 Child flat on board
- 8 Hands on knees or shins; legs straight
- 9 Feet flat against footpiece

The longer lines indicate centimetre marking; the shorter lines indicate millimetre.

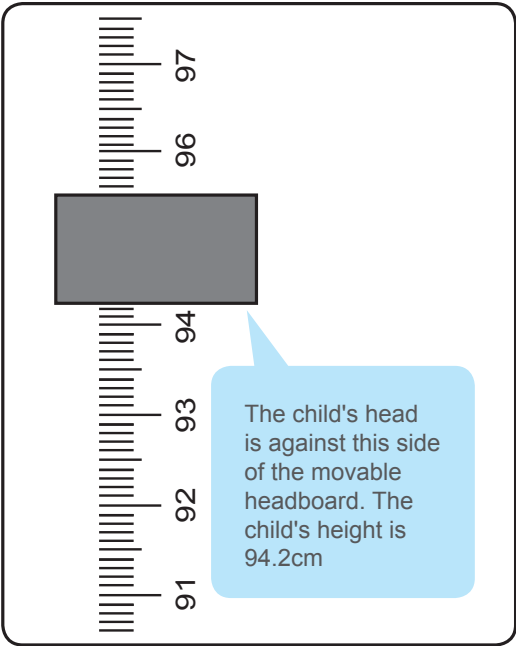


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- 1 Questionnaire and pencil on clipboard on floor or ground
- 2 Assistant on knees
- 3 Measurer on knees
- 4 Hands cupped over ears; head against base of board
- 5 Arms comfortably straight
- 6 Line of sight perpendicular to base of board
- 7 Child flat on board
- 8 Hands on knees or shins; legs straight
- 9 Feet flat against footpiece
- 10 Shoulders level
- 11 Hands at side
- 12, 13, 14 Body flat against Board



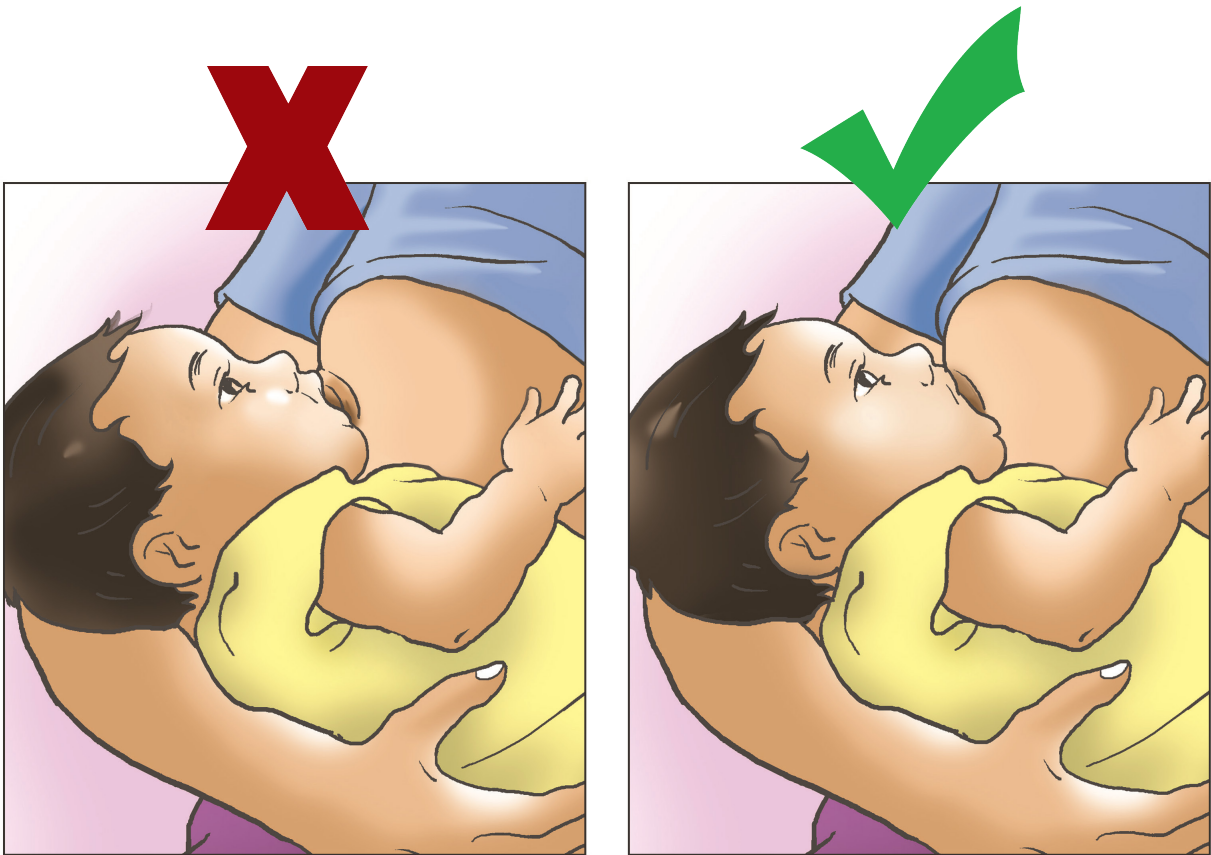
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ANNEX 3

IYCF counselling at community and facility level (IMCI)

Card 6. Tamang Paghakab

- » Ang tamang paghakab ng bibig ng sanggol sa suso ng ina ay nakatutulong sa kapwa ina at sanggol.
- Ang tamang paghakab ay nakatutulong sa maayos na pagsuso ng sanggol at sa patuloy na pagdaloy ng gatas. Nakatutulong din ito para maiwasan ang mga sugat at bitak-bitak sa utong ng ina. Hindi dapat masakit ang pagpapasuso.
- » Apat na palatandaan ng magandang paghakab:
1. Malawak ang bukas ng bibig ng sanggol.
 2. Makikita ang higit na maitim na balat (areola ng suso) sa itaas ng bibig ng sanggol kaysa sa ibaba.
 3. Ang ibabang labi ng sanggol ay naka-palabas.
 4. Nakadikit ang baba ng sanggol sa suso ng ina.
- » Kung ang sanggol ay maayos na nakalapat sa suso ng ina at madali niyang makuha ang gatas, ito ay senyales na maayos ang pagsuso. Ang ilang pang mga senyales ay:
1. Mabagal ngunit malalim, at minsan pahintu-hinto, na pagsuso ng sanggol. Maaring makita o marinig siyang lumulunok pagkatapos ng isa o dalawang pagsuso.
 2. Ang pagpapasuso ay kumportable at walang sakit para sa ina.
 3. Pagkatapos ng pagsuso ay kumportable at walang sakit para sa ina.
 4. Ang suso ay mas malambot pagkatapos ng pagpapasuso.



FEEDING RECOMMENDATIONS DURING SICKNESS AND HEALTH

Feeding recommendations FOR ALL CHILDREN during sickness and health, and including HIV EXPOSED children on ARV prophylaxis

Newborn, birth up to 1 week	1 week up to 6 months	6 up to 9 months	9 up to 12 months	12 months up to 2 years	2 years and older
 • Immediately after birth, put your baby in skin to skin contact with you. • Allow your baby to take the breast within the first hour. Give your baby colostrum, the first baby colostrum, the first yellowish, thick milk. It protects the baby from many illnesses. • Breastfeed day and night, as often as your baby wants, at least 8 times a day in 24 hours. Frequent feeding produces more milk. • If your baby is small (low birth weight), feed at least every 2 to 3 hours. Wake the baby for feeding after 3 hours, if baby does not wake itself. • Do not give other foods or fluids. Breast milk is what baby needs. This is especially important for infants of HIV-positive mothers. Mixed feeding increases the risk of HIV mother-to-child transmission compared to exclusive breastfeeding.	 • Breast feed as often as your child wants. look for signs of hunger, such as beginning to fuss, sucking fingers, or moving lips. • Breastfeed day and night whenever your baby wants, at least 8 times in 24 hours. Frequent feeding produces more milk. • Do not give other foods or fluids. Breastmilk is all your baby needs.	 • Breast feed as often as your child wants. • Also give thick porridge or well-mashed foods, including animal-sourced foods and Vitamin A-rich fruits and vegetables. • Start by giving 2 to 3 tablespoons of food. Gradually increase to 1/2 cups (1 cup = 250mL) • Give 2 to 3 meals each day. • Offer 1 or 2 snacks each day between meals when the child seems hungry.	 • Breast feed as often as your child wants. • Also give a variety of mashed foods or finely chopped family food, including animal-sourced foods and Vitamin A-rich fruits and vegetables. • Give 1/2 cup to 3/4 cup at each meal (1 cup = 250mL). • Give 3 to 4 meals each day. • Offer 1 or 2 snacks between meals. The child will eat if hungry. • For snacks, give small chewable items that the child can hold. Let your child try to eat the snack, but providel help if needed.	 • Breast feed as often as your child wants. • Also give a variety of mashed foods or finely chopped family food, including animal-sourced foods and Vitamin A-rich fruits and vegetables. • Give 3/4 to one cup at each meal (1 cup = 250mL). • Give 3 to 4 meals each day. • Offer 1 or 2 snacks between meals. • Continue to feed your child slowly, patiently, Encourage—but do not force—your child to eat.	 • Give a variety of foods to your child, including animal-sourced foods and Vitamin A-rich fruits and vegetables. • Give at least 1 full cup (1 cup = 250mL) • Give 3 to 4 meals each day. • Offer 1 or 2 snacks between meals. • If your child refuses a new food, offer "tastes" several times. Show that you like the food. Be patient. • Talk with your child during a meal, and keep eye contact.

RECOMMENDATION FOR FEEDING AND CARE FOR DEVELOPMENT

Birth up to 8 months



- Exclusively breast feed as often as your child wants, day and night, at least 8 times in 24 hours.
- Do not give other foods or fluids.

8 months up to 12 months



- Breast feed as often as your child wants.
- Add any of the following: Lugaw with oil, mashed vegetables or beans, steamed tokwa, flaked fish, pulverized roasted dilis, finely ground meat, egg yolk, bite-sized fruits. (3 times per day if breastfeed, 5 times per day if not breastfeed)

12 months up to 2 years



- Breast feed as often as your child wants.
- Give adequate amount of family foods such as: rice, camote, potato, fish, chicken, meat, mongo, steamed tokwa, pulverized roasted dilis, milk and eggs, dark green leafy and yellow vegetables (malunggay, squash), fruits (papaya, banana). Add oil or margarine. 5 times per day
- Feed the baby nutritious snacks like fruits.

2 years and older



- Give adequate amount of family foods at 3 meals a day.
- Give twice daily nutritious food between meals such as: Boiled yellow camote, boiled yellow corn, peanuts, boiled saba, banana, taho, fruits and fruit juices.

Birth up to 4 months of age



- Play: Provide ways for your child to see, hear, feel and move.

4 months to 6 months



- Play: Have large colorful things for your child to reach for, and new things to see
- Communicate: Talk to your child and get a conversation going with sounds or gestures.

8 months up to 12 months



- Play: Give your child clean, safe house hold things to handle, bang and drop.
- Communicate: Respond to your child's sound and interest. Tell your child the names of things and people.

12 months up to 2 years



- Play: Give your child things to stack up, and to put into container and take out.
- Communicate: Respond to your child's sound and interest. Tell your child the names of things and people.

2 years and older



- Play: Help your child count, name and compare things. Make simple toys for your child.
- Communicate: Encourage your child to talk and answer your child's questions. Teach your child stories, song and games.

Feeding Recommendation for a child who has PERSISTENT DIARRHEA

- If still breastfeeding, give more frequent, longer breastfeeding, day and night.
- If taking other milk such as milk supplements:
 - Replace with increase breastfeeding
 - Replace half the milk with nutrient-rich, semi-solid food.
- Do not use condensed or evaporated filled milk.
- For other food, follow feeding recommendations for the child's age.

ANNEX 4

Philippines IMCI & CIMCI (existing formats)

Give first dose appropriate antibiotic. Treat the child to prevent low blood sugar. Keep the child warm. Refer URGENTLY to hospital.	Give oral antibiotics for 5 days. Continue breastfeeding. Give ready-to-use therapeutic food if available for child aged 6 months or more. Counsel the mother on how to feed the child. Assess for possible TB infection Advise mother when to return immediately. Follow up in 5 days.	Assess the child's feeding and counsel the mother on the feeding recommendations. If feeding problem, follow up in 5 days Assess for possible TB infection. Advise the mother on when to return immediately. Follow up in 30 days.	If the child is less than 2 year old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations. Give micronutrient powder supplement. If feeding problem, follow up in 5 days.
PINK: COMPLICATED SEVERE ACUTE MALNUTRITION	YELLOW: UNCOMPLICATED SEVERE ACUTE MALNUTRITION	YELLOW: MODERATE ACUTE MALNUTRITION	GREEN: NO ACUTE MALNUTRITION
☐ Edema of both feet OR ☐ WFH/L less than -3 Z-scores OR MUAC less than 115mm (11.5cm) AND any one of the following: • Medical complication present or • Not able to finish RUTF or • Breastfeeding problem.	☐ WFH/L less than -3 Z-scores OR ☐ MUAC less than 115mm (11.5cm) AND ☐ Able to finish RUTF.	☐ WFH/L between -3 and -2 Z-scores OR ☐ MUAC 115 up to 125mm. (11.5 up to 12.5cm)	☐ WFH/L -2 Z-scores or more OR ☐ MUAC 125mm or more. (12.5cm or more)

THEN CHECK FOR ACUTE MALNUTRITION

CHECK FOR ACUTE MALNUTRITION

LOOK AND FEEL:

Look for signs of acute malnutrition

☐ Look for edema of both feet
☐ Determine the WFH/L * Z-score.
☐ Measure MUAC** mm in a child 6 months or older.

If WFH/L less than -3 Z-scores or MUAC less than 115mm (11.5cm), then:

☐ Check for any medical complication present:
- Any general danger sign
- Any severe classification
- Pneumonia with chest indrawing

☐ If no medical complications present:
- Child is 6 months or older, offer RUTF*** to eat.

Is the child:
Not able to finish RUTF portion?
Able to finish RUTF portion?
- Child is less than 6 months, assess breastfeeding:
Does the child have a breastfeeding problem?

CLASSIFY NUTRITIONAL STATUS

* WFH/L is Weight-for-Height or Weight-for-Length determined by using the WHO growth standards chart
** MUAC is Mid-Upper Arm Circumference measured using MUAC tape in all children 6 months or older.
***RUTF is Ready-to-Use Therapeutic Food for conducting the appetite test and feeding children with severe acute malnutrition.

SICK CHILD RECORDING FORM
(child age 2 months up to 5 years)

Date:___/___/___
Temperature:_____

BHW:_____
☐ Initial Visit ☐ Follow-Up

CHILD'S NAME: _____
First Name Family Name

AGE: _____
Years Months

☐ BOY ☐ GIRL

CAREGIVER'S NAME: _____ RELATIONSHIP: Mother/Father/Other: _____

ADDRESS: _____

CONTACT NO.: _____

1. IDENTIFY PROBLEMS		
ASK and LOOK	Any DANGER SIGN?	SICK but NO Danger Sign?
ASK: What are the child's problems? Encircle each sign reported. If not reported, then ask to be sure.		
Is there Cough? YES NO If yes, for how long? _____ days	☐ Cough for 21 days or more	☐ Cough (less than 21 days)
Is there Diarrhea (loose stools)? YES NO If yes, for how long? _____ days Is there blood in stool YES NO	☐ Diarrhea for 14 days or more ☐ Blood in stool	☐ Diarrhea (less than 14 days AND no blood in stool)
Is there Fever (reported or now)? ☐ Yes ☐ No If yes, started _____ days ago. If yes, was there a visit/travel and stayed overnight in a malaria area in the past 4 weeks? YES NO	☐ Fever for 7 days or more ☐ Any fever in a malaria area	☐ Fever less than 7 days
Is there Convulsions? YES NO	☐ Convulsions	
Is there Difficulty drinking or feeding? YES NO If yes, Not able to drink or feed anything? YES NO	☐ Not able to drink or feed anything	
Is there Vomiting? YES NO If yes, Vomits everything? YES NO	☐ Vomits everything	
Is there any other problem? YES NO See 7 If any OTHER PROBLEMS, refer.		
LOOK:		
Is there Chest indrawing? YES NO	☐ Chest indrawing	
If cough, count breaths in 1 minute: _____ bpm Fast breathing: YES NO Age 2 months up to 12 months: 50 bpm or more Age 12 months up to 5 years: 40 bpm or more	☐ Fast breathing	
Is the child Very sleepy or unconscious? YES NO	☐ Very sleepy or unconscious	
For child 6 months up to 5 years, MUAC strap colour: RED YELLOW GREEN	☐ Red MUAC	☐ Yellow MUAC
Is there swelling of both feet? YES NO	☐ Swelling both feet	
2. DECIDE: REFER OR TREAT CHILD	If ANY Danger Sign, REFER to health facility	If NO Danger Sign, treat at home and advise caregiver

3. REFER OR TREAT CHILD (check treatments given and other actions)	If ANY Danger Sign, REFER to health facility	If NO Danger Sign, treat at home and advise caregiver									
If any danger sign, REFER URGENTLY to health facility:	If no danger sign, TREAT at home and ADVISE on home care:										
Assist referral to health facility: ☐ Explain why child needs to go to health facility. ☐ If the child has diarrhea and can drink, begin giving ORS solution right away. ☐ For any sick child who can drink, advise to give fluids and continue feeding. ☐ Advise to keep child warm, if child is NOT hot with fever. ☐ Write a referral slip. ☐ Arrange transportation, and help solve other difficulties in referral. ☐ FOLLOW UP child on return at least once a week until child is well.	If Child has Diarrhea ☐ Give ORS. Help caregiver give child ORS in front of you until child is no longer thirsty. ☐ Give caregiver 2 ORS packets to take home. Advise to give as much as child wants, but at least 1/2 cup OR solution after each loose stool. ☐ Give zinc supplement. Give 1 dose daily for 10 days: - Age 2 months up to 6 months—½ tablet OR 1 and ½ bottle caps* (2.5mL) - Age 6 months up to 5 years —1 tab OR 3 bottle caps* (5mL) ☐ Help caregiver to give first dose now. * Bottle cap of 60mL zinc syrup										
	For ALL children treated at home, advise on home care ☐ Advise caregiver to give more fluids and continue feeding (kalamansi juice for cough). ☐ Advise on when to return. Go to nearest health facility or, if not possible, return immediately if child - Cannot drink or feed - Becomes sicker - Has blood in the stool ☐ Give Paracetamol for temperature of 38.5°C and above every 6 hours (until fever stops). <table><tr><th>AGE</th><th>TABLET (500mg)</th><th>SYRUP (120mg/5mL)</th></tr><tr><td>2 months up to 3 years</td><td>1/4</td><td>5mL (1tsp)</td></tr><tr><td>3 years up to 5 years</td><td>1/2</td><td>10mL (2tsps)</td></tr></table> ☐ Follow up child in 3 days. ☐ For child with YELLOW on MUAC strap, refer to health center for feeding advice.	AGE	TABLET (500mg)	SYRUP (120mg/5mL)	2 months up to 3 years	1/4	5mL (1tsp)	3 years up to 5 years	1/2	10mL (2tsps)	
AGE	TABLET (500mg)	SYRUP (120mg/5mL)									
2 months up to 3 years	1/4	5mL (1tsp)									
3 years up to 5 years	1/2	10mL (2tsps)									



4. CHECK VACCINES RECEIVED (check vaccines completed, encircle vaccines missed)

Age	Vaccine	Advise caregiver, if
Birth	☐ BCG ☐ Hep B1	
6 weeks	☐ DPT1 ☐ OPV1 ☐ Hep B2	WHEN is the next vaccine to be given?
10 weeks	☐ DPT2 ☐ OPV2	
14 weeks	☐ DPT3 ☐ OPV3 ☐ Hep B3	WHERE?
9 months	☐ Measles	

5. CHECK VITAMIN A STATUS: Given within the last 6 months? YES NO (Give Vitamin A if child is 6 months old and is not given within the last 6 months)

6. CHECK DEWORMING STATUS: Given Mebendazole/Albedazole within the last 6 months? YES NO (Give Mebendazole/Albendazole if child is is ≥ 12 months old and has not been given deworming medicine within the last 6 months.

7. If any OTHER PROBLEM or condition you cannot manage, refer child to health facility, write referral note, and follow up child on return.

Describe problem: _____

8. When to return for FOLLOW UP (encircle):

Monday / Tuesday / Wednesday / Thursday / Friday / Weekend

9. Note on follow up:

- ☐ Child is better—continue to treat at home. Day of next follow up: _____.
- ☐ Child is not better—refer URGENTLY to health facility.
- ☐ Child has danger sign—refer URGENTLY to health facility.

ANNEX 5 WFH tables and checking the z-scores

CHILD GROWTH STANDARDS TABLE ^{1/, 2/} Weight (kg) for Height (cm) of Boys 24-60 months old



INSTRUCTIONS FOR USE Upon taking the child's height, round off the actual reading to the nearest 0.5 cm. For instance, for a child 51.3 cm. in height, refer to row 51.5 cm. or if a child's height is 58.3 cm, refer to row 58.5 cm. Depending under which column the weight of the child falls, classify the child as severely wasted, wasted, normal, overweight or obese.

Height (cm)	Weight (kg)							
	Severely Wasted	Wasted		Normal		Overweight		Obese
	Wasted	From	To	From	To	From	To	Obese
	< -3SD	-3SD	< -2SD	-2SD	+2SD	> +2SD	+3SD	> +3SD
65.0	5.8	5.9	6.2	6.3	8.8	8.9	9.6	9.7
65.5	5.9	6.0	6.3	6.4	8.9	9.0	9.8	9.9
66.0	6.0	6.1	6.4	6.5	9.1	9.2	9.9	10.0
66.5	6.0	6.1	6.5	6.6	9.2	9.3	10.1	10.2
67.0	6.1	6.2	6.6	6.7	9.4	9.5	10.2	10.3
67.5	6.2	6.3	6.7	6.8	9.5	9.6	10.4	10.5
68.0	6.3	6.4	6.8	6.9	9.6	9.7	10.5	10.6
68.5	6.4	6.5	6.9	7.0	9.8	9.9	10.7	10.8
69.0	6.5	6.6	7.0	7.1	9.9	10.0	10.8	10.9
69.5	6.6	6.7	7.1	7.2	10.0	10.1	11.0	11.1
70.0	6.7	6.8	7.2	7.3	10.2	10.3	11.1	11.2
70.5	6.8	6.9	7.3	7.4	10.3	10.4	11.3	11.4
71.0	6.8	6.9	7.4	7.5	10.4	10.5	11.4	11.5
71.5	6.9	7.0	7.5	7.6	10.6	10.7	11.6	11.7
72.0	7.0	7.1	7.6	7.7	10.7	10.8	11.7	11.8
72.5	7.1	7.2	7.7	7.8	10.8	10.9	11.8	11.9
73.0	7.2	7.3	7.8	7.9	11.0	11.1	12.0	12.1
73.5	7.3	7.4	7.8	7.9	11.1	11.2	12.1	12.2
74.0	7.3	7.4	7.9	8.0	11.2	11.3	12.2	12.3
74.5	7.4	7.5	8.0	8.1	11.3	11.4	12.4	12.5
75.0	7.5	7.6	8.1	8.2	11.4	11.5	12.5	12.6
75.5	7.6	7.7	8.2	8.3	11.6	11.7	12.6	12.7
76.0	7.6	7.7	8.3	8.4	11.7	11.8	12.8	12.9
76.5	7.7	7.8	8.4	8.5	11.8	11.9	12.9	13.0
77.0	7.8	7.9	8.4	8.5	11.9	12.0	13.0	13.1
77.5	7.9	8.0	8.5	8.6	12.0	12.1	13.1	13.2
78.0	7.9	8.0	8.6	8.7	12.1	12.2	13.3	13.4
78.5	8.0	8.1	8.7	8.8	12.2	12.3	13.4	13.5
79.0	8.1	8.2	8.7	8.8	12.3	12.4	13.5	13.6
79.5	8.2	8.3	8.8	8.9	12.4	12.5	13.6	13.7
80.0	8.2	8.3	8.9	9.0	12.6	12.7	13.7	13.8
80.5	8.3	8.4	9.0	9.1	12.7	12.8	13.8	13.9
81.0	8.4	8.5	9.1	9.2	12.8	12.9	14.0	14.1
81.5	8.5	8.6	9.2	9.3	12.9	13.0	14.1	14.2
82.0	8.6	8.7	9.2	9.3	13.0	13.1	14.2	14.3
82.5	8.6	8.7	9.3	9.4	13.1	13.2	14.4	14.5
83.0	8.7	8.8	9.4	9.5	13.3	13.4	14.5	14.6
83.5	8.8	8.9	9.5	9.6	13.4	13.5	14.6	14.7
84.0	8.9	9.0	9.6	9.7	13.5	13.6	14.8	14.9
84.5	9.0	9.1	9.8	9.9	13.7	13.8	14.9	15.0
85.0	9.1	9.2	9.9	10.0	13.8	13.9	15.1	15.2
85.5	9.2	9.3	10.0	10.1	13.9	14.0	15.2	15.3
86.0	9.3	9.4	10.1	10.2	14.1	14.2	15.4	15.5
86.5	9.4	9.5	10.2	10.3	14.2	14.3	15.5	15.6
87.0	9.5	9.6	10.3	10.4	14.4	14.5	15.7	15.8
87.5	9.6	9.7	10.4	10.5	14.5	14.6	15.8	15.9
88.0	9.7	9.8	10.5	10.6	14.7	14.8	16.0	16.1
88.5	9.8	9.9	10.6	10.7	14.8	14.9	16.1	16.2
89.0	9.9	10.0	10.7	10.8	14.9	15.0	16.3	16.4
89.5	10.0	10.1	10.8	10.9	15.1	15.2	16.4	16.5
90.0	10.1	10.2	10.9	11.0	15.2	15.3	16.6	16.7
90.5	10.2	10.3	11.0	11.1	15.3	15.4	16.7	16.8
91.0	10.3	10.4	11.1	11.2	15.5	15.6	16.9	17.0
91.5	10.4	10.5	11.2	11.3	15.6	15.7	17.0	17.1
92.0	10.5	10.6	11.3	11.4	15.8	15.9	17.2	17.3
92.5	10.6	10.7	11.4	11.5	15.9	16.0	17.3	17.4

Height (cm)	Weight (kg)							
	Severely Wasted	Wasted		Normal		Overweight		Obese
	Wasted	From	To	From	To	From	To	Obese
	< -3SD	-3SD	< -2SD	-2SD	+2SD	> +2SD	+3SD	> +3SD
93.0	10.7	10.8	11.5	11.6	16.0	16.1	17.5	17.6
93.5	10.8	10.9	11.6	11.7	16.2	16.3	17.6	17.7
94.0	10.9	11.0	11.7	11.8	16.3	16.4	17.8	17.9
94.5	11.0	11.1	11.8	11.9	16.5	16.6	17.9	18.0
95.0	11.0	11.1	11.9	12.0	16.6	16.7	18.1	18.2
95.5	11.1	11.2	12.0	12.1	16.7	16.8	18.3	18.4
96.0	11.2	11.3	12.1	12.2	16.9	17.0	18.4	18.5
96.5	11.3	11.4	12.2	12.3	17.0	17.1	18.6	18.7
97.0	11.4	11.5	12.3	12.4	17.2	17.3	18.8	18.9
97.5	11.5	11.6	12.4	12.5	17.4	17.5	18.9	19.0
98.0	11.6	11.7	12.5	12.6	17.5	17.6	19.1	19.2
98.5	11.7	11.8	12.7	12.8	17.7	17.8	19.3	19.4
99.0	11.8	11.9	12.8	12.9	17.9	18.0	19.5	19.6
99.5	11.9	12.0	12.9	13.0	18.0	18.1	19.7	19.8
100.0	12.0	12.1	13.0	13.1	18.2	18.3	19.9	20.0
100.5	12.1	12.2	13.1	13.2	18.4	18.5	20.1	20.2
101.0	12.2	12.3	13.2	13.3	18.5	18.6	20.3	20.4
101.5	12.3	12.4	13.3	13.4	18.7	18.8	20.5	20.6
102.0	12.4	12.5	13.5	13.6	18.9	19.0	20.7	20.8
102.5	12.5	12.6	13.6	13.7	19.1	19.2	20.9	21.0
103.0	12.7	12.8	13.7	13.8	19.3	19.4	21.1	21.2
103.5	12.8	12.9	13.8	13.9	19.5	19.6	21.3	21.4
104.0	12.9	13.0	13.9	14.0	19.7	19.8	21.6	21.7
104.5	13.0	13.1	14.1	14.2	19.9	20.0	21.8	21.9
105.0	13.1	13.2	14.2	14.3	20.1	20.2	22.0	22.1
105.5	13.2	13.3	14.3	14.4	20.3	20.4	22.2	22.3
106.0	13.3	13.4	14.4	14.5	20.5	20.6	22.5	22.6
106.5	13.4	13.5	14.6	14.7	20.7	20.8	22.7	22.8
107.0	13.6	13.7	14.7	14.8	20.9	21.0	22.9	23.0
107.5	13.7	13.8	14.8	14.9	21.1	21.2	23.2	23.3
108.0	13.8	13.9	15.0	15.1	21.3	21.4	23.4	23.5
108.5	13.9	14.0	15.1	15.2	21.5	21.6	23.7	23.8
109.0	14.0	14.1	15.2	15.3	21.8	21.9	23.9	24.0
109.5	14.2	14.3	15.4	15.5	22.0	22.1	24.2	24.3
110.0	14.3	14.4	15.5	15.6	22.2	22.3	24.4	24.5
110.5	14.4	14.5	15.7	15.8	22.4	22.5	24.7	24.8
111.0	14.5	14.6	15.8	15.9	22.7	22.8	25.0	25.1
111.5	14.7	14.8	15.9	16.0	22.9	23.0	25.2	25.3
112.0	14.8	14.9	16.1	16.2	23.1	23.2	25.5	25.6
112.5	14.9	15.0	16.2	16.3	23.4	23.5	25.8	25.9
113.0	15.1	15.2	16.4	16.5	23.6	23.7	26.0	26.1
113.5	15.2	15.3	16.5	16.6	23.9	24.0	26.3	26.4
114.0	15.3	15.4	16.7	16.8	24.1	24.2	26.6	26.7
114.5	15.5	15.6	16.8	16.9	24.4	24.5	26.9	27.0
115.0	15.6	15.7	17.0	17.1	24.6	24.7	27.2	27.3
115.5	15.7	15.8	17.1	17.2	24.9	25.0	27.5	27.6
116.0	15.9	16.0	17.3	17.4	25.1	25.2	27.8	27.9
116.5	16.0	16.1	17.4	17.5	25.4	25.5	28.0	28.1
117.0	16.1	16.2	17.6	17.7	25.6	25.7	28.3	28.4
117.5	16.3	16.4	17.8	17.9	25.9	26.0	28.6	28.7
118.0	16.4	16.5	17.9	18.0	26.1	26.2	28.9	29.0
118.5	16.6	16.7	18.1	18.2	26.4	26.5	29.2	29.3
119.0	16.7	16.8	18.2	18.3	26.6	26.7	29.5	29.6
119.5	16.8	16.9	18.4	18.5	26.9	27.0	29.8	29.9
120.0	17.0	17.1	18.5	18.6	27.2	27.3	30.1	30.2

1/ Based on the WHO Child Growth Standards, Methods and Development, 2006 2/ This table is also downloadable at url:www.nnc.gov.ph



CHILD GROWTH STANDARDS TABLE ^{1/, 2/}
Weight (kg) for Height (cm) of Girls 24-60 months old



INSTRUCTIONS FOR USE

Upon taking the child's height, round off the actual reading to the nearest 0.5 cm. For instance, for a child 51.3 cm. in height, refer to row 51.5 cm. or if a child's height is 58.3 cm. refer to row 58.5 cm. Depending under which column the weight of the child falls, classify the child as severely wasted, wasted, normal, overweight or obese.

Height (cm)	Weight (kg)							
	Severely Wasted	Wasted		Normal		Overweight		Obese
	< -3SD	-3SD	< -2SD	-2SD	+2SD	> +2SD	+3SD	> +3SD
65.0	5.5	5.6	6.0	6.1	8.7	8.8	9.7	9.8
65.5	5.6	5.7	6.1	6.2	8.9	9.0	9.8	9.9
66.0	5.7	5.8	6.2	6.3	9.0	9.1	10.0	10.1
66.5	5.7	5.8	6.3	6.4	9.1	9.2	10.1	10.2
67.0	5.8	5.9	6.3	6.4	9.3	9.4	10.2	10.3
67.5	5.9	6.0	6.4	6.5	9.4	9.5	10.4	10.5
68.0	6.0	6.1	6.5	6.6	9.5	9.6	10.5	10.6
68.5	6.1	6.2	6.6	6.7	9.7	9.8	10.7	10.8
69.0	6.2	6.3	6.7	6.8	9.8	9.9	10.8	10.9
69.5	6.2	6.3	6.8	6.9	9.9	10.0	10.9	11.0
70.0	6.3	6.4	6.9	7.0	10.0	10.1	11.1	11.2
70.5	6.4	6.5	7.0	7.1	10.1	10.2	11.2	11.3
71.0	6.5	6.6	7.0	7.1	10.3	10.4	11.3	11.4
71.5	6.6	6.7	7.1	7.2	10.4	10.5	11.5	11.6
72.0	6.6	6.7	7.2	7.3	10.5	10.6	11.6	11.7
72.5	6.7	6.8	7.3	7.4	10.6	10.7	11.7	11.8
73.0	6.8	6.9	7.4	7.5	10.7	10.8	11.8	11.9
73.5	6.9	7.0	7.5	7.6	10.8	10.9	12.0	12.1
74.0	6.9	7.0	7.5	7.6	11.0	11.1	12.1	12.2
74.5	7.0	7.1	7.6	7.7	11.1	11.2	12.2	12.3
75.0	7.1	7.2	7.7	7.8	11.2	11.3	12.3	12.4
75.5	7.1	7.2	7.8	7.9	11.3	11.4	12.5	12.6
76.0	7.2	7.3	7.9	8.0	11.4	11.5	12.6	12.7
76.5	7.3	7.4	7.9	8.0	11.5	11.6	12.7	12.8
77.0	7.4	7.5	8.0	8.1	11.6	11.7	12.8	12.9
77.5	7.4	7.5	8.1	8.2	11.7	11.8	12.9	13.0
78.0	7.5	7.6	8.2	8.3	11.8	11.9	13.1	13.2
78.5	7.6	7.7	8.3	8.4	12.0	12.1	13.2	13.3
79.0	7.7	7.8	8.3	8.4	12.1	12.2	13.3	13.4
79.5	7.7	7.8	8.4	8.5	12.2	12.3	13.4	13.5
80.0	7.8	7.9	8.5	8.6	12.3	12.4	13.6	13.7
80.5	7.9	8.0	8.6	8.7	12.4	12.5	13.7	13.8
81.0	8.0	8.1	8.7	8.8	12.6	12.7	13.9	14.0
81.5	8.1	8.2	8.8	8.9	12.7	12.8	14.0	14.1
82.0	8.2	8.3	8.9	9.0	12.8	12.9	14.1	14.2
82.5	8.3	8.4	9.0	9.1	13.0	13.1	14.3	14.4
83.0	8.4	8.5	9.1	9.2	13.1	13.2	14.5	14.6
83.5	8.4	8.5	9.2	9.3	13.3	13.4	14.6	14.7
84.0	8.5	8.6	9.3	9.4	13.4	13.5	14.8	14.9
84.5	8.6	8.7	9.4	9.5	13.5	13.6	14.9	15.0
85.0	8.7	8.8	9.5	9.6	13.7	13.8	15.1	15.2
85.5	8.8	8.9	9.6	9.7	13.8	13.9	15.3	15.4
86.0	8.9	9.0	9.7	9.8	14.0	14.1	15.4	15.5
86.5	9.0	9.1	9.8	9.9	14.2	14.3	15.6	15.7
87.0	9.1	9.2	9.9	10.0	14.3	14.4	15.8	15.9
87.5	9.2	9.3	10.0	10.1	14.5	14.6	15.9	16.0
88.0	9.3	9.4	10.1	10.2	14.6	14.7	16.1	16.2
88.5	9.4	9.5	10.2	10.3	14.8	14.9	16.3	16.4
89.0	9.5	9.6	10.3	10.4	14.9	15.0	16.4	16.5
89.5	9.6	9.7	10.4	10.5	15.1	15.2	16.6	16.7
90.0	9.7	9.8	10.5	10.6	15.2	15.3	16.8	16.9
90.5	9.8	9.9	10.6	10.7	15.4	15.5	16.9	17.0
91.0	9.9	10.0	10.8	10.9	15.5	15.6	17.1	17.2
91.5	10.0	10.1	10.9	11.0	15.7	15.8	17.3	17.4
92.0	10.1	10.2	11.0	11.1	15.8	15.9	17.4	17.5
92.5	10.2	10.3	11.1	11.2	16.0	16.1	17.6	17.7

Height (cm)	Weight (kg)							
	Severely Wasted	Wasted		Normal		Overweight		Obese
	< -3SD	-3SD	< -2SD	-2SD	+2SD	> +2SD	+3SD	> +3SD
93.0	10.3	10.4	11.2	11.3	16.1	16.2	17.8	17.9
93.5	10.4	10.5	11.3	11.4	16.3	16.4	17.9	18.0
94.0	10.5	10.6	11.4	11.5	16.4	16.5	18.1	18.2
94.5	10.6	10.7	11.5	11.6	16.6	16.7	18.3	18.4
95.0	10.7	10.8	11.6	11.7	16.7	16.8	18.5	18.6
95.5	10.7	10.8	11.7	11.8	16.9	17.0	18.6	18.7
96.0	10.8	10.9	11.8	11.9	17.0	17.1	18.8	18.9
96.5	10.9	11.0	11.9	12.0	17.2	17.3	19.0	19.1
97.0	11.0	11.1	12.0	12.1	17.4	17.5	19.2	19.3
97.5	11.1	11.2	12.1	12.2	17.5	17.6	19.3	19.4
98.0	11.2	11.3	12.2	12.3	17.7	17.8	19.5	19.6
98.5	11.3	11.4	12.3	12.4	17.9	18.0	19.7	19.8
99.0	11.4	11.5	12.4	12.5	18.0	18.1	19.9	20.0
99.5	11.5	11.6	12.6	12.7	18.2	18.3	20.1	20.2
100.0	11.6	11.7	12.7	12.8	18.4	18.5	20.3	20.4
100.5	11.8	11.9	12.8	12.9	18.6	18.7	20.5	20.6
101.0	11.9	12.0	12.9	13.0	18.7	18.8	20.7	20.8
101.5	12.0	12.1	13.0	13.1	18.9	19.0	20.9	21.0
102.0	12.1	12.2	13.2	13.3	19.1	19.2	21.1	21.2
102.5	12.2	12.3	13.3	13.4	19.3	19.4	21.4	21.5
103.0	12.3	12.4	13.4	13.5	19.5	19.6	21.6	21.7
103.5	12.4	12.5	13.5	13.6	19.7	19.8	21.8	21.9
104.0	12.5	12.6	13.7	13.8	19.9	20.0	22.0	22.1
104.5	12.7	12.8	13.8	13.9	20.1	20.2	22.3	22.4
105.0	12.8	12.9	13.9	14.0	20.3	20.4	22.5	22.6
105.5	12.9	13.0	14.1	14.2	20.5	20.6	22.7	22.8
106.0	13.0	13.1	14.2	14.3	20.8	20.9	23.0	23.1
106.5	13.2	13.3	14.4	14.5	21.0	21.1	23.2	23.3
107.0	13.3	13.4	14.5	14.6	21.2	21.3	23.5	23.6
107.5	13.4	13.5	14.6	14.7	21.4	21.5	23.7	23.8
108.0	13.6	13.7	14.8	14.9	21.7	21.8	24.0	24.1
108.5	13.7	13.8	14.9	15.0	21.9	22.0	24.3	24.4
109.0	13.8	13.9	15.1	15.2	22.1	22.2	24.5	24.6
109.5	14.0	14.1	15.3	15.4	22.4	22.5	24.8	24.9
110.0	14.1	14.2	15.4	15.5	22.6	22.7	25.1	25.2
110.5	14.3	14.4	15.6	15.7	22.9	23.0	25.4	25.5
111.0	14.4	14.5	15.7	15.8	23.1	23.2	25.7	25.8
111.5	14.6	14.7	15.9	16.0	23.4	23.5	26.0	26.1
112.0	14.7	14.8	16.1	16.2	23.6	23.7	26.2	26.3
112.5	14.9	15.0	16.2	16.3	23.9	24.0	26.5	26.6
113.0	15.0	15.1	16.4	16.5	24.2	24.3	26.8	26.9
113.5	15.2	15.3	16.6	16.7	24.4	24.5	27.1	27.2
114.0	15.3	15.4	16.7	16.8	24.7	24.8	27.4	27.5
114.5	15.5	15.6	16.9	17.0	25.0	25.1	27.8	27.9
115.0	15.6	15.7	17.1	17.2	25.2	25.3	28.1	28.2
115.5	15.8	15.9	17.2	17.3	25.5	25.6	28.4	28.5
116.0	15.9	16.0	17.4	17.5	25.8	25.9	28.7	28.8
116.5	16.1	16.2	17.6	17.7	26.1	26.2	29.0	29.1
117.0	16.2	16.3	17.7	17.8	26.3	26.4	29.3	29.4
117.5	16.4	16.5	17.9	18.0	26.6	26.7	29.6	29.7
118.0	16.5	16.6	18.1	18.2	26.9	27.0	29.9	30.0
118.5	16.7	16.8	18.3	18.4	27.2	27.3	30.3	30.4
119.0	16.8	16.9	18.4	18.5	27.4	27.5	30.6	30.7
119.5	17.0	17.1	18.6	18.7	27.7	27.8	30.9	31.0
120.0	17.2	17.3	18.8	18.9	28.0	28.1	31.2	31.3



Prepared by:
NATIONAL NUTRITION COUNCIL, DOH
2332 Chino Roces Avenue Extension
Western Bicutan, Taguig City
Tel.No.: (02) 846-4459 or (02) 843-5824
email address: nsurveillance@nnc.gov.ph or
nsd_nnc@yahoo.com

Example: a girl is 66cm length and weighs 6.5kg.

- » Take the girls table, look in the 1st column and look for the figure 66cm (= height).
- » Take a ruler or a piece of card place it under the figure 66 and the other figures on the same line. On this line find the figure corresponding to the weight of the child, in this case 6.8.
- » Look to see what column this figure is in. In this case it is in the MEDIAN WEIGHT column.

In this example the child's weight is normal in relation to her LENGTH. She therefore has an appropriate weight for her length.

Example: a boy is 78cm tall and weighs 8.3kg

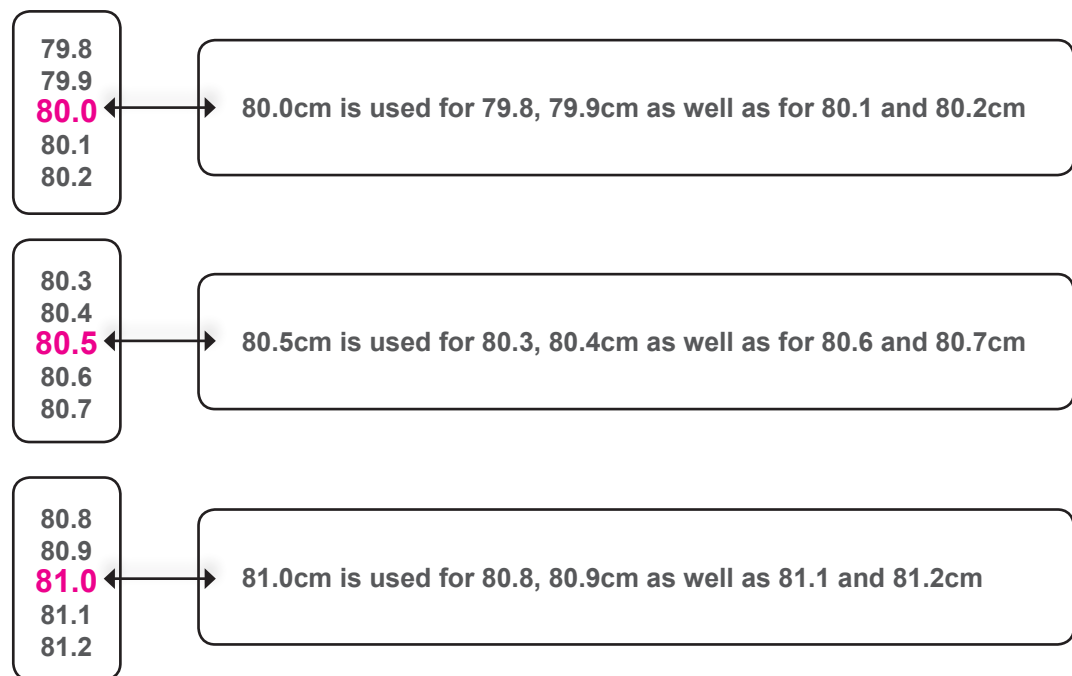
This child is between the column -2 and -3 Z-score or between MAM and SAM. He is too thin in relation to his length or less than two and more than three: he is < -two (less) and > -three (more): he is Moderately Malnourished but NOT Severely Malnourished.

NOTE: It may be that the weight or the height is not a whole number.

Example: length: 80.4cm and weight: 7.9kg. These two figures are not in the table.

FOR THE HEIGHT/LENGTH: The height/length measurement has to be rounded to the nearest 0.5cm, as it is in the following example.

LENGTH in cm



FOR THE WEIGHT: Looking at the table, for a length of 80.5cm the weight is 7.9kg. This is between 7.7 and 8.3kg. Conclusion: to express the fact that the child is between these 2 weights, write down that this child's Z-score is between -4 and -3 Z-score or <-3 AND >-4 Z-score. The child has SAM.

ANNEX 6

BMI tables for adults and adolescents

BODY MASS INDEX (ADULTS)
(=W / H²) Weight in kg and height in meters

Height (cm)	BMI					
	18.5	18	17.5	17	16.5	16
	Weight in kg					
140	36.3	35.3	34.3	33.3	32.3	31.4
141	36.8	35.8	34.8	33.8	32.8	31.8
142	37.3	36.3	35.3	34.3	33.3	32.3
143	37.8	36.8	35.8	34.8	33.7	32.7
144	38.4	37.3	36.3	35.3	34.2	33.2
145	38.9	37.8	36.8	35.7	34.7	33.6
146	39.4	38.4	37.3	36.2	35.2	34.1
147	40.0	38.9	37.8	36.7	35.7	34.6
148	40.5	39.4	38.3	37.2	36.1	35.0
149	41.1	40.0	38.9	37.7	36.6	35.5
150	41.6	40.5	39.4	38.3	37.1	36.0
151	42.2	41.0	39.9	38.8	37.6	36.5
152	42.7	41.6	40.4	39.3	38.1	37.0
153	43.3	42.1	41.0	39.8	38.6	37.5
154	43.9	42.7	41.5	40.3	39.1	37.9
155	44.4	43.2	42.0	40.8	39.6	38.4
156	45.0	43.8	42.6	41.4	40.2	38.9
157	45.6	44.4	43.1	41.9	40.7	39.4
158	46.2	44.9	43.7	42.4	41.2	39.9
159	46.8	45.5	44.2	43.0	41.7	40.4
160	47.4	46.1	44.8	43.5	42.2	41.0
161	48.0	46.7	45.4	44.1	42.8	41.5
162	48.6	47.2	45.9	44.6	43.3	42.0
163	49.2	47.8	46.5	45.2	43.8	42.5
164	49.8	48.4	47.1	45.7	44.4	43.0

Height (cm)	BMI					
	18.5	18	17.5	17	16.5	16
	Weight in kg					
165	50.4	49.0	47.6	46.3	44.9	43.6
166	51.0	49.6	48.2	46.8	45.5	44.1
167	51.6	50.2	48.8	47.4	46.0	44.6
168	52.2	50.8	49.4	48.0	46.6	45.2
169	52.8	51.4	50.0	48.6	47.1	45.7
170	53.5	52.0	50.6	49.1	47.7	46.2
171	54.1	52.6	51.2	49.7	48.2	46.8
172	54.7	53.3	51.8	50.3	48.8	47.3
173	55.4	53.9	52.4	50.9	49.4	47.9
174	56.0	54.5	53.0	51.5	50.0	48.4
175	56.7	55.1	53.6	52.1	50.5	49.0
176	57.3	55.8	54.2	52.7	51.1	49.6
177	58.0	56.4	54.8	53.3	51.7	50.1
178	58.6	57.0	55.4	53.9	52.3	50.7
179	59.3	57.7	56.1	54.5	52.9	51.3
180	59.9	58.3	56.7	55.1	53.5	51.8
181	60.6	59.0	57.3	55.7	54.1	52.4
182	61.3	59.6	58.0	56.3	54.7	53.0
183	62.0	60.3	58.6	56.9	55.3	53.6
184	62.6	60.9	59.2	57.6	55.9	54.2
185	63.3	61.6	59.9	58.2	56.5	54.8
186	64.0	62.3	60.5	58.8	57.1	55.4
187	64.7	62.9	61.2	59.4	57.7	56.0
188	65.4	63.6	61.9	60.1	58.3	56.6
189	66.1	64.3	62.5	60.7	58.9	57.2
190	66.8	65.0	63.2	61.4	59.6	57.8

BMI	INTERPRETATION
< 16.0	severe thinness
16.0 - 16.9	moderate thinness
17.0 - 18.4	marginal thinness
18.5 - 24.9	normal

Source: WHO (1995) Physical status: the use and interpretation of anthropometry, Report of a WHO Expert Committee, World Health Organization.

ANNEX 7

Identification of acute malnutrition in other groups

ADMISSION

GROUP	CRITERIA
Older Children (5 to 9 yrs.)	- BMI for age < -3 z-scores - OR - Presence of bilateral pitting edema
Adolescents (10 to 18 yrs.)	- MUAC < 160mm (16.0cm) - OR - BMI for age < -3 z-scores, and /or - OR - Bilateral pitting edema
Adults	- MUAC < 180mm (18.0cm) with recent weight loss - OR - BMI < 16 with recent weight loss - OR - Presence of bilateral pitting edema

DISCHARGE

GROUP	CRITERIA
More than 120cm HEIGHT to 18 years age	- WFH ≥ 85% NCHS - AND - No edema for 14 days
Adults	- MUAC ≥ 18.5cm - OR - BMI ≥ 17.5 - AND - No edema for 14 days - AND - Clinically well



ANNEX 8

Infant feeding assessment IMCI

THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE/LENGTH

Use this table to assess feeding of all young infants except HIV-exposed young infants not breastfed. For HIV-exposed non-breastfed young infants see chart "THEN CHECK FOR FEEDING PROBLEM OR LOW WEIGHT FOR AGE IN NON-BREASTFED INFANTS"

If an infant has no indications to refer urgently to hospital:

CHECK FOR ACUTE MALNUTRITION
ASK:
☐ Is the infant breastfed? If yes, how many times in 24 hours?
☐ Does the infant usually receive any other foods or drinks? If yes, how often?
☐ If yes, what do you use to feed the infant?
LOOK AND FEEL:
Look for signs of acute malnutrition
☐ Determine the weight for age
☐ Look for ulcers or white patches in the mouth (thrush).
ASSESS BREASTFEEDING:
☐ Has the infant breastfed in the previous hour? If the infant has not fed in the previous hour, ask the mother to put her infant to the breast. Observe the breastfeeding for 4 minutes. (if the infant was fed during the last hour, ask the mother if she can wait and tell you when the infant is willing to feed again.)
- Is the infant well-attached <i>not well attached good attachment</i>
To check attachment, look for:
☐ - Chin touching breast
- Mouth wide open
- Lower lip turned outwards
- More areola visible above than below the mouth (All these signs should be present if the attachment is good)
Is the infant suckling effectively (that, is slow deep sucks, sometimes pausing)?
☐ <i>not suckling effectively suckling effectively</i>
<i>Clear a blocked nose if it interferes with breastfeeding</i>

CLASSIFY FEEDING

☐ Not well attached to breast OR ☐ Not suckling effectively OR ☐ Less than 8 breastfeeds in 24 hours OR ☐ Receives other foods or drinks or OR ☐ Low weight for age/length OR ☐ Thrush (ulcers or white patches in mouth).	YELLOW: FEEDING PROBLEM OR LOW WEIGHT	• If not well attached or not suckling effectively, teach correct positioning and attachment. - If not able to attach well immediately, teach the mother to express breastmilk and feed by a cup. • If breastfeeding less than 8 times in 24 hours, advise to increase frequency of feeding. Advise the mother to breastfeed as often and as long as the infant wants, day and night. • If receiving other foods or drinks, counsel the mother about breastfeeding more, reducing other foods or drinks, and using a cup. • If not breastfeeding at all* - Refer for breastfeeding counselling and possible relactation.* - Advise about correctly preparing breast-milk substitutes and using a cup. • Advise the mother how to feed and keep the low weight infant warm at home. • Follow-up any feeding problem or thrush in 2 days. • Follow-up low weight for age in 14 days.
☐ Not low weight for age/length and no other signs of inadequate feeding.	GREEN: NO FEEDING PROBLEM	• Advise mother to give home care for the young infant. • Praise the mother for feeding the infant well.

* Unless not breastfeeding because the mother is HIV positive.



ANNEX 9

Summary Admission criteria for SAM

Inpatient management of SAM WHO and CB-IMCI protocols	Outpatient management of SAM
Severe acute malnutrition with complications	Severe acute malnutrition without complications
Children 6 - 59 months • Nutritional edema +++ OR • Marasmic-Kwashiorkor (< 115mm with any grade of edema) OR • MUAC < 115mm (11.5cm) OR • WFH< -3 z-scores with any of the following complications: - Anorexia, no appetite - Lower Respiratory Tract infection - High fever - Severe dehydration - Severe anemia - Not alert (very weak, lethargic, unconscious, convulsions) - Hypothermia - Intractable vomiting Infants Infants < 6 months who meet criteria for inpatient admission (see Table 8)	Children 6 - 59 months • MUAC < 115mm (11.5cm) OR • Nutritional edema + or ++ OR • WFH< -3 z-scores (where capacity already exists) AND • Appetite • Clinically well • Alert Infants Infants < 6 months who meet criteria for outpatient breastfeeding support (see Table 8 and Section 3.5)
Referral from OTC due to deterioration or non-response	Referral from ITC after stabilization



ANNEX 10

OTC/ITC referral form

Where there are existing two way referral formats in place these should be used and checked/amended to ensure all the information on the following example is included. If no existing format is in place the form below may be used/adapted for use.

Referral / Transfer Form (SAM) - Copy for Receiving Facility (OTC/ITC)

Name: Sex: Date of Birth: Age: months/years

Admission information: MUAC: Date of Referral:

Name mother/caregiver (for child):

Registration Number (mother/caregiver): Contact Number:

Municipality: Barangay: House No.:

To be completed by referral focal point (ie. RHU staff - midwife/nurse/doctor)

Referred to/Transfer to: OTC / ITC Date of referral / transfer:

Weight: Height: WH Z score (if used): Edema (circle): + ++ +++

Refer/Transfer from: (Name of Brgy/Health Center/OTC/Hospital)

Refer/Transfer to: (Name of Brgy/Health Center/ OTC /Hospital)

Reason for transfer (circle): Anorexia (no appetite) Complications Edema No weight gain Other:

Referred/Transferred by (name of Health Worker): Contact Number:

Received by (name of Health Worker): Contact Number:

Referral / Transfer Form (SAM) - Copy for Referring Facility (OTC/ITC)

Name: Sex: Date of Birth: Age: months/years

Admission information: MUAC: Date of Referral:

Name mother/caregiver (for child):

Registration Number (mother/caregiver): Contact Number:

Municipality: Barangay: House No.:

To be completed by referral focal point (ie. RHU staff - midwife/nurse/doctor)

Referred to/Transfer to: OTC / ITC Date of referral / transfer:

Weight: Height: WH Z score (if used): Edema (circle): + ++ +++

Refer/Transfer from: (Name of Brgy/Health Center/OTC/Hospital)

Refer/Transfer to: (Name of Brgy/Health Center/ OTC /Hospital)

Reason for transfer (circle): Anorexia (no appetite) Complications Edema No weight gain Other:

Referred/Transferred by (name of Health Worker): Contact Number:

Received by (name of Health Worker): Contact Number:

ANNEX 11

Routine medicine doses in OTC

ROUTINE ANTIBIOTICS

Antibiotics should be given to every severely malnourished patient, even if they do not have signs of systemic infection as the presence of infection may be masked due to immuno-suppression which limits response such as fever.

- » Give on admission
- » Give 2 times a day for 5 - 7 days (10 days if needed)
- » The first dose should be given in front of the health worker and an explanation given to the mother on how to continue this treatment at home.

The antibiotic regimen can be changed according to the resistance pattern of bacteria that arises from time to time and amoxicillin replaced with another broad spectrum antibiotic.

First line treatment: Amoxicillin²

Medication	Route	Dose	Prescription
Amoxicillin	Oral	4 - 9.9kg 250mg 10 - 13.9kg 500mg 14 - 19kg 750mg	On admission Twice daily for 5 - 7 days

Dosage of Cotrimoxazole prophylaxis for HIV positive children 6 - 59 months (additional)

Medication	Route	Dose	Prescription
Cotrimoxazole Suspension or tablet	Oral	40mg Trimethoprim 200mg Sulfamethoxazole	Once daily

MALARIA

- » Refer to the guidelines of the Philippine Malaria Control Program for asymptomatic malaria or malaria prophylaxis (except that quinine tablets should not be used in the severely malnourished).
- » Refer symptomatic malarial cases for inpatient management.
- » Where complicated patients refuse admission to inpatients, treat with the regimen recommended for inpatients.
- » Give insecticide impregnated bed nets in malaria endemic regions.

DEWORMING

- » This should be coordinated with the Garantisadong Pambata (GP) program
- » Give deworming for both those transferred from ITC to OTC and those admitted directly to OTC at the 2nd outpatient visit. Worm medicine is only given to children that can walk.

Age	<1 year	1 to 2 years	≥ 2years
Albendazole 400mg	Not given	½ tablet	Once daily
Mebendazole 500mg	Not given	½ tablet	1 tablet

² Amoxicillin is also effective in reducing the overgrowth of bacteria in the GI tract, commonly associated with severe acute malnutrition, and therefore preferred over Cotrimoxazole which is standard first line antibiotic in Nepal.



MEASLES

- » This should be coordinated with the Expanded Program of Immunization (EPI) program
- » Give measles vaccine to children over the age of 9 months and without a vaccination card during their 4th visit; give a second dose to those that have been given measles vaccine as inpatients when severely malnourished.
- » Do not give measles vaccine on admission to patients directly admitted to OTC, they are unlikely to be incubating measles³ and will not be exposed to nosocomial infection.

Note: Measles vaccine on admission to OTC is thus omitted except in the presence of a measles epidemic, because the antibody response is diminished or absent in the severely malnourished. The measles vaccine is given at a time when there should be sufficient recovery for the vaccine to produce protective antibodies.

VITAMIN A

- » Do not keep any child with clinical signs of vitamin A deficiency as an outpatient; the condition of their eyes can deteriorate very rapidly and they should always be transferred for inpatient management.
- » If an epidemic outbreak of measles is in progress, give vitamin A to all children.
- » During emergencies/disasters, give additional Vitamin A to 6 - 11 month old infants (100,000 IU) and 12 - 59 month old children (200,000 IU), unless they have received a similar dose in the past 4 weeks.

Table 1. Vitamin A treatment

Medication	Vitamin A IU orally
6 to 11 months	One blue capsule (100,000IU = 30,000ug)
12 months and more	Two blue capsules or 1 red capsule (200,000IU = 60,000ug)

MEDICINES FOR SPECIFIC GROUPS OF SAM CHILDREN IN OTP

One dose of folic acid (5mg) can be given to children with clinical anemia. There is sufficient folic acid in the RUTF to treat mild folate deficiency.⁴

³ If they are incubating measles, they are likely to fail the appetite test.
⁴ This assumes that the patients are receiving the RUTF at home and that the extent of sharing within the family is very small. If there is doubt whether the child will receive sufficient RUTF then a dose of folic acid can be given.

ANNEX 12

Antibiotic alternatives for OTC

Where Amoxicillin resistance is common a short course of metronidazole should be given at a lower dose than is normally prescribed - 10mg/kg/day (see Annex 19). Alternatively, Amoxicillin/Clavulanic acid combination could be used (the level of resistance is lower than with amoxicillin alone at the moment) – this recommendation should be reviewed periodically in light of the prevailing resistance patterns in the population being treated.

Do not give chloramphenicol to babies of less than 2 months of age and with caution in infants less than 4kg or less than 6 months of age. Because of the danger of OTC staff giving chloramphenicol to these categories of patient, it should not be used as routine treatment in OTC programs.

ANNEX 13

Fever and SAM

Antipyretics are much more likely to be toxic in the malnourished than in a normal child due to the likelihood of reduced liver function.

Do not give aspirin to any child under the age of 12 years with fever. This may cause Reye’s syndrome. Other non-steroidal anti-inflammatory medicines (NSAIDS) should not be given in malnutrition due to the risk of renal toxicity.

Paracetamol should not be given routinely to children with SAM. It is given as a stat dose with extreme caution under the direction of a clinician only in ITC and OTC. It should never be dispensed as a take home medicine in OTC. Paracetamol should be used with caution in children receiving phenobarbitone, phenytoin or rifampicin.

If Paracetamol is prescribed as a stat dose, the oral route is recommended since the absorption of rectal Paracetamol is highly variable.

For moderate fever up to 38.5°C rectal or 38.0°C underarm:

- » Remove blankets, hat, and enough clothes to expose the back, chest and stomach. Remove any sources of heat and keep away from windows exposing the child to direct sunlight. If in the open, keep the patient in the shade in a well-ventilated area.
- » Give frequent sips of cool water to drink.
- » Check for malaria and examine for other sources of infection.

For fever of over 39°C rectal or 38.5°C underarm, where there is the possibility of hyperpyrexia developing, in addition to the above, also:

- » Place a damp/wet room-temperature cloth over the patient’s scalp, and chest area. Dampen the cloth whenever it is dry. Use an electric fan or wave a fan over the child to increase the cooling effect.
- » Monitor the child’s temperature every 30 mins and stop aggressive cooling when the temperature falls below 38.5°C (rectal) or 38.0°C (axilla).
- » Give the patient frequent sips of cool water. Check with the physician regarding any limits to fluid intake particularly where there are also IV fluids administered.
- » If the temperature increases or does not reduce, the child should be undressed completely and the damp/wet cloth can be extended to cover a larger area of the body. A physician should reassess the status of the child and consider IV antibiotic therapy if not already started.



ANNEX 14

Ready-to-Use Therapeutic Food (RUTF)

Ready-to-Use Therapeutic Food (RUTF) is an energy dense mineral/vitamin enriched food nutritionally equivalent to F100, which is recommended by the WHO for the treatment of malnutrition and which has particular technical and quality specifications for its composition and production.⁵ It is oil-based with low water activity; thus it is microbiologically safe and can be kept for months in simple packaging. Therefore, with proper hygiene instruction, RUTF can be safely used for outpatient treatment of Severe Acute Malnutrition. As it is eaten uncooked, it is an ideal vehicle to deliver many micronutrients that might otherwise be broken down by cooking. Studies have shown that severely malnourished children given RUTF had a faster rate of recovery than those given F100.⁶

While RUTF is a generic name, Plumpy'nut® is the trademark name for the manufactured product from the French company, Nutraset,⁷ and Eeezee paste is the trademark name of the manufactured product from India.

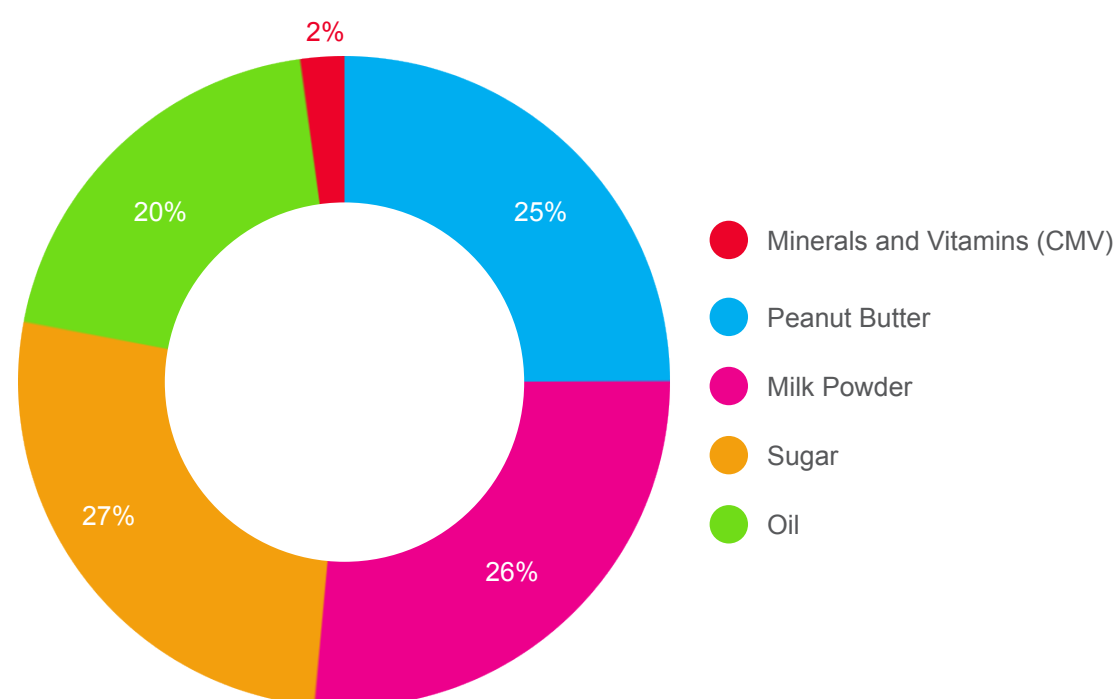
General Description:

Ready-to-Use Therapeutic Food, in individual sachets of 92 grams.

Composition:

Vegetable fat, peanut butter, skimmed milk powder, lactoserum, maltodextrin, sugar, mineral and vitamin complex. Both GMO Free Certificate and Halal certificates may be obtained from the manufacturer.

1 sachet = 92 grams of product = 500kcal.



⁵ WHO/WFP/SCN/UNICEF, 2007. Community-Based Management of Severe Acute Malnutrition. A Joint Statement by WHO, WFP, UNSCN and UNICEF, May 2007. http://www.unicef.org/publications/files/Community_Based_Management_of_Sever_Acute_Malnutrition.pdf
⁶ Diop EH, Dossou NI, Ndour MM, Briand A, and Wade S (2003): Comparison of the efficacy of a solid ready-to-use food and a liquid, milk-based diet for the rehabilitation of severely malnourished children: a randomised trial. Am J Clin Nutr 2003; 78:302-7
⁷ The company producing other therapeutic supplies such as F100 and F75.

Nutritional value per 100g of product:

Energy: 545kcal

Proteins: 13.6g = 10% protidic calories
Lipids: 35.7g = 59% lipidic calories
(Thus by deduction: 31% carbohydrate calories = 42.2g carbohydrates)

Vitamins:		Minerals:	
Vitamin A:	910 micrograms	Calcium:	320mg
Vitamin D:	16 micrograms	Phosphorus:	394mg
Vitamin E:	20mg	Potassium:	1111mg
Vitamin C:	53mg	Magnesium:	92mg
Vitamin B1:	0.6mg	Zinc:	14mg
Vitamin B2:	1.8mg	Copper:	1.78mg
Vitamin B6:	0.6mg	Iron:	11.53mg
Vitamin B12:	1.8 microgram	Iodine:	110 microgram
Vitamin K:	21 microgram	Sodium:	<290mg
Biotin:	65 microgram	Selenium:	30 microgram
Folic acid:	210 microgram		
Pantothenic acid:	3.1mg		
Niacin:	5.3mg		

Shelf life:

24 months from manufacturing date (under well ventilated storage conditions with maximum 40°C temperature; humidity has no impact)

Packaging and labelling:

Airtight sachet which includes an aluminum layer to protect against UV, light, and humidity.

Local Production of RUTF

Since RUTF has to be imported, the costs are high. With this problem in mind, the development of locally produced RUTF has been commenced in some countries, in order to try to ensure a cheaper and more sustainable supply of the product. Any local product must adhere to international specifications and be subject to national quality control testing and approvals.

ANNEX 15

Ready-to-use therapeutic food (RUTF) Ration

Body Weight Range (kg)	Ready-to-use therapeutic food (RUTF)	
	Sachets per day	Sachets per week*
3.0 - 3.4	1 ¼ sachet	8 sachets
3.5 - 4.9	1 ½	10
5.0 - 6.9	2	15
7.0 - 9.9	3	20
10.0 - 14.9	4	30
15.0 - 19.9	5	35
20.0 - 29.9	6	40

*Values are rounded off

ANNEX 16

OTC chart

ADMISSION DETAILS: OUTPATIENT THERAPEUTIC CARE (FRONT)

Instructions:
Please fill up needed details and encircle appropriate text or values based on history taking and physical examination

Name											Reg. No														
Municipality											Barangay														
Age (months)			Sex	M	F	Date of Admission																			
Admission Status	Screened by BNS/BHW		Walk-in		From IC		From SFP		From other OC		Readmission (Relapse)		ITC Refusal												
Total Number in Household	# adults: —		# children: —		Twin		Yes		No		Distance to home (hrs)				4Ps Beneficiary?		Yes		No						
Admission Anthropometry																									
MUAC (cm)				wt (kg)				ht (cm)				WHZ score													
Admission Criteria (encircle all applicable)		Edema		MUAC <11.5cm		WHZ<-3		Other (specify)																	
History																									
IMCI Danger Signs		Able to drink or breastfeed? Yes No				Does the Child Vomit Everything? Yes No				Has the child had convulsions? Yes No				Is child lethargic/unconscious? Yes No											
Diarrhoea		Yes		No		Stools / Day				1-3		4-5		>5											
Vomiting		Yes		No		Frequency				Passing Urine				Yes		No									
Cough		Yes		No		If edema, how long swollen?																			
Appetite at home?		Good		Poor		None		Breastfeeding				Yes		No											
Reported Problems												Other Medical Problems		Tuberculosis		Malaria		Congenital anomalies		Others:					
Physical Examination																									
Respiration Rate (# min)		<30		30 - 39		40 - 49		50+		Edema		None		+		++		+++							
Temperature (°C)				Chest Retractions										Yes		No									
Eyes		Normal		Sunken		Discharge		Dehydration				None		Moderate		Severe									
Conjunctiva		Normal		Pale		Mouth				Normal		Sores		Candida											
Ears		Normal		Discharge		Disability										Yes		No							
Skin Changes		None		Scabies		Peeling		Ulcers / Abscesses		Extremities				Normal		Cold									
Appetite Test		Pass		Fail		NOTE: If child failed appetite test, refer IMMEDIATELY to ITC																			
Routine Admission Medication																									
Admission:		Drug		Date		Dosage																			
		Amoxycillin																							
2nd visit:						Date																			
		Mebendazole				Measles																			
Other Medication																									
Drug		Date		Dosage		Drug		Date		Dosage															

FOLLOW UP: OUTPATIENT THERAPEUTIC CARE (BACK)

Name:		Registration Number:																
Week	ADM.	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	
Date																		
Anthropometry																		
Weight (kg)																		
Weight loss * (Y/N)			*		*													
MUAC (cm)																		
Edema (+ ++ +++)																		
* WEIGHT CHANGES: MARASMICS: If below admission weight on week 3 refer for home visit. If no weight gain by week 5 refer to ITC.																		
History																		
Diarrhea (# days)																		
Vomiting (# days)																		
Fever (# days)																		
Cough (# days)																		
Physical Examination																		
Temperature (°C)																		
Respiratory Rate (# / min)																		
Dehydrated (Y/N)																		
Anemia (Y/N)																		
Skin Infection (Y/N)																		
Appetite Test (Pass/Fail)																		
Action Needed (Y/N) (note below)																		
Other Medication (see front of card)																		
RUTF (# sachets)																		
Name of Examiner																		
OUTCOME ***																		
*** A= absent D= defaulter (3 consecutive absences) T= transfer to Inpatient X= died C= discharged cured																		
RT= refused transfer HV= home visit NC= discharged non-cured																		
** Action Taken (include date)																		



ANNEX 17

Action protocol

FACTOR	CRITERIA FOR REFERAL TO INPATIENT CARE	
Edema	Increase of or development of edema	
Appetite	No appetite or unable to eat RUTF	
Medical complications	Deterioration in medical condition to develop any of the IMCI danger signs:	
	• Vomiting	Intractable (empties contents of stomach)
	• Temperature: Fever	> 38.5°C (101.3°F) axillary > 39.0°C (102.2°F) rectal
	• Hypothermia	< 35°C (95°F) axillary < 35.5°C (96°F) rectal
	• Respiration rate	≥ 50 resp/min from 6 to 12 months ≥ 40 resp/min from 1 to 5 years ≥ 30 resp/min for over 5 year olds And any chest in-drawing (for children > 6 months)
	• Anemia	Very pale (severe palmar pallor, roof of the mouth (oropharynx), nail beds, eye palpebrae), difficulty breathing
	• Superficial infection	Extensive skin infection requiring Intra-muscular antibiotics
	• Alertness	Very weak, apathetic, unconscious
	• Fits/convulsions	
	• Hydration status	Recent history of diarrhea/vomiting with appearance of sunken eyes
Weight changes	Weight loss for 3 consecutive weighings Static weight for 5 consecutive weighings	
Reported breastfeeding issues (infants < 6 months only)	No improvement after 1 week and continued weight loss of infant	
General	Other general signs the health worker thinks warrants referral (as per IMCI)	



ANNEX 18

Routine medicines in Phase 1 inpatient care for SAM

If complications are NOT present:

Medication	Route	Dose		Prescription
Amoxicillin* Oral / NGT	Oral / NGT	4 - 9.9kg 10 - 13.9kg 14 - 19kg	250mg 500mg 750mg	On admission Twice daily for 5 - 7 days

**Where there is amoxicillin resistance give amoxicillin - clavulanic acid combination*

If indicated, Metronidazole (10mg/kg/day) may be used to treat small bowel overgrowth of bacteria not responding to amoxicillin. Note that the dosage of metronidazole is reduced for children with SAM.

If complications ARE present:

ROUTINE MEDICATIONS FOR SAM WITH COMPLICATIONS

Medication	Route	Dose		Prescription
Ampicillin*	IM/IV	50mg/kg		On admission 6 hourly for 2 days
Followed by Amoxicillin	Orally / NGT	4 - 9.9kg 10 - 13.9kg 14 - 19kg	250mg 500mg 750mg	Twice daily for 5 days

**Where there is amoxicillin resistance give Cefotaxime (IM 50mg/kg once daily) for 2 days then give amoxicillin-clavulanic acid combination for 5 days*

AND

Gentamycin	IM/IV	5mg/kg	On admission Once daily for 7 days
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If the child does not improve within 48 hrs or deteriorates within 24 hrs add:

Ceftriaxone*	IM/IV	75 - 100mg/kg	Once daily with Gentamycin
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**Care must be taken in reconstituting and administering Ceftriaxone via the IM or IV route. Please refer to the product data sheet for precautions. Cefotaxime (100mg/kg/day on 1st day followed by 50mg/kg/day on subsequent days) may be preferred in septic shock.*

Note: Chloramphenicol for children <1 year should be used with EXTREME caution. Risk for gray baby syndrome and death are associated with its use.



OTHER ROUTINE MEDICATIONS

Vitamin A

- A single dose of vitamin A is given on admission only if the child presents with:
- » Clinical signs of vitamin A deficiency (xerophthalmia, bitot spots)
 - » An active case of measles
- Or
- » If commercial F75 / F100 / RUTF is not available

Vitamin A schedule for the inpatient treatment of SAM

Medication	Age	Dose
Vitamin A	6 - 12 months	100,000 IU
	Greater than 12 months	200,000 IU

Folic Acid

Folic acid is present in adequate amounts in therapeutic milks and RUTF to treat mild anemia. If moderate anemia is diagnosed then give a stat dose of 5mg on admission. There is no requirement for daily doses. For severe anemia see *Annex 24*.

Measles Vaccination

Children with SAM treated in inpatient care should be vaccinated for measles on admission from 6 months of age. The dose should be repeated on discharge from inpatient care Phase 2 or when the child reaches 9 months in the outpatient setting.

Antimalarials

Follow national protocol. Impregnated bed nets should also be used on all beds in malaria endemic areas.

Some of the drugs used in treating malaria are potentially more toxic in the malnourished than in well-nourished patients and should be avoided if possible. Combinations containing amodiaquine should be avoided in the SAM children until their safety is confirmed in this group of children.

Do NOT give oral or intravenous infusions of quinine to SAM patients for at least the first two weeks of treatment. In severely malnourished patients quinine often induces prolonged and dangerous hypotension, hypoglycemia, arrhythmia and cardiac arrest. There is only a small difference between the therapeutic dose and the toxic dose.

MEDICATION NOT TO BE GIVEN IN PHASE 1

Anthelminthics

Anthelminthics for deworming are not given in Phase 1. These medications are absorbed through the gut and the active metabolite generated in the liver. Early in treatment poor absorption in the gut and poor liver function may render the drug ineffective.

Zinc

Zinc is present in F75 and F100 therapeutic milks and in RUTF. Episodes of diarrhea should be treated with antibiotics and ReSoMal if indicated by the presence of dehydration. If commercially prepared F75 / F100 / RUTF is not available then zinc should be used in the management of diarrhea.

Iron

Iron is not given in Phase 1. Iron increases the risk of mortality through the increased risk of infection and sepsis. Iron is given only in Phase 2 where it is added to the therapeutic milk (see Phase 2 care). Iron tablets do not need to be given to children receiving RUTF as iron is present already present in RUTF in the correct amounts.

ANNEX 19
Treat / prevent hypoglycemia

Hypoglycemia is a low level of glucose in the blood (less than 3mmol/L or less than 54mg/dL). It is a serious condition and can cause death. It can occur together with hypothermia and both the conditions are signs of possible infection. Hypoglycemia may also occur if the malnourished child has not been fed for 4 - 6 hours, sometimes even for lesser duration. For this reason it is always preferable to feed the child every 3 hours (8 times in 24 hours) especially during Phase 1 and Transition Phase. Signs of hypoglycemia include lethargy, limpness, convulsions and loss of consciousness.

- » If hypoglycemia is suspected but blood glucose cannot be measured, empirical treatment should be started immediately
- » Consider hypoglycemia whenever hypothermia is detected (axillary temperature less than 35.0°C; rectal temperature less than 35.5°C), or if any signs of hypoglycemia are present.

MEASURING BLOOD GLUCOSE LEVEL

If possible, testing for blood glucose level should be done using glucose paper test strips. When the end of the paper strip is covered with a blood sample, the strip changes color to indicate the blood glucose level. Check the expiry date of the strips; if the date is expired, the readings may not be correct. Different testing kits may have different instructions. In general, instructions are as follows:

- » Touch the paper to the blood sample
- » Wait for an appropriate number of seconds
- » Wash the blood off the strip with running water
- » Compare the test paper to the color scale provided with the strips.

In many cases the color scale for the paper strips may not clearly show the level. For example, it may say that a certain color corresponds to 2 - 4mmol/L. If a range is given, assume that the child's blood glucose is the lower reading (2mmol/L in this case).

TREATMENT

If the child is conscious, give:

- » 50mL bolus of 10% glucose or sucrose solution (1 rounded teaspoon of sugar in 3.5 tablespoons water) orally or by nasogastric (NG) tube.
- » Feed F75 every 30 minutes for first two hours (giving ¼ of the total recommended two hours' feed)
- » Keep the child warm
- » Antibiotics

If the child is lethargic, unconscious or convulsing, give:

- » 10% glucose (5mL/kg body weight) intravenously followed by 50mL of 10% glucose or sucrose by NG tube to prevent rebound hypoglycemia. Then give starter F75 as above
- » If convulsion persists after giving intravenous glucose, give per rectal diazepam (0.5mg/kg body weight)
- » Keep the child warm; give antibiotics and feed as mentioned above
- » If the child will be given IV fluids for shock, there is no need to follow the 10% IV glucose with an NG bolus, as the child will continue to receive glucose in the IV fluids.

PREVENTION OF HYPOGLYCEMIA

Frequent feeding is important in preventing both hypoglycemia and hypothermia. If possible, feeds during Phase 1/Stabilization should be given every 3 hours including waking the child during the night. If staff and facilities are not available to properly feed and monitor the child overnight, the full volume of daily feed should be given in fewer feeds (5 or 6 times daily). The likelihood of hypoglycemia is reduced if the child is given the proper amount of feed during the day.

NB: If the number of feeds is reduced for whatever reason, the volume of milk given at each feed must be increased accordingly.

ANNEX 20

Treat / Prevent hypothermia

Hypothermia is a condition with low body temperature (axillary temperature is below 35°C). A rectal temperature of < 35.5°C is a more reliable indicator of hypothermia. If available, a low reading rectal thermometer should be used. Check for hypoglycemia whenever hypothermia is detected.

Using a rectal thermometer

- » Shake the thermometer down to below 35°C
- » Position the child on his side or back with legs lifted
- » Insert thermometer in rectum so that the bulb goes in about ½ inch
- » Keep in place for 1 minute and take the reading.

Using an axillary thermometer

- » Shake thermometer down to below 35°C
- » Place thermometer under armpit
- » Keep in place for 3 minutes
- » If below 35°C, take rectal temperature for more accurate reading.

TREATMENT

- » Re-warm the child by clothing the child (including head), or covering with a warmed blanket and increasing the room temperature with a heater or lamp placed nearby, or by putting the child on the mother's bare chest (skin to skin) and covering them.
- » Feed the child (or start oral rehydration for dehydration if required)
- » Give antibiotics
- » Do not use hot water bottles for warming due to danger of burning fragile skin.

PREVENTION

- » Keep the child covered and away from draughts of air
- » The room temperature should be maintained at not less than 27°C if possible
- » Avoid regular bathing, keep child dry, change wet diapers, clothes and bedding
- » Avoid exposure (e.g. bathing, prolonged medical examinations)
- » Let child sleep with mother/caregiver at night for warmth
- » Feed regularly, give feeds throughout the day and night during Phase 1, if possible, especially for the first 24 - 48 hours.



ANNEX 21

Treatment of dehydration / hypovolemic shock

Misdiagnosis and inappropriate treatment for dehydration is the most common cause of death of the severely malnourished patient. It is difficult to diagnose dehydration in children with SAM; the signs of dehydration such as non-elastic skin and sunken eyes are often present in the severely malnourished patient regardless of hydration status. It is important to take a detailed medical history and determine if there was a recent fluid loss from acute diarrhea or vomiting.

Children with SAM usually have reduced cardiac contractility and renal function. Rehydration therapy in these patients is more cautious than for a normally nourished child as the child cannot compensate for increased intravascular volumes in the same way, which may quickly precipitate heart failure.



If a child is conscious or has a nasogastric tube in place and the risk of aspiration is low, oral rehydration solutions are **ALWAYS** preferable to intravenous rehydration solutions. Intravenous solutions should only be used when the child is unconscious or is being resuscitated from shock. An intravenous infusion should never be present in a child who is able to take fluids orally or by nasogastric tube.

NB: The treatment of dehydration and hypovolemic shock differs for children with wasting and children with edematous malnutrition. A child with edema should not be diagnosed with dehydration although they may be hypovolemic. The rehydration of children with edema is the same as the treatment of a child with septic shock

USE OF IV LINES IN ITC

Intravenous access should be maintained only for those children in which it is indicated, i.e.:

- » Children receiving intravenous antibiotics in Phase 1 / Transition Phase
- » Children with decreased consciousness unable to safely tolerate oral fluids
- » Children with hypovolemic / septic shock
- » Children in whom oral or NG tube fluids are contraindicated

IV access which is used intermittently (e.g. for IV antibiotics) must be flushed every 8 hours with 2mL of sterile normal saline or Heplock®. Peripheral IV access must be cleaned with alcohol at each use.

Intravenous access **must not** be maintained with slow infusion IV fluids “to keep the line open”. This places the child with SAM in danger of fluid overload.

All IV access must be removed when there is no indication for its use. IV access should not be left in place “just in case it is needed”. Peripheral IV access should be removed (and re-sited if needed) every 5 days or more frequently if signs of phlebitis or infection develop.

Central venous access (including peripherally inserted central cannula/PICC) should be maintained according to the physician’s instructions.

ASSESS THE DEHYDRATION

A diagnosis of dehydration must be made from an examination of the clinical condition with a positive history of fluid loss, which identifies the cause of dehydration (e.g. persistent vomiting or acute diarrhea). The assessment of dehydration for children with SAM can be very difficult even for a skilled health staff and can be confused with other conditions. It is essential to manage the child with extreme caution and be willing to change the diagnosis if the clinical status of the child does not improve with rehydration. There is a narrow ‘therapeutic window’ for children with SAM and dehydration; overhydration and death can occur quickly.

CLINICAL SIGNS

- » The skin pinch test is an unreliable sign especially in marasmic children. A positive skin pinch test may occur in a marasmic child with a normal hydration status.
- » A definite history of significant, recent fluid loss – usually frequent watery diarrhea of sudden onset (within the past few hours or days). Children with chronic diarrhea may become adapted physiologically to this state and do not require urgent rehydration therapy.
- » Sunken eyes must be confirmed by an accurate history. The eyes must have become sunken in the previous few days and a positive history for the cause of dehydration identified. In dehydration this is due to contraction of the venous plexus behind the eye and occurs acutely. Sunken eyes can also occur over time in marasmic children due to a loss of fat behind the eyeball.
- » A child’s urine output must also be assessed by an accurate history. The mother or caregiver should be asked whether or not the child passed urine in the last 6 hours, noting also the urine color if present.
- » Visibly full superficial veins on the head, neck, and limbs must be absent in a SAM child with dehydration.
- » A diagnosis of dehydration should ALWAYS be a provisional diagnosis. The response to treatment must be observed before the diagnosis can be confirmed.
- » Concomitant signs of dehydration may include increased heart rate, temperature, and/or reduced blood pressure.

PATIENT’S STATUS

1. Weigh the child. The weight should be monitored regularly (at least every hour) during rehydration to assess the response to treatment. Rehydration therapy should aim to replace the estimated fluid losses up to a maximum of 5% body weight.
2. Check the heart rate.
3. Check the respiration rate.
4. Feel and note if extremities (hands and feet) are cold.
5. Note the level of consciousness of the child (may range from restless, semi-conscious or lethargic and difficult to arouse).
6. Palpate the liver and mark the costal margin with indelible ink.
7. Note the absence of jugular venous distension.
8. Note the amount of any edema.

If the following signs are also present:

- » Decreased level of consciousness so that the patient is semi-conscious or cannot be roused

Plus either

- » Cold extremities
- » Slow capillary refill in the nail beds (longer than 3 seconds) OR
- » Fast or weak / absent radial / femoral pulse
 - Children 2 to 12 months - pulse rate greater than 160/ min
 - Children 1 to 5 years - pulse rate greater than 140 / min

Then hypovolemic shock is provisionally diagnosed (confirmation of the diagnosis is only made following observation of the response to treatment).

NB: The differential diagnosis of hypovolemic shock and septic shock and is often very difficult in a child with SAM. If another illness such as viral infection, malaria, or other severe condition is present, septic shock should be assumed. Septic shock is often seen in individuals who are immunocompromised or have hospital acquired infections. Mortality due to multiple organ failure may exceed 50%.

ORAL REHYDRATION SOLUTIONS

1. **Rehydration Solution for Malnutrition** (ReSoMal) should be used as the standard therapy for children with SAM diagnosed with dehydration

2. **Low Osmolarity Oral Rehydration Solution** (LO-ORS) may be used for the treatment of children with SAM but only for those who have a positive diagnosis of Acute Watery Diarrhea (AWD) or Cholera

3. **Standard (full strength) Oral Rehydration Solution** (ORS) does not have a suitable formulation for the treatment of dehydration in children with SAM.

Where ReSoMal is not available, a modified, half-strength solution of LO-ORS may be used with added potassium and glucose.

NB: Oral Rehydration Solutions such (ORS or ReSoMal) for the treatment of dehydration must NEVER be freely accessible to caregivers on the hospital ward.

Resomal Formulation:

ReSoMal (ORS for severely malnourished children), 42g sachet to be diluted in 1 liter of purified/boiled and cooled water.

Technical Specifications:

Contents per sachet of 42 grams:	
Sucrose:	25g
Glucose Anhydrous:	10g
Sodium Chloride:	1.75g
Trisodium Citrate, dihydrate:	45g
Potassium Chloride:	2.54g
Tripotassium Citrate:	0.65g
Magnesium Chloride Anhydrous:	0.61g
Zinc Acetate:	0.0656g
Copper Sulphate Anhydrous:	0.0112g
Osmolarity:	300mmol/L



All the ingredients must comply with one of the pharmacopeias: BP, Ph.Eur, Ph.Int, USP.

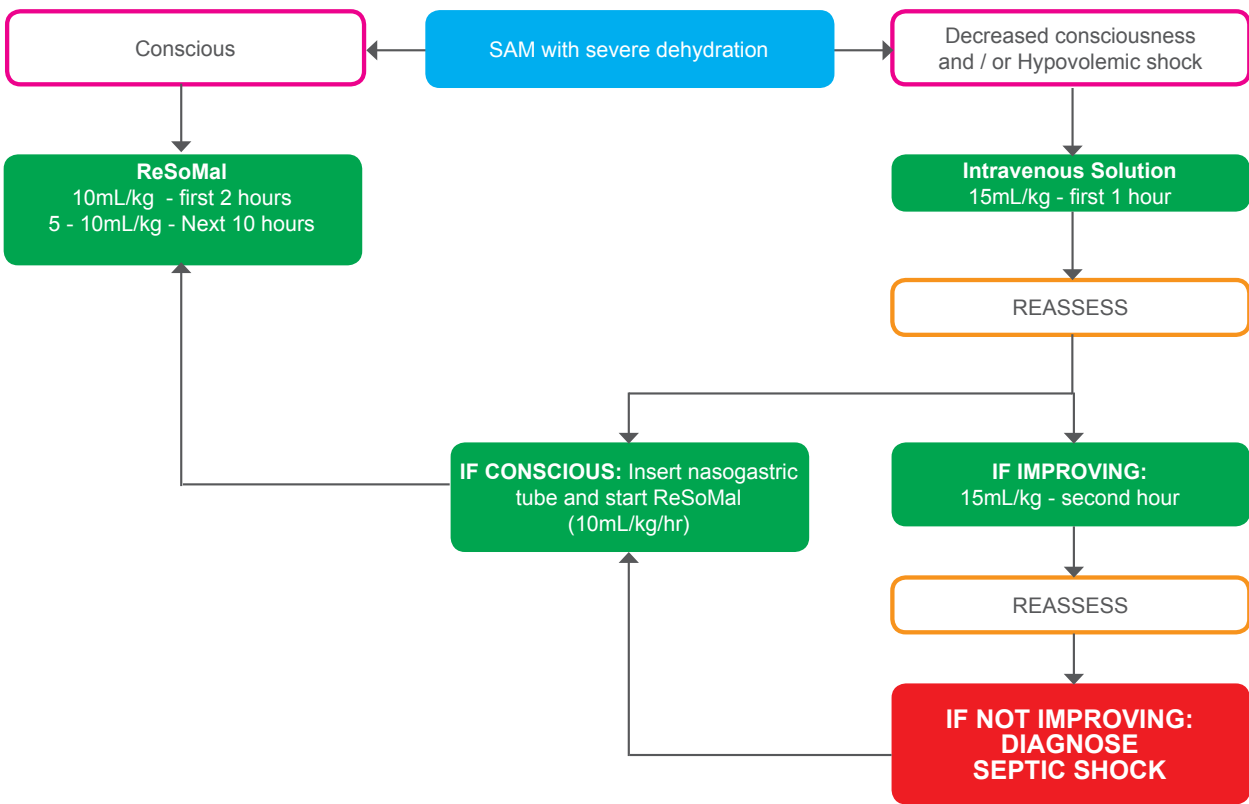
INTRAVENOUS REHYDRATION SOLUTIONS

1. Ringers Lactate Solution with 5% Dextrose
2. 0.45% Saline with 5% Dextrose

TREATMENT OF MARASMIC CHILDREN WITH DEHYDRATION / HYPOVOLEMIC SHOCK

Figure 1 below describes the algorithm for the treatment of dehydration in a child with severe wasting.

Figure 1. Treatment of dehydration / hypovolemic shock in a child with severe wasting

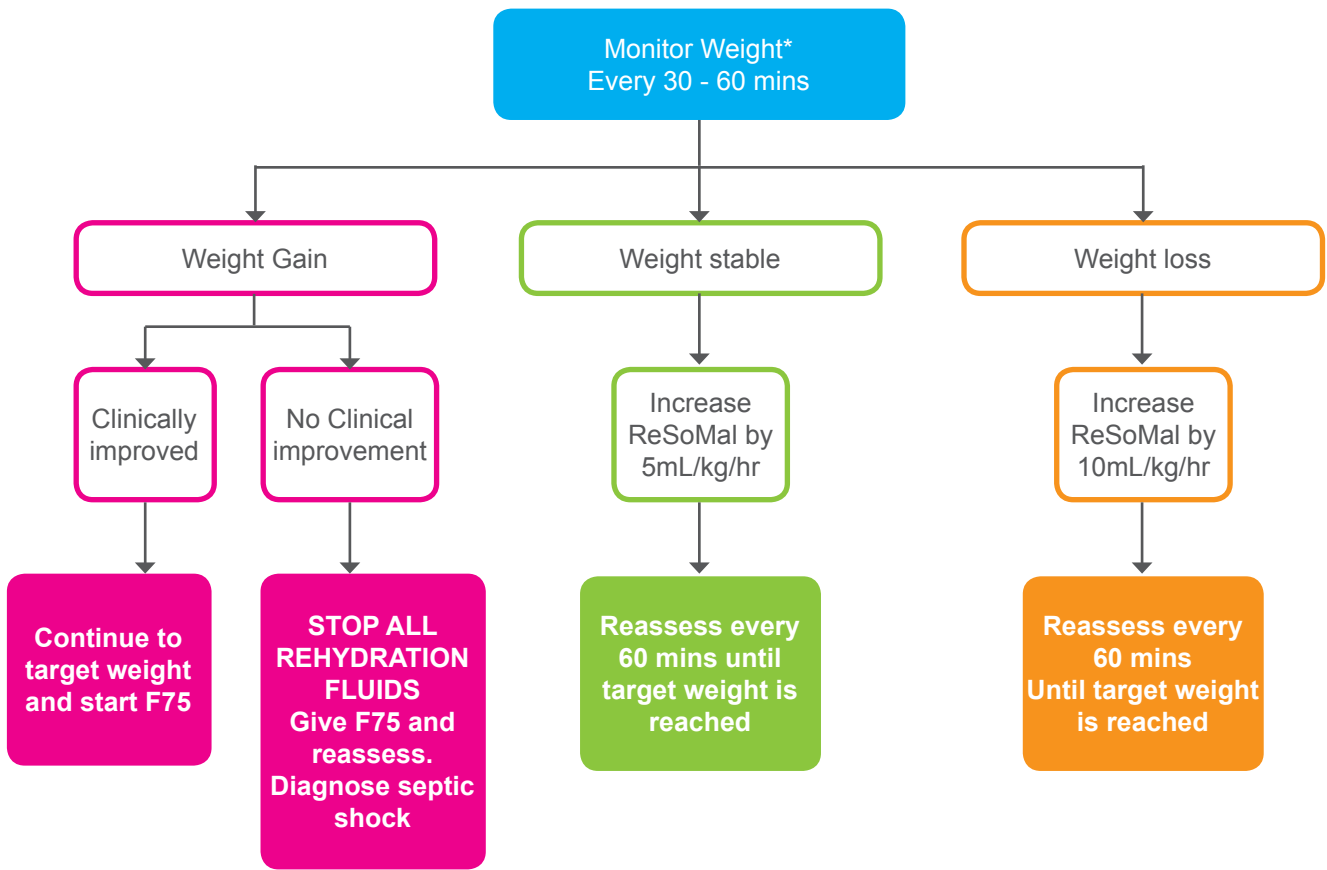


MONITORING THE PROGRESS OF REHYDRATION THERAPY

The therapeutic window for rehydration therapy is narrower for a child with SAM than for a normally nourished child due to the abnormal pathophysiology. The reduced function of the cardiac, renal and abnormal cardiovascular system results in abnormal responses to an increase in fluid load. It is much easier to quickly overhydrate the child resulting in heart failure and death, as the increased fluid volume in the cardiovascular system cannot be excreted normally. A child with SAM in heart failure may not respond well to diuretic medications. Avoiding over-hydration and heart failure is easier and far preferable to treating them.

Figure 2 below describes the algorithm for monitoring rehydration therapy in a severely wasted patient with the aim of preventing fluid overload. The goal of rehydration therapy is to improve the child's clinical status. This should normally be no more than 5% of the child's body weight.

Figure 2. Algorithm for monitoring rehydration therapy in a severely wasted patient



*The goal of rehydration therapy is based on the improvement of clinical status. A maximum target weight for rehydration therapy should be no more than 5% of body weight

Monitoring the clinical status during the rehydration of the marasmic child

Every 30 - 60 mins assess:

- » Weigh the patient (and calculate the target weight gain)
- » Heart/Pulse rate, temperature, respiration rate
- » Heart sounds (over-hydration may result in a gallop rhythm)
- » Observe for signs of respiratory distress (chest indrawing, nasal flaring)
- » Observe for vomiting or diarrhea (estimate volumes and correlate with weight loss)
- » Reassess the costal margin of the liver
- » Reassess the absence or presence of jugular venous distension
- » Monitor for presence or absence of urine output and, if present, urine color

During rehydration therapy, breastfeeding should not be interrupted; the child should be breastfed on demand. Successful rehydration results in an improvement of the clinical status of the child with an improvement in the level of consciousness, and normal heart/pulse rate and blood pressure.

NB: Rehydration therapy should be stopped immediately if any of the following occur:

- » Target weight for rehydration is achieved (start F75)
- » There is development of edema (start F75)
- » Jugular venous distension is observed
- » Jugular veins become engorged when abdomen is pressed
- » An increase in the costal margin of the liver of 1cm or more
- » Tenderness of the liver on palpation
- » An increase in respiratory rate of 5 breaths per minute or more
- » Increase in pulse/heart rate of 25 beats/min or more
- » Development of grunting expiratory sounds/labored breathing/increased respiratory effort
- » Development of pulmonary rales or crepitations on auscultation
- » Development of a triple rhythm (gallop) in the heart sounds or brachial pulse

Diagnosis of dehydration in children with edema

Patients with bilateral edema are overhydrated and have increased total body water and increased sodium levels. Edematous patients thus cannot be dehydrated, although they are frequently hypovolemic. The hypovolemia (relatively low circulating blood volume) is due to a dilatation of the blood vessels with a low cardiac output.

Treatment of dehydration in children with edema

If a child with edema has watery diarrhea, and the child is deteriorating clinically, then the fluid lost can be replaced on the basis of 30mL ReSoMal per episode of watery stool.

The fluid management of hypovolemia for a child with edema is the same as the treatment for septic shock.

ANNEX 22
Hypernatremic dehydration

Hypernatremic dehydration (serum sodium concentration greater than 145 mEq/L) is common in areas with very dry atmosphere particularly if the ambient temperature is also high.

It is most likely to occur in patients that have been transported over long distances to the ITC/OTC under the sun, without stopping to rest or having something to drink. It is important that those arriving at clinics, OTC, etc. are given water/sugar-water to drink and not kept waiting under the heat. Hypernatremia can also occur when the feeds are too concentrated (for example if the mother has been making up infant formula incorrectly).

Hypernatremia is difficult to treat safely, but is easy to prevent. Malnourished patients, particularly those in dry and hot environments, should be given continuous access to sufficient plain water.

The conventional treatment of hypernatremia is to give normal saline slowly, either orally or intravenously. However, this treatment is NOT used in SAM because sodium intake in the severely malnourished child should be restricted.

DIAGNOSIS

The first sign to appear is a change in the texture of the skin;

- » The skin develops a doughy consistency
- » The eyes can be somewhat sunken.
- » The abdomen frequently becomes flat and may become progressively scaphoid or wrinkled.
- » Fever may develop.
- » The patient may become drowsy and progress to unconscious state.
- » Convulsions may follow.

If treatment for hypernatremia is not instituted, this may lead to death. The convulsions are not responsive to the usual anticonvulsants (phenobarbitone, diazepam). Failure to control convulsions with anticonvulsants may be the first indication of the underlying diagnosis.

The diagnosis can be confirmed by an elevated serum sodium concentration of more than 150mmol/L.

TREATMENT

For incipient hypernatremic dehydration, i.e., an alert patient with only skin changes:

- » Breastfeed the child or give breast milk. This can be supplemented with up to 10mL/kg/hr of 10% sugar-water in sips over several hours until thirst is satisfied. At this early stage, treatment is relatively safe.
- » Give small amounts of water and have the patient drink slowly over several hours to correct the dehydration.

For developed hypernatremic dehydration, treatment should be given over 24 - 48hrs

IF POSSIBLE, measure serum sodium:

- » Aim to reduce the serum sodium concentration by about 12mmol/24hrs
Rapid correction of hypernatremia runs the risk for death from cerebral edema.

IF IT IS NOT POSSIBLE to measure the serum sodium:

- » Take at least 48 - 72hrs to correct hypernatremic dehydration.

Progress is assessed by serial weight measurements of the patient:

- First, put the patient in a relatively humid, thermoneutral (28° to 32°C) environment – this is the most important step.
- Second, Weigh the patient on an accurate balance and record the weight.

The objective of treatment is to place the patient in a positive water balance of about 60mL/kg/day over the course of treatment (assessed by weight gain), which is equivalent to 2.5mL/kg/hr of plain water. This amount should not be exceeded and is continued until the child is awake and alert.

For the child who is conscious, fluid replacement is given orally. If the child is semiconscious or unconscious and there is no ongoing diarrhea:

1. Insert an NGT and start 2.5mL/kg/hr of 10% sugar-water or breast milk. Do not give F75 at this stage. Never give F100 or infant formula. Expressed breast milk is the best “rehydrating” fluid available. (Note that 5% dextrose and 10% sucrose solutions are both isotonic).
2. Reweigh the patient every 2 hours.



If the weight is static or there is continuing weight loss, check the ambient temperature and correct as necessary to prevent further evaporative water losses. Then, increase the amount of sugar-water intake to compensate for additional fluid loss from heat (calculated at 2.5mL/kg/hr PLUS the amount of fluid to replace the additional losses).

If the weight is increasing, continue treatment until the child is awake and alert.

If there is accompanying diarrhea:

- » Give 0.18% normal saline in 5% dextrose orally or by NGT

If the child is unconscious.

- » Give the same volumes of fluid (5% dextrose if there is no diarrhea and 0.18% saline in 5% dextrose if there is diarrhea) by intravenous infusion.
- » Ideally, there should be an intravenous infusion pump. If not, at the very least, use a pediatric soluset in order to ensure that that the rate of administration of fluid is not exceeded during treatment.

When the child is awake and alert and the skin quality returns to normal (or the serum sodium is normal), start feeding with F75.

ANNEX 23

Treatment of septic shock for all malnourished patients

Septic shock is caused by decreased tissue perfusion and oxygen delivery as a result of infection and sepsis. It can cause multiple organ failure and death. Children, immunocompromised individuals and the elderly are most susceptible as their immune systems cannot cope with infection as well as healthy adults do. The mortality rate from septic shock can be high.

Septic shock presents with some of the signs of dehydration, hypovolemic shock or cardiogenic shock. The differential diagnosis is often very difficult. If a child diagnosed with hypovolemic shock is not responding to treatment then septic shock should be diagnosed (see *Annex 21*). A child with cardiogenic shock may be hypovolemic or hypervolemic.

Septic shock may present as cold septic shock characterized by low cardiac output and high peripheral vascular resistance or warm septic shock characterized with low peripheral vascular resistance and variable cardiac output. Central venous pressure is typically low. If a high central venous pressure, crackles or other signs of fluid overload are present then the child should be treated for heart failure (*Annex 25*).

If septic shock develops after admission, treatment must be carefully reviewed to determine if the treatment is the cause of the clinical deterioration. Any drugs considered not essential for immediate treatment should be stopped.

DIAGNOSIS OF SEPTIC SHOCK

Septic shock is diagnosed when:

- » Tachycardia with weak or absent radial pulses (femoral pulses may also be weak)
- » Cold extremities (capillary refill time more than 3 seconds)
- » Reduced level of consciousness
- » Absent signs of heart failure
- » Possible signs of infection (may be masked in children with malnutrition)

NB: The differential diagnosis of hypovolemic shock and septic shock is often very difficult in children with SAM. If a concomitant illness such as viral infection, malaria or other severe condition is present, septic shock should be assumed. Septic shock is often seen in individuals with immunocompromisation or hospital acquired infections.

TREATMENT OF SEPTIC SHOCK

Patients diagnosed with septic shock should immediately be given;

- » Give oxygen via face mask or nasal cannula
- » Give broad spectrum, first line / second line antibiotic (see *Annex 18*)
- » Conscious patients should be started on F75 (or sugar water) orally / NGT (Phase 1 protocols)
- » Treat / prevent hypoglycemia in unconscious patients (*Annex 19*)
- » Treat / prevent hypothermia (*Annex 20*)
- » Keep physical disturbance of the child to the minimum required to deliver emergency care

If there is a decreased level of consciousness which is diagnosed to be due to poor cerebral perfusion:

- » Whole blood transfusion 10mL/kg over at least 3 hours
OR
- » Intravenous rehydration solutions at 10mL/kg/hr

NB: Administration of intravenous fluids when septic shock is diagnosed must be done with extreme caution so as not to induce fluid overload. The patient should be monitored every 10 minutes for signs of clinical changes. Blood transfusion should be given within 24 hours of admission. During blood transfusion, oral feeding must be discontinued. When the child regains consciousness and blood transfusion is no longer required the child may be started on F75. As soon as clinical signs have improved all intravenous fluids must be stopped.

ANNEX 24

Treatment of severe anemia

When possible, the hemoglobin should be measured on admission in any child that presents with clinical signs of anemia.

If the hemoglobin is above 4g/100mL or the packed cell volume is above 12%

OR

If the patient has started treatment with F75 for more than 48 hours (preferably 24 hours) and less than 14 days

- » Do NOT give any treatment, apart from a dose of folic acid on admission.

If the hemoglobin concentration is less than 4g/100mL

OR

The packed - cell volume is less than 12% in the first 24 hours after admission

- » The patient has very severe anemia that should be treated.

1. Give 10mL per kg body weight of packed red cells or whole blood slowly over 3 hours.
2. Fast the patient during, and for at least 3 hours after, a blood transfusion.
3. Do not transfuse a patient between 48h after the start of treatment with F75 and 14 days later.
4. Do not give iron during the acute-phase of treatment

If the facilities and expertise exist (neonatal units) it is preferable to give an exchange transfusion to severely malnourished patients with severe anemia. If a transfusion is necessary during the danger period of 48 hrs to 14 days after starting dietary treatment or if there is heart failure with very severe anemia then the patient cannot be given a straight transfusion and needs an exchange transfusion.

If the expertise does not exist locally, then transfer the patient to a center where there are the facilities and skill to do an exchange transfusion (neonatal unit). Heart failure due to anemia is clinically different from normal heart failure; when the failure is due to anemia alone there is 'high output' failure with a hyperdynamic circulation, easily felt pulse and heartbeat and warm peripheries.

Anemia or a falling hemoglobin, and respiratory distress is a sign of fluid overload and an expanding plasma volume; the heart failure is not being caused by the anemia per se; the anemia is 'dilutional' and the heart failure is caused by the fluid overload.

Extreme caution should be used in the interpretation of a low hemoglobin level and it should not be measured subsequently in most circumstances. This is to avoid an inexperienced clinician transfusing the patient during the danger period of electrolyte disequilibrium (day 2 to 14) in response to a low reading. Do not give a straight transfusion of blood or even packed cells to these patients.

ANNEX 25

Treatment of heart failure

SIGNS AND SYMPTOMS

Heart failure should be considered when there is:

- » Physical deterioration in the presence of weight gain
- » An increase in respiration rate with weight gain
- » An acute increase of more than 5 breaths per minute (particularly during rehydration treatment)
- » Greater than 50 breaths/minute in infants or more than 40 breaths/minute in children 1 - 5 years
- » A sudden increase in liver size (thus, it is important to mark the liver edge on the skin before starting any infusion)
- » Tenderness developing over the liver
- » Respiration with a "grunting" sound during each expiration
- » Breath sounds indicate crepitations or rales
- » Prominent neck and other superficial veins
- » Engorgement of the neck veins when the liver is pressed
- » Enlargement of the heart (may be very difficult to assess in clinical practice)
- » Appearance of gallop or triple rhythm in the heart rate / pulse
- » An acute fall in hemoglobin concentration or hematocrit (measures quite accurately the degree of expansion of the intravascular volume)

As heart failure progresses, there is either (1) marked respiratory distress with rapid pulse rate, cold hands and feet, edema, and cyanosis or (2) sudden, unexpected death. This is cardiogenic shock, and it usually occurs in the child with SAM after treatment has started.

The underlying cause is excessive intake of sodium from the diet, rehydration fluids, or from drugs. Even if sodium intake is restricted, heart failure can still occur due to the residual sodium in the diet or the amount of sodium coming out of the cells as the cells recover. Excess sodium given during the initial treatment of dehydration can give rise to heart failure several days later when the sodium inside the cells (i.e., intracellular sodium) enters the vascular space. There is usually weight gain.

DIFFERENTIAL DIAGNOSIS

Heart failure and pneumonia are clinically similar and very difficult to distinguish.

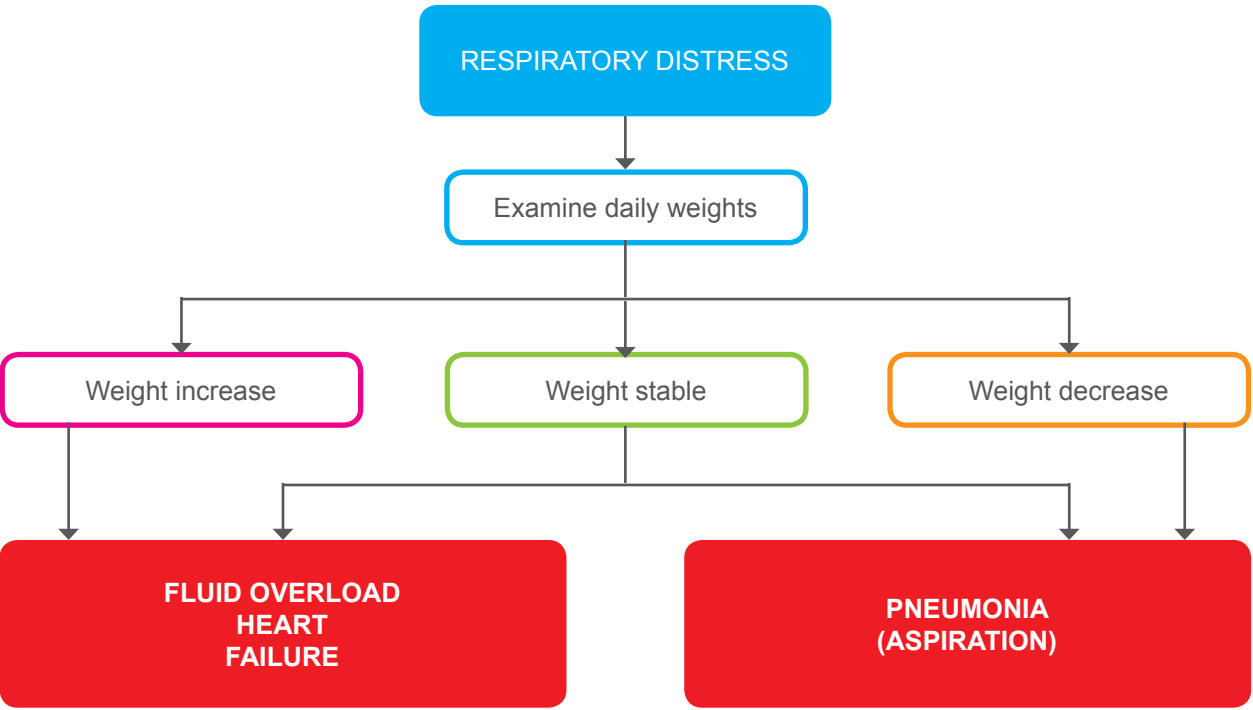
- » If there is increased respiratory rate AND weight gain, heart failure should be the first consideration.
- » If there is increased respiratory rate with a loss of weight, pneumonia is more likely the diagnosis. Pneumonia should never be considered if there has been a gain in weight just before the onset of respiratory distress.
- » If there is no change in weight (fluid balance), differentiation should be made using other signs of heart failure.

Children with edema can go into heart failure even without a gain in weight. This occurs when the expanded circulation due to edema fluid is mobilized from the tissues into the vascular space.

TREATMENT

As edema fluid is mobilized (as in kwashiorkor) and sodium is moving out of the cells (in both kwashiorkor and marasmus), plasma volume expands but the volume of red cells remains constant. There is thus a FALL IN HEMOGLOBIN concentration. This DILUTIONAL anemia happens to some extent in nearly all children as they recover. A substantial fall in hemoglobin, a sign of an expanding circulation is also indicative of impending or actual volume overload with heart failure. Heart failure here is not caused by anemia per se but by the expanding blood volume resulting in heart failure. Children with respiratory distress and anemia should never be transfused.

Figure 3. Algorithm for the differential diagnosis of heart failure and pneumonia



When heart failure is diagnosed:

- » Stop all intakes of oral or IV fluids. No fluid or food should be given until the heart failure has improved even if this takes 24 - 48 hours. Small amounts of sugar-water can be given orally to prevent hypoglycemia.
- » Review drug regimen and reduce dose or stop those which are given as the sodium salt (see Annex 28).
- » Give furosemide (1mg/kg/dose). This is generally not very effective and diuretic treatment should not be relied upon in the malnourished patient to manage heart failure.
- » Optional: Digoxin can be given as a single dose (5 micrograms/kg). A loading dose is not given. Use the pediatric preparation whenever possible.



ANNEX 26

Absent bowel sounds, gastric dilation and intestinal splash with abdominal distension

Functional ileus with bacterial overgrowth can present with findings similar to intestinal obstruction. Gram-negative bacterial translocation is usually observed across the intestine in septicemia. Gastric emptying is delayed and there may be no intestinal peristalsis. Fluid can subsequently accumulate in the intestinal lumen. These are very grave signs. This state is often accompanied by severe liver dysfunction and resembles the “gray baby syndrome” associated with chloramphenicol toxicity. When the condition develops after admission, all drugs are potentially hepatotoxic and must be discontinued. Apart from drug toxicity, it is possible that some patients develop this syndrome from super-infection by organisms resistant to antibiotics or from herbal medicines given by traditional healers. Since there is no gastric emptying, nothing can be absorbed orally.

- » Warn the mother that the prognosis is not good

The following measures should be taken:

1. Give antibiotics intravenously as outlined for developed septic shock.
2. STOP all other drugs that may cause toxicity (including antiretrovirals).
3. Give an IM injection of magnesium sulfate (4mL of 25% solution) and repeat twice daily until stool is passed and gastric residuals are reduced.
4. Insert an NGT and aspirate the contents of the stomach, then irrigate the stomach with isotonic clear fluid (plain normal saline solution). Infuse 50mL of the solution into the stomach and then gently aspirate all the fluid back again. Repeat this until the gastric fluid becomes clear.
5. Instill 5mL/kg of sugar-water solution (10% sucrose solution) into the stomach and leave it there for one hour. Aspirate the stomach contents. If the volume retrieved is less than the amount that was introduced, return the aspirate to the stomach and give additional sugar-water solution to make a total volume of 5mL/kg.
6. Because gastric and esophageal candidiasis is common, instill oral nystatin suspension or fluconazole through the naso-gastric tube.
7. Always keep the patient warm.
8. Give intravenous glucose since these children are often unconscious, semiconscious or delirious (see section on hypoglycemia).
9. Do not insert an intravenous drip at this stage, but monitor the patient carefully for 6 hours without giving any other treatment. Use the critical care form.
10. Monitor closely to see if there is any improvement in the following:
 - Intestinal function when abdominal distension has decreased; visible peristalsis are noted through the abdominal wall; bowel sounds have returned to normal; and gastric aspirates have reduced in volume.
 - General condition of the child.

If there is intestinal improvement:

- » Start giving small amounts of F75 by NGT (half the quantities given in Table 11). Aspirate the stomach before each feed.
- » If the volume of gastric residuals is more than 50% of amount instilled, decrease the amount of F75.
- » If the amount of aspirate is small, the volume to be fed can be gradually increased.

If there is no improvement after 6 hours:

- » Consider putting up an IV drip. It is very important that the fluid given contains adequate amounts of potassium. Intravenous Potassium Chloride should be added to all solutions that do not contain potassium at a final concentration of 20mmol/L. Use 0.18% saline in 5% dextrose (D5 0.18% saline) if it is available; otherwise use Ringer’s lactate in 5% dextrose or 0.45% saline in 5% dextrose. The drip should be run VERY SLOWLY – the amount of fluid to be given should be NO MORE THAN 2 to 4mL/kg/hr. A pediatric soluset or infusion pump should be used.
- » When the gastric aspirates decrease so that one half of the fluid given into the stomach is absorbed, discontinue IV treatment and maintain on oral treatment alone.



ANNEX 27

Inpatient therapeutic care chart

Inpatient Details (Front)

Inpatient Facility: _____

Referred from: ☐ OTC _____ ☐ Others _____ ☐ Self-Referral

Name: _____ Age & Sex: _____ Registration Number: ____/____/____/____

Barangay & Municipality: _____ Mobile Phone No.: _____

Name of Caretaker: _____ Relation to Patient: ☐ Mother ☐ Father ☐ Grandmother ☐ Others _____

Contact No.: _____

ADMISSION		DISCHARGE	
Date ____/____/____	Time _____	Date ____/____/____	Time _____
Admission Type	Admission Criteria	☐ Successfully Treated	Follow-up _____
☐ New Admission	☐ SAM	☐ Died	Cause _____
☐ Readmission	with Medical Complication _____	☐ Defaulter/HAMA	Cause _____
☐ Relapse ☐ Edema +++ ☐ Marasmic Kwashiorkor		☐ Non-cure	Cause _____
☐ Transfer from OTC	☐ <6 months old ☐ Poor or No Appetite		





Inpatient Details (Back)

Anthropometrics	DATE																			
	Height (cm)																			
	Weight (kg)																			
	WH (Z score)																			
	MUAC (mm)																			
Edema 0,+,++,+++																				
Weight Graph	___Kg	0.8																		
		0.6																		
		0.4																		
		0.2																		
	___Kg	0.8																		
		0.6																		
		0.4																		
		0.2																		
	___Kg	0.8																		
		0.6																		
		0.4																		
		0.2																		
	___Kg	0.8																		
		0.6																		
		0.4																		
		0.2																		
Feeding	Phase																			
	Product (F75, F100, RUTF)																			
	# Meals/day																			
	Quantity/meal (ml)																			
	Oral, NGT																			
Feeding Monitoring	Meal	Time																		
	1																			
	2																			
	3																			
	4																			
	5																			
	6																			
	7																			
	8																			

Amount Taken:

x	x
x	x

 100%

x	x
x	

 3/4

x	
x	

 1/2

x	

 1/4

ANNEX 28

Amount and preparation of F75 milk to be given for children aged 6 - 59 months in Phase 1

Weight of the child	Amount of Milk per feed 8 Feeds per day	Amount of Milk per feed 6 Feeds per day
2.0 - 2.1kg	40mL	50mL
2.2 - 2.4kg	45mL	60mL
2.5 - 2.7kg	50mL	65mL
2.8 - 2.9kg	55mL	70mL
3.0 - 3.4kg	60mL	75mL
3.5 - 3.9kg	65mL	80mL
4.0 - 4.4kg	70mL	85mL
4.5 - 4.9kg	80mL	95mL
5.0 - 5.4kg	90mL	110mL
5.5 - 5.9kg	100mL	120mL
6.0 - 6.9kg	110mL	140mL
7.0 -7.9kg	125mL	160mL
8.0 - 8.9kg	140mL	180mL
9.0 - 9.9kg	155mL	190mL
10.0 - 10.9kg	170mL	200mL
11.0 - 11.9kg	190mL	230mL
12.0 - 12.9kg	205mL	250mL
13.0 - 13.9kg	230mL	275mL
14.0 - 14.9kg	250mL	290mL
15.0 - 19.9kg	260mL	300mL

PREPARATION OF F75 MILK

1. Mix one small packet (102.5g) with 500mL of water.
2. Water should be boiled then cooled and preferably filtered.
3. Therapeutic milk should then be made within 30mins of boiling the water. The use of hot water from dispensers while convenient is not recommended as there is a risk of cross infection and contamination if the dispensing nozzle is not meticulously cleaned between every use.



ANNEX 29

Alternate F75 recipes

Type of milk	Milk (g)	Sugar (g)	Oil (g)	Cereal powder* (g)	CMV red scoop (6.35g)	Water (mL)
Dry skim milk	50	140	54	70	1	Add cooled boiled water up to 2,000mL
Dry whole milk	70	140	40	70	1	
Fresh cow milk	560	130	40	70	1	
Fresh goat milk	560	130	40	80	1	

*Cereal powder is cooked for about 10 minutes before the other ingredients are added.

To prepare F75

Add the milk, sugar, pre-boiled cereal powder and oil to one liter (L) water and mix. Boil for 5 to 7 minutes. Allow to cool, add the combined mineral and vitamin mix (CMV) and mix again. Make up the volume to 2,000 milliliters (mL) with cooled boiled water.

Note: Other local recipes for the preparation of F75 have been developed but require the addition of micronutrient supplementation to the child in place of the CMV in the above.

ANNEX 30

Preparation of diluted F100

1. Add 1 small packet of F100 to 670mL of water instead of using 500mL as usual.
2. If only small quantities are need and F100 has already been prepared for use in Phase 2, take 100mL of F100 and add 35mL of water. This will produce 135mL of diluted F100.



ANNEX 31

Procedure for transition to RUTF

1. Encourage the mother to continue breastfeeding on demand.
2. Explain to the caregiver what RUTF is and how to administer it.
3. At each scheduled feeding time (at least 5 times / day in Transition Phase).
4. Prepare F75 formula according to the prescription for the child's weight.
 - » Prepare a packet of RUTF and a glass of clean drinking water for the child.
 - » The RUTF packet should be massaged thoroughly for 30 seconds before opening which helps to mix the ingredients together. This should be done in front of the caregiver to demonstrate the method. If the RUTF is hard (due to cold temperatures or prolonged storage) first warm the RUTF gently between your hands.
 - » The caregiver should be instructed to wash their hands with soap and water
 - » Before offering the F75, offer the child RUTF:
 - If the child is capable of holding the packet, the child should feed itself directly from the packet of RUTF with gentle encouragement from the mother
 - If the child cannot eat directly from the packet, the mother may take a small amount of RUTF on her clean finger and feed it to the child. The amount offered at each mouthful should be approximately the size of an almond.
 - » Table 2 below gives a simple guide to the amount of RUTF that must be taken at each feed and over 24 hours in Transition Phase.
 - » It should be emphasized that the child must NEVER be force fed. It is vital to get a true indication of appetite so that the child can be safely transitioned to outpatient care.
 - » After each mouthful, breast milk or a sip of water should be offered to the child.⁸
 - » **UNDER NO CIRCUMSTANCES** should the RUTF be mixed with water / F75 or any other liquid before the child eats it.
 - » If the child fails to eat the required amount of RUTF at each feed, the child should finish the feed by being offered the ration of F75 to drink in addition to any RUTF that has been eaten. The time taken to eat the RUTF and F75 (if necessary) should be no more than 1 hour.
 - » Record the amount of both F75 and RUTF taken on the patients treatment chart.
 - » After each feed, the RUTF should be placed in a cool dry place, safe from insects and re-used at the next scheduled feeding time.
 - » The process of offering both RUTF and F75 continues until the child is able to take the required amount (see below).

If transition is successful, F75 may be discontinued and the child is given only RUTF and breast milk or water. The amount of RUTF taken by the child should then be increased to the amount of packets per day indicated in *Annex 38*. This is the ration the child will be required to eat during recovery as an outpatient. When at least 75% of this full amount is eaten in 24 hours and there are no other issues identified during monitoring (see Individual monitoring Section 4.6) the child is judged to be ready to continue their rehabilitation at home with OTC.

Table 2. Amount of RUTF to be given at the start of the Transition Phase

Weight of the child	Number of feeds in 24hrs	Amount of RUTF at each feed	Amount to be eaten over 24 hours
< 5kg	5 - 6	¼ packet	1 ¼ to 1 ½ packets
> 5kg	6	⅓ packet	1 ¾ to 2 packets

⁸ RUTF is a thick paste and plenty of clean drinking water should be available for the child to drink. Older children can ask for water when they are thirsty but young children must be offered the water regularly when taking RUTF. A thirsty child may refuse RUTF, which may be mistaken for poor appetite. Children over 6 months but with developmental delay in the motor skills associated with chewing food may have some difficulty manipulating the thick paste in the mouth, sips of water will help.



If the appetite of the child does not improve over 2 - 3 days (i.e. they are not eating the required amount) reassess the child and change the treatment regimen:

- » If there is deterioration in clinical status return the child to Phase 1
- » If the child is stable but appetite is not improving after 3 days in Transition Phase (the required amount of each feed is not being taken) with RUTF, change the diet to F100 for Transition Phase and continue treatment in inpatient care (transition to Phase 2). Transition onto RUTF can be attempted again after a couple of days.

ANNEX 32

Amount of F100 milk to be given to children aged 6 - 59 months in Transition Phase

Weight of the child	6 FEEDS PER DAY	5 FEEDS PER DAY
Less than 3.0kg	F100 full strength should not be used	
3.0 - 3.4kg	75mL per feed	85mL per feed
3.5 - 3.9kg	80	95
4.0 - 4.4kg	85	110
4.5 - 4.9kg	95	120
5.0 - 5.4kg	110	130
5.5 - 5.9kg	120	150
6.0 - 6.9kg	140	175
7.0 - 7.9kg	160	200
8.0 - 8.9kg	180	225
9.0 - 9.9kg	190	250
10.0 - 10.9kg	200	275
11.0 - 11.9kg	230	275
12.0 - 12.9kg	250	300
13.0 - 13.9kg	275	350
14.0 - 14.9kg	290	375
15.0 - 19.9kg	300	400



ANNEX 33

Amount of F100 to be given in Phase 2

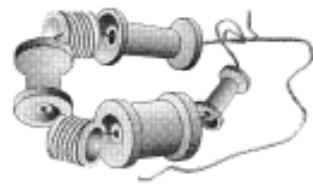
Weight of the child	F100 (6 feeds per day) in mL	F100 (5 feeds per day) in mL
Less than 3.0kg	Do not use full strength F100; use diluted F100	
3.0 to 3.4kg	110	130
3.5 - 3.9kg	125	150
4.0 - 4.9kg	135	160
5.0 - 5.9kg	160	190
6.0 - 6.9kg	180	215
7.0 - 7.9kg	200	240
8.0 - 8.9kg	215	260
9.0 - 9.9kg	225	270
10.0 - 11.9kg	230	280
12.0 - 14.9kg	260	310

ANNEX 34

Suitable makeshift toys for use in Phase 2 ITC

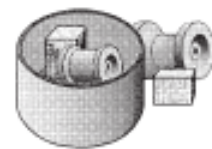
Ring on a string (from 6 months)

Thread cotton reels and other small objects (e.g. cut from the neck of plastic bottles) on to a string. Tie the string in a ring, leaving a long piece of string hanging.



In-and-out toy (from 9 months)

Any plastic or cardboard container and small objects (not small enough to be swallowed).



Push-along toy (from 12 months)

Make a hole in the centre of the base and lid of a cylindrical-shaped tin. Thread a piece of wire (about 60cm long) through each hole and tie the ends inside the tin. Put some metal bottle caps inside the tin and close the lid.



Pull-along toy (from 12 months)

As above, except that string is used instead of wire.



Doll (from 12 months)

Cut out the two doll shapes from a piece of cloth and sew the edges together, leaving a small opening. Turn the doll inside-out and stuff with scraps of materials. Stitch up the opening and sew or draw a face on the doll.

Rattle (from 12 months)

Cut long strips of plastic from coloured plastic bottles. Place them in a small transparent plastic bottle and glue the top firmly.



Drum (from 12 months)

Any tin with a tightly fitting lid

Mirror (from 18 months)

A tin lid with no sharp edges

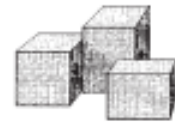
Posting bottle (from 12 months)

A large transparent plastic bottle with a small neck and long objects that fit through the neck (not small enough to be swallowed).



Blocks (from 9 months)

Small blocks of wood. Smooth the surfaces with sandpaper and paint in bright colours, if possible.



Stacking bottle tops (from 12 months)

Cut at least three identical round plastic bottles in half and stack them.



Nesting toys (from 9 months)

Cut off the bottom of two bottles of identical shape but different size. The smaller bottle should be placed inside the larger bottle.



Puzzle (from 18 months)

Draw a figure (e.g. a doll) in a crayon on a square or rectangular shaped piece of cardboard. Cut the figure in half or quarters.



Book (from 18 months)

Cut out three rectangular-shaped pieces of the same size from a cardboard box. Glue or draw a picture on both sides of each piece. Make two holes down on one side of each piece and thread string through to make a book.



ANNEX 35

Amount of F100 to be given in Phase 2

The supplementation is given using a tube the same size as n°8 NGT (a size n°5 tube can be used, but the therapeutic milk should be strained through cotton wool to remove any small particles that would block the tube).

METHOD

1. Diluted F100 is put in a cup and the mother holds it.
2. The end of the NG tube is put in the cup.
3. The tip of the tube is put on the breast at the nipple and the infant is offered the breast in the normal way so that the infant attaches properly. Sometimes at the beginning the mothers find it better to attach the tube to the breast with some tape.
4. When the infant suckles on the breast, with the tube in his mouth, the milk from the cup is sucked up through the tube and taken by the infant. It is like taking a drink through a straw.
5. At first an assistant needs to help the mother by holding the cup and the tube in place. She encourages the mother confidently. Later the mothers nearly always manage to hold the cup and tube without assistance.
6. At first, the cup should be placed at about 5 to 10cm below the level of the nipple so the milk does not flow too quickly and distress the infant. And the weak infant does not have to suckle excessively to take the milk. As the infant becomes stronger the cup should be lowered progressively to about 30cm below the breast.
7. The mother holds the tube at the breast with one hand and uses the other for holding the cup. Some mothers find it more convenient if the tube is held in place with a strip of tape, but this is not normally necessary.
8. It may take one or two days for the infant to get used of the tube and the taste of the mixture of milks, but it is important to persevere.
9. By far the best person to show the mother the technique is another mother who is using the technique successfully. Once one mother is using the SS technique successfully the other mothers find it quite easy to copy her.
10. The mother should be relaxed. Excessive or officious instructions about the correct positioning or attachment positions often inhibit the mothers and make her think the technique is much more difficult than it is. Any way in which the mother is comfortable and finds that the technique works is satisfactory.
11. If the therapeutic milk is changed (e.g. F75 to Diluted F100) the infant may take a few days to become used to the new taste. It is preferable to continue with the same supplementary diet throughout the treatment.

Figure 4. Supplementary Suckling Technique



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This infant is suckling the breast and also getting the Diluted F100 (130mL/kg/d) using the supplemental suckling technique. Raising or lowering the cup determines the ease with which the infant gets the supplement.

For very weak infants it can be at the level of the infant's mouth. **Never position the cup higher than this level** as the feed can flow into the child's mouth by siphoning and expose the child to danger of aspiration.

As the suckling becomes stronger the position of the cup relative to the child's mouth may be lowered.

Cleaning the tube

After feeding the tube is flushed through with clean water using a syringe. It is then spun (twirled) rapidly to remove the water in the lumen of the tube by centrifugal force. If convenient the tube is then left exposed to direct sunlight.

FOLLOW UP DURING TREATMENT

The infant should be weighed daily using an infant scale accurate to 10g or 20g.

- » For cases with wasting, if the child takes all of the Diluted F100 but loses weight for 3 consecutive days, increase the amount of Diluted F100 given by 5mL
- » If the child gains 20g or more per day for 2 days, reduce the amount of Diluted F100 by half and reassure the caregiver that the child is beginning to breastfeed effectively
- » If the child continues to gain 10g or more per day on the reduced amount of Diluted F100 then stop giving Diluted F100 and continue breastfeeding alone
- » If the child continues to gain weight on breast milk alone, they may be discharged irrespective of their WFH/L

ANNEX 36

Diluted F100 (or F75 for cases with edema) for use with the Supplementary Suckling Technique for infants aged less than 6 months

Weight of the child	Amount of Diluted F100 8 feeds per day
equal or less than 1.2kg	25mL
1.3 - 1.5kg	30mL
1.6 - 1.7kg	35mL
1.8 - 2.1kg	40mL
2.2 - 2.4kg	45mL
2.5 - 2.7kg	50mL
2.8 - 2.9kg	55mL
3.0 - 3.4kg	60mL
3.5 - 3.9kg	65mL
4.0 - 4.4kg	70mL

To prepare the Diluted F100

Add 1 small packet of F100 to 670mL of water instead of using 500mL as usual. If only small quantities are need and F100 has already been prepared for use in Phase 2, take 100mL of F100 and add 35mL of water. This will produce 135mL of diluted F100.

ANNEX 37

Express breast milk by hand

If the supplementary suckling technique is not working or the skilled staff required to use the SST are not available, expressing the breast milk by hand and then feeding the infant using a cup is possible.

HOW TO HAND EXPRESS BREAST MILK AND CUP FEED



1. Make sure your hands and utensils are clean
2. Wash your hands with soap and running water
3. Clean and boil the container you will use to collect your breast milk
4. Get comfortable
5. It is sometimes helpful to gently stroke your breasts. A warm cloth may help stimulate the flow of milk
6. Put your thumb on the breast above the dark area around the nipple (areola) and the other fingers on the underside of the breast behind the areola
7. With your thumb and first 2 fingers press a little bit in towards chest wall and then press gently towards the dark area (areola)
8. Milk may start to flow in drops, or sometimes in fine streams. Collect the milk in the clean container.
9. Avoid rubbing the skin, which can cause bruising, or squeezing the nipple which stops the flow of milk.
10. Rotate the thumb and finger positions and press/compress and release all around the areola
11. Express one breast for at least 3 to 5 minutes until the flow slows, then express the other breast, then repeat both sides again (20 to 30 minutes total)
12. Store breast milk in a clean, covered container. Milk can be stored 6 to 8 hours in a cool place and up to 72 hours in the back of the refrigerator
13. Give baby expressed breast milk from a cup. Bring cup to the baby's lower lip and allow baby to take small amounts of milk, lapping the milk with his or her tongue. Do not pour the milk into baby's mouth
14. Pour just enough breast milk from the clean covered container into the feeding cup
15. Bottles are unsafe to use because they are difficult to wash and can be easily contaminated
16. Continue with care protocols as described above as if the child was breastfed by SST
17. When the child is gaining weight, give breastfeeding counselling and attempt to re-establish breastfeeding



ANNEX 38

Amount of Dilute F100 (or F75 for cases of edema) to give to infants aged less than 6 months with no prospect of being breast fed

Weight of the infant	Phase 1 8 feeds per day (mL)	Transition Phase* 8 feeds per day (mL)	Phase 2 6 feeds per day (mL)
equal or less than 1.5kg	30	40	60
1.6 - 1.8kg	35	45	70
1.9 - 2.1kg	40	55	80
2.2 - 2.4kg	45	60	90
2.5 - 2.7kg	50	65	100
2.8 - 2.9kg	55	75	110
3.0 - 3.4kg	60	80	120
3.5 - 3.9kg	65	85	130
4.0 - 4.4kg	70	95	140

To prepare the Diluted F100

Add 1 small packet of F100 to 670mL of water instead of using 500mL as usual. If only small quantities are need and F100 has already been prepared for use in Phase 2, take 100mL of F100 and add 35mL of water. This will produce 135mL of diluted F100.

ANNEX 39

Amount of RUTF to be given to the child on transfer to outpatient care

Weight of the child (kg)	Packets per week	Packets per day
3.5 - 3.9kg	11	1.5
4.0 - 4.9kg	14	2
5.0 - 6.9kg	18	2.5
7.0 - 8.4kg	21	3
8.5 - 9.4kg	25	3.5
9.5 - 10.4kg	28	4
10.5 - 11.9kg	32	4.5
≥12kg	35	5

ANNEX 40

Amount of RUTF to be given to the child on transfer to outpatient care

RECORDING MILK INTAKE

It is vital to record milk intake accurately. On the Inpatient Therapeutic Care Sheet (Annex 27), an area of the chart is designated for monitoring milk intake.

Each feed time is associated with a box of 4 squares [see figure 5]. Each large square represents one feed at the indicated time of day and each small square represents ¼ of the feed given at each meal.

Figure 5. Example of how to record the milk intake for one feed

x	x
x	v

In the example in Figure 5 above, the child took all of the milk (x) but vomited (v) back approximately 25% (the amount is estimated by the nurse with the help of the caregiver. The chart should be completed AFTER the feed has been given.

Figure 6 below gives an example of feeds between 0600 and 1500 hrs over 2 days. (NB: Feeds are offered throughout the 24hrs, the chart provided only offers an example of how to complete a portion of the form!)

On Day 1 the child is fed 100% of the 0600hrs feed using an HG tube. At 0900hrs, the child was able to take 50% orally (represented by the “x”) and 50% by NG tube. The 1200 /1500 hrs feeds were taken entirely orally.

On Day 2, at 0600 the child took the feed orally but vomited 25% of the feed. The child took the rest of the feeds 100% orally without any problems.

In this example, the child has taken all of the milk with almost no losses through vomiting. The appetite has improved since Day 1 and the milk is taken orally. A child in Phase 1 should have the NG tube removed and be could be considered for Transition Phase based on the return of the appetite provided there are no other complications.

Figure 6. Example of a milk-monitoring chart for 2 days

	Time	Day 1		Day 2	
A=Absent V=vomiting R=refused NGT=Naso gastric tube IV=IV infusion	0600	NG	NG	x	x
		NG	NG	x	x
	0900	x	x	x	x
		NG	NG	x	x
Volume taken 100% - x x x x 75% - x x x 50% - x x 25%- x	1200	x	x	x	x
		x	x	x	x
	1500	x	x	x	x
		x	x	x	x

ANNEX 41

Reasons for deterioration in Transition Phase

- If a child has deteriorated after progressing to Transition Phase it is usually due to one of the following:
- » Re-feeding syndrome
 - » Re-activation syndrome
 - » Osmotic diarrhea resulting from a change in diet (less common with low osmolarity feeds)
 - » Aspiration of the diet through improper feeding technique
 - » Nosocomial infection
 - » Inappropriate prescription / use of medications

RE-FEEDING SYNDROME

Re-feeding syndrome is a complex metabolic reaction that occurs when the energy or nutrient load on the body causes a rapid shift of electrolytes and fluid between intracellular and extracellular compartments in the body. The condition may occur when malnourished patients (and those who have been fasting for more than one week)⁹ develop any of the following shortly after rapid and large amounts of food are ingested:

- » Acute weakness or “floppiness”
- » Lethargy
- » Delirium
- » Neurological symptoms
- » Acidosis
- » Muscle necrosis
- » Liver and pancreatic failure
- » Cardiac failure
- » Sudden unexpected death

The syndrome is due to rapid consumption of key nutrients for metabolism particularly if the diet is unbalanced. Frequently, there is a great reduction in plasma phosphorus, potassium, and magnesium.

Prevention

It is necessary at the start of treatment **not to provide large amounts** of food intake in the malnourished state. On admission, these malnourished patients should **never be force-fed amounts** in excess of the diet prescribed in this protocol. Particular care must be taken for those who are fed by NGT.

Treatment

For re-feeding syndrome among patients in the recovery or Transition Phase:

- » Return to Phase 1 of treatment and feed with F75
- » Assess the child for heart failure and treat according to Annex 25

For re-feeding syndrome among patients in the acute phase:

- » Reduce the diet to 50% of the recommended intake until all signs and symptoms disappear; then gradually increase the amount to be given by 10% each day as long as the child remains symptom free
- » Assess the child for heart failure and treat according to Annex 25

Check to ensure that there is sufficient potassium and magnesium in the diet. If the diet is not based on cow’s milk (or if the patient is also receiving cereals/pulses, etc.), additional phosphorus should be given.

9 The re-feeding syndrome also occurs in obese patients who have been fasting as part of their treatment. While they are not wasted like the malnourished patient, they too have metabolically adapted to a low intake of food.

RE-ACTIVATION SYNDROME

Reactivation syndrome occurs when a previously undiagnosed infection becomes apparent. This may occur as a result of the recovery of the immune and/or inflammatory system rather than the development of a newly acquired infection. Treatment for disease conditions which become apparent is according to national protocol except where modified by other protocols in these guidelines.

OSMOTIC DIARRHEA

Osmotic diarrhea results from an excess of non-absorbable and osmotically active solutes in the gut lumen. This differs from secretory diarrhea in which the activity of the mucosa exceeds its absorption capacity and may be caused by pathogens. Osmotic diarrhea is usually investigated by examination of the carbohydrates or fecal osmolar gap (FOG) in stool specimens. The FOG does not, however, reveal the pathological mechanism.

Osmotic diarrhea in children undergoing treatment for SAM usually occurs following a change in diet from F75 to F100 in the Transition Phase or increasing the amount of F100 between Transition Phase and Phase 2. When diarrhea occurs after a change in diet the diagnosis of osmotic diarrhea can be presumptive, however it is normal for some increase in frequency of stools to occur when the diet is increased. An increased frequency of stools without weight loss does not require any treatment. Confirmation of the diagnosis of osmotic diarrhea is made when symptoms resolve within 3 days of reducing the diet.

Diarrhea may occur during the first week of treatment with RUTF in the outpatient setting but may also be related to enteropathogens and or the use of antibiotics on admission. RUTF contains zinc and the diarrhea normally resolves within the first or second week of treatment. Osmotic diarrhea should not be presumed in the outpatient setting and RUTF should not be reduced until enteropathic causes have been eliminated through treatment with antibiotics.

Prevention

Protocols for feeding in Transition Phase and Phase 2 should follow the guidance in this protocol. Osmotic diarrhea is more common when non-commercial preparations are used. Commercial F75, F100 and RUTF contain maltodextrin instead of sugar and thus have a lower osmolarity.

Treatment

Treatment for osmotic diarrhea is based on a presumptive diagnosis and the condition should resolve within 3 days. If it does not resolve despite adherence to protocols then a pathogenic cause may be presumed and treated empirically with antibiotics.

- » Use commercially produced F75 / F100 where possible
- » In Phase 1 maintain the required daily intake but give F75 in smaller volumes with each feed and increase to 8 - 12 feeds per day
- » In Transition Phase return to Phase 1 using F75 milk
- » In Phase 2 return to Transition Phase protocols using F100 milk

Where osmotic diarrhea has been diagnosed, the diet in Transition Phase should be increased from 130kcal/kg/day by 10 - 20kcal/kg/day daily until the target energy intake of 200kcal/kg/day of Phase 2 is reached. The energy intake should only be increased as long as the child remains free of further symptoms.

OSMOTIC DIARRHEA CAUSED BY LACTOSE INTOLERANCE

Diarrhea is rarely a result of lactose intolerance. Treat children for lactose intolerance only if the continuing diarrhea is preventing general improvement. Starter F75 is a low-lactose feed. In exceptional cases, substitute milk feeds with fermented milk such as yoghurt or with a lactose-free infant formula.¹⁰ Before the child is discharged from hospital, milk-based feeds can be given to determine whether the intolerance has resolved.¹¹

10 WHO Pocket book of hospital care for children: guidelines for the management of common illnesses with limited resources. 2nd Edition. 2013 (p140)
11 WHO, Management of Severe Malnutrition: A Manual for Physicians and Other Senior Health Workers, Geneva 1999.



ANNEX 42

Reassessment of child’s condition

In any case of failure to respond or deterioration of the child’s condition in any phase, a thorough reassessment is needed. The physician should consider:

- » A detailed recent history
- » Accuracy of previous record keeping
- » Full medical examination and review of nutritional status
- » Review previous medical and nutritional therapy
- » Chest x-ray / laboratory investigations
- » Use of un-prescribed medicines or food
- » A review of the care environment (hygiene, staffing, milk preparation)
- » Appropriate use and / or recalibration of measurement equipment
- » Referral may be required to a specialist pediatric service

ANNEX 43

Calculation of monitoring indicators

TREATMENT PERFORMANCE

DISCHARGES	Total children leaving the program; whether discharged cured, or due to death, defaulting, non-cure
CURE RATE	No. of children successfully discharged (cured) / No. of discharges
DEATH RATE	No. of deaths during registration in the program / No. of discharges
DEFAULTER RATE	No. of defaulters / No. of discharges
NON-CURE RATE	No. of non-recovered cases after 4 months of treatment / No. of discharges

DEFINITIONS

DEFAULTERS	Absent from the program for 3 consecutive visits (or days in inpatient care)
NON-CURE RATE	Children who have not been cured after 4 months in the program although all actions have been taken according to the protocols for non-response.

Mean length of stay (LOS)

This indicator should be calculated for ONLY the recovered patients.

Mean length of stay = Sum of (No. of days for each recovered patient) / No. of recovered patients

GEOGRAPHICAL COVERAGE

Geographical coverage is commonly defined as the ratio of health facilities¹² in a program area that deliver CMAM services to the total number of health facilities in the program area:

Geographical coverage = Health facilities delivering CMAM services/total health facilities

Geographical coverage can be interpreted as the maximum coverage that a program can achieve (potential coverage or availability coverage). Geographical coverage calculated as above at facility level should be the “headline” figure reported for geographical coverage. There may, however, be benefits to assessing geographical coverage at other levels, i.e. by districts and regions (see table below).

TREATMENT COVERAGE

An estimate of coverage made by finding cases and ascertaining whether they are in or not in a suitable treatment program. This can be best done through the periodic use of the assessment/investigation techniques detailed below.

CSAS (Centric Systematic Area Sampling)

CSAS was developed in 2002 as part of the CTC research program. It was used for program monitoring and evaluation for several years. However, it was deemed too expensive to be used routinely and has now been superseded by the less resource intense SQUEAC and SLEAC methods for routine monitoring and evaluation purposes.

Design

CSAS uses a two-stage sampling design. First stage is a systematic spatial sample of the entire program area to select the communities to survey. The sample is therefore representative of the whole program area. Second stage is an active and adaptive case-finding (also called snowball or chain-referral) method that find all or nearly all SAM cases in the communities being surveyed. Hence, sample is representative of the communities surveyed.

Results

CSAS yields the following results:

- » Overall coverage estimate
- » Local coverage estimates which can be represented as a coverage map
- » Ranked list of barriers

Figures 7 & 8 show typical CSAS outputs from a coverage assessment using CSAS of an NGO-delivered CMAM program undertaken in two neighboring health districts in Niger.

¹² 'Health facilities' refer to primary health care facilities as well as secondary and tertiary facilities offering either outpatient or inpatient care for the treatment of SAM

Figure 7. Map showing the spatial distribution of point and period coverage in a CMAM program produced using the CSAS method

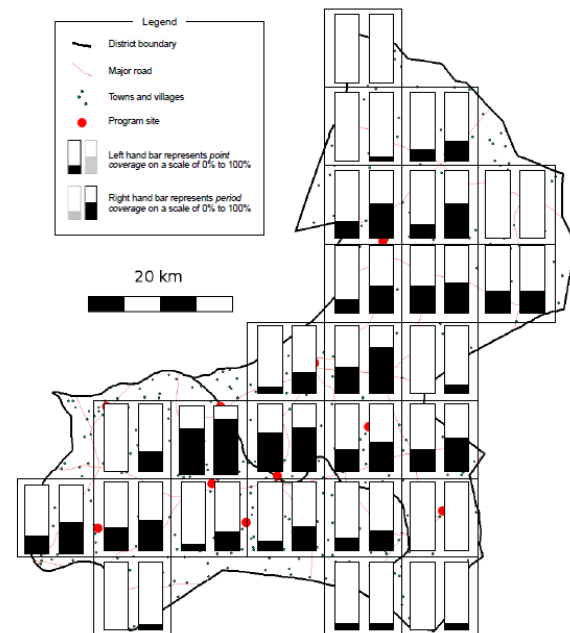


Figure 8. Barriers to service access and uptake in a CMAM program reported by caregivers of non-covered cases produced using the CSAS method

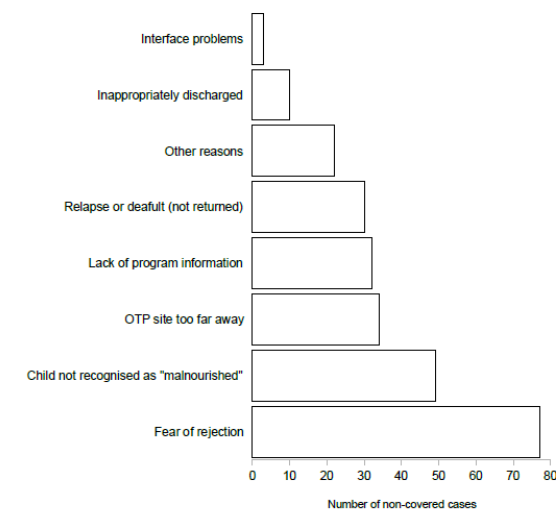


Figure 9. Relations between factors influencing coverage and effectiveness produced by a SQUEAC assessment

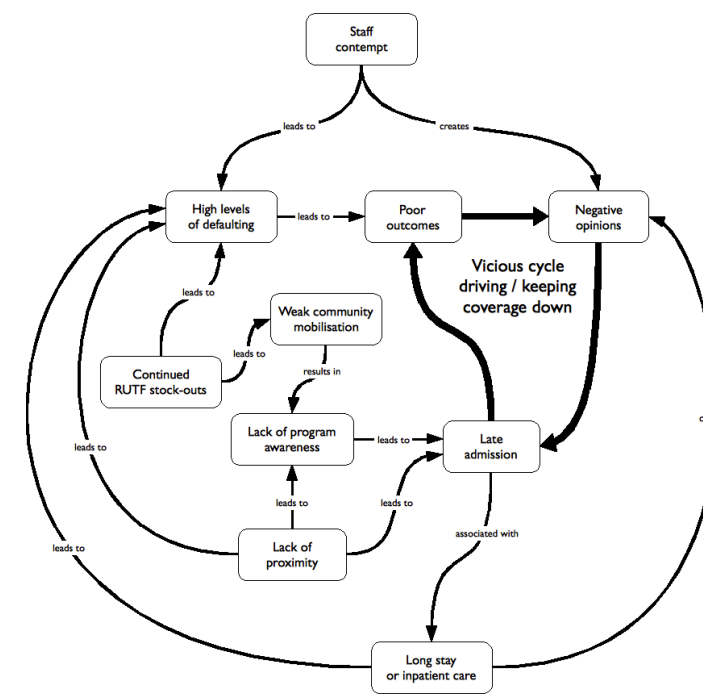
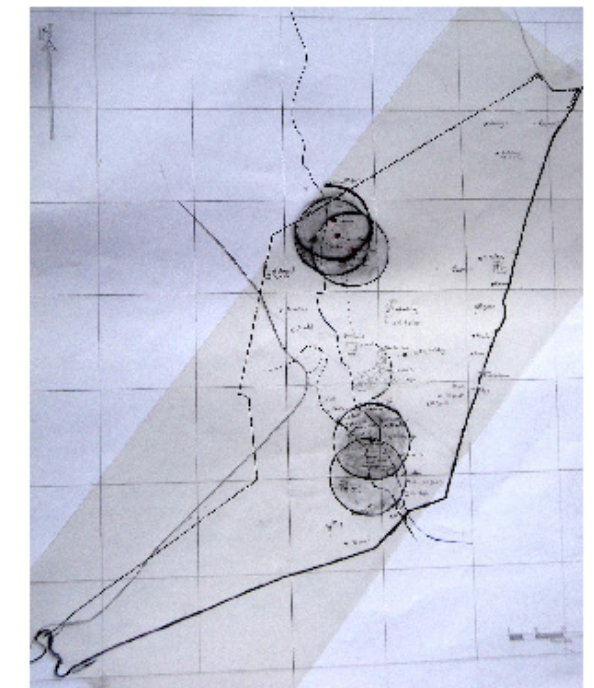


Figure 10. Coverage mapping by risk mapping



SEMI-QUANTITATIVE EVALUATION OF ACCESS AND COVERAGE (SQUEAC)

SQUEAC is a semi-quantitative method that provides in-depth analysis of barriers and boosters to coverage. It is designed as a routine program monitoring tool through the intelligent use of routine monitoring data complemented by other relevant data that are collected on a "little and often" basis.

Design

SQUEAC is more an investigation than a survey. SQUEAC is made up of three stages:

- » **Stage 1:** Semi-quantitative investigation into factors affecting coverage using the SQUEAC toolkit
- » **Stage 2:** Confirm areas of high and low coverage identified in Stage 1 through small studies and small-area surveys
- » **Stage 3:** Estimating overall coverage using Bayesian techniques. Likelihood survey is conducted as part of this stage. This survey utilizes a systematic spatial sample as with all the other coverage survey methods. Stage 3 of SQUEAC is optional and is done if the reporting of an overall coverage estimate is a key information requirement in addition to the rich information on barriers and boosters to coverage already gained from Stages 1 and 2.

Results

SQUEAC provides the following results:

- » Mapping of coverage using small area surveys through a "risk mapping" approach
- » Estimation of coverage using Bayesian techniques
- » Concept map of barriers and boosters to coverage

Figure 9 shows the relations between factors influencing coverage and effectiveness in a MoH-delivered CMAM program in Sierra Leone. Figure 10 shows coverage mapping through a risk mapping approach.

SIMPLIFIED LOT QUALITY ASSURANCE SAMPLING EVALUATION OF ACCESS AND COVERAGE (SLEAC)

SLEAC is a rapid low-resource survey method that classifies coverage at the service delivery unit (SDU) level such as the district. A SLEAC survey identifies the category of coverage (e.g. "low coverage", "moderate coverage" or "high coverage") that describes the coverage of the service delivery unit being assessed. The advantage of this approach is that relatively small sample sizes (e.g. $n \leq 40$) are required in order to make an accurate and reliable classification.

SLEAC can also estimate coverage over several service delivery units hence ideal for coverage survey of wide areas. Coverage is still classified for individual service delivery units. Then, data from individual service delivery units are combined and coverage for this wider area is estimated from this combined sample.

SLEAC was originally developed as a companion method for SQUEAC but has recently been used for mapping of coverage classes in service delivery units over very wide-areas.

Design

SLEAC uses a systematic spatial sample similar to that used in CSAS. Only small sample sizes ($n \leq 40$) are required for each service delivery unit in which coverage is being classified.

Results

SLEAC yields the following results:

- » Overall coverage classification
- » Can be used over wide areas to provide local coverage classifications with a coverage map and a wide area estimates
- » Ranked list of barriers

Figure 11 shows a map of coverage class for all administrative districts in a MoH-delivered CMAM program in Sierra Leone. SLEAC also provides output similar to Figure 8. It is typical to use SLEAC to identify areas for further investigation using the SQUEAC method (Figure 12a & 12b).

Figure 11. Map of per-district coverage produced by the SLEAC method

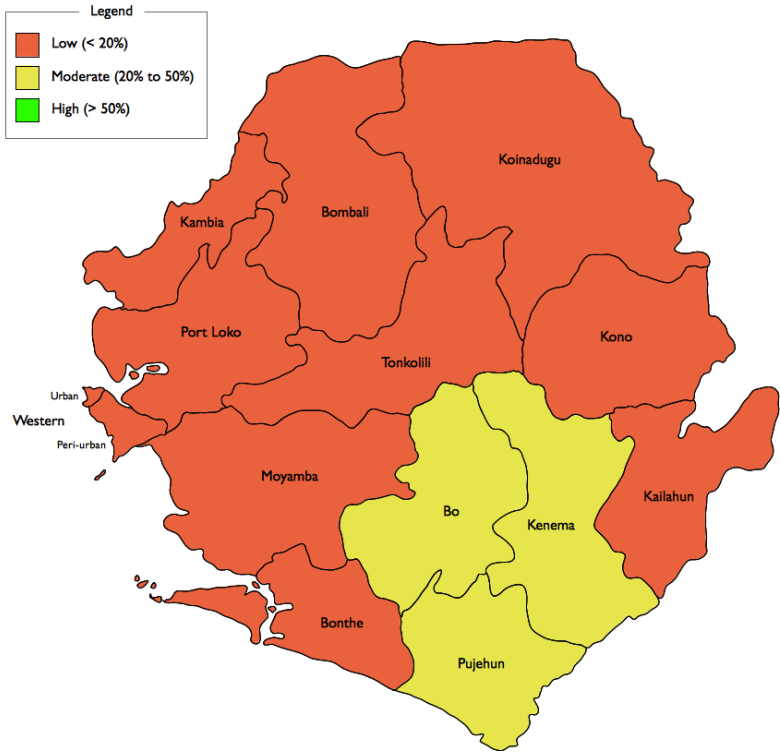


Figure 12a. Using SLEAC and SQUEAC in failing service delivery units

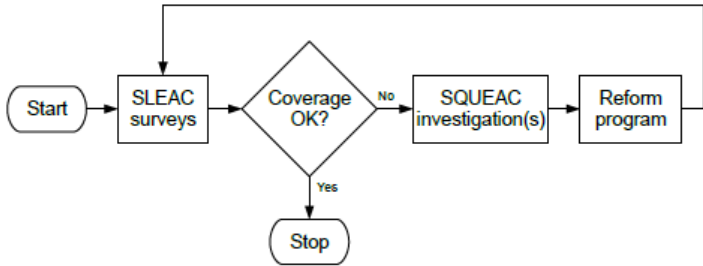
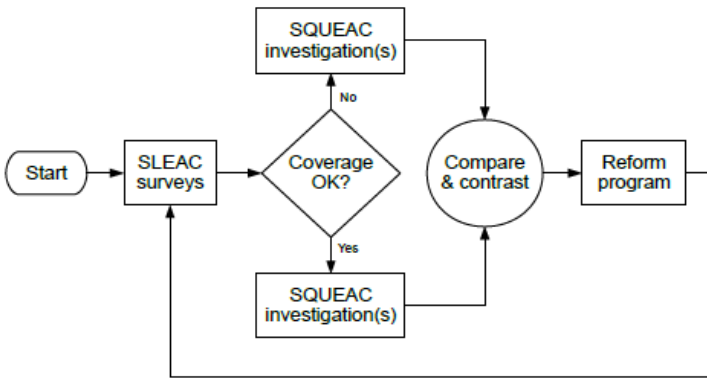


Figure 12b. Using SLEAC and SQUEAC in succeeding and failing service delivery units



ANNEX 44
Monthly Reporting Format (Facility level)

MONTHLY REPORTING ON MANAGEMENT OF SAM - HEALTH FACILITY (OTC/ITC)

SITE

CITY/MUNICIPALITY

PROVINCE

REGION

MONTH / YEAR

TYPE OF FACILITY

INPATIENT

OUTPATIENT

NUMBER OF TRAINED PERSONNEL ON SAM MGT

TOTAL

Physician

Nurses

Midwives

Nutritionist Dietitians

BHW

BNS

N / Target

N / Target

Total BEGINNING of the Month (A)

New Cases (B)

6-59 months (according to Admission criteria) (B1)

Other (Infants <6mos, adolescents, adults) (B2)

Old Cases (C)

From Outpatient or Inpatient Care, or Returned Defaulters

Total ADMISSION (D = B + C)

Discharges (E)

CURED (E1)

DEATH (E2)

DEFAULTER (E3)

NON-CURED (E4)

Referral (F)

To Inpatient or Outpatient Care

TOTAL EXITS (G= E+F)

Total END of Month (H = A+D-G)

% of Discharges

TARGET

>75%

<10%

<15%

%

%

%

%

%

%

%

Prepared by:

Name, Designation and Signature

NB: Old Cases and Referrals are excluded from national/program reporting as they are movements within the program rather than entries and exits

E1: Cured = reaches discharge criteria

E3: Defaulter = absent for 3 consecutive visits

E4: Non-Cured = does not reach discharge criteria after 4 months in OTC or 40 days in ITC

MALE

FEMALE

Gender of Admissions

Readmissions

ANNEX 45

Quarterly/Annual Reporting Format (Consolidation)

QUARTERLY AND ANNUAL REPORTING ON MANAGEMENT OF SAM - LGU, REGIONAL, OR NATIONAL

REPORTING AREA

Region/National

REPORTING PERIOD

O Quarterly

Q1 Q2 Q3 Q4

Year

O Annual

Year

Tick if Quarterly or Annual Report; encircle corresponding quarter and indicate years

NUMBER OF TREATMENT SITES

OUTPATIENT

INPATIENT

GEOGRAPHICAL COVERAGE

ESTIMATED MAXIMUM CAPACITY

HR CAPACITY

(Number of PIMAM facilities/total or target facilities)

(Number of PIMAM facilities/total or target facilities)

Total BEGINNING of reporting period (A)	New Cases (B)		Discharges (E)				Total END of Reporting Period (A+B-E=H)
	6-59 months (according to Admission criteria) (B1)	Other (Infants <6mos, adolescents, adults) (B2)	CURED (E1)	DEATH (E2)	DEFAULTER (E3)	NON-CURED (E4)	
			%	%	%	%	%
		% of Discharges	>75%	<10%	<15%		

Prepared by:

Name, Designation and Signature

MALE

FEMALE

Gender of Admissions

Readmissions

NB: Old Cases and Referrals are excluded from national/program reporting as they are movements within the program rather than entries and exits

E1: Cured = reaches discharge criteria

E3: Defaulter = absent for 3 consecutive visits

E4: Non-Cured = does not reach discharge criteria after 4 months in OTC or 40 days in ITC

ANNEX 46

Example of messages for community sensitization

IMPORTANT MESSAGE TO ALL CAREGIVERS AND FAMILIES WITH CHILDREN AGED BETWEEN 6 MONTHS AND 5 YEARS

A new treatment is now available at Rural Health Units and Barangay Health Stations for the treatment of children between **six months** and **five years** who are **very thin**, or **who have swollen feet**. Children with these features suffer from a severe form of malnutrition. The families with such children now do not have to stay in the hospital for a long time but can treat the child at home under the supervision of the local health team.

To be eligible for this treatment, the child has the arm measured with a special tape (called a MUAC tape) to see if he/she is thin. The feet are also checked to see if they have begun to swell. If the arm is too thin or there is swelling of the feet, the child visits the closest RHU or BHS to their home.

Many types of person can do the measurement. The Barangay Nutrition Scholar or Barangay Health Worker will check the measurement to ensure it is correct and will then initiate the treatment with the assistance of the local midwife / nurse. The child will receive antibiotics and a special treatment for severe malnutrition called RUTF. RUTF is a special "medicinal food", like a sweet peanut butter, containing all of the nutrition the child needs to recover. The child may be required to visit the doctor in some circumstances to be prescribed extra medicines.

The child will visit the RHU / BHS weekly or two weekly to assess recovery and to receive more supplies of RUTF. The health team will determine how much RUTF the child should eat each day / week. Full recovery takes approximately 6 to 8 weeks.

If you know a child who is very thin, or whose feet have started to swell, let his parents or guardians and any pregnant or lactating caregivers know about this new treatment. They can inquire with the Barangay Captain or Barangay Nutrition Committee for the name of the person trained in the arm measurement, or they can go direct to the RHU or BHS.

All members of the community, with children who are eligible for treatment, may access this service; no one is excluded.

For Muslim communities it may be added that RUTF is Halal

ANNEX 47
Department Personnel Order 2011 - 2453



Republic of the Philippines
Department of Health
OFFICE OF THE SECRETARY

May 9, 2011

DEPARTMENT PERSONNEL ORDER
No. 2011- 2453

SUBJECT: Creation of the National Task Force For The Community-Based Management of Severe Acute Malnutrition (CMAM)

Severe Acute Malnutrition remains a major killer of children under five years of age. Globally, it is estimated that there are nearly 20 million children who are severely acutely malnourished. In the Philippines, based on the 2008 National Nutrition Survey of the Food and Nutrition Research Institute of the Department of Science and Technology (FNRI-DOST), the prevalence of of Global Acute Malnutrition (GAM) has fluctuated over the past 20 years from 5.0 - 6.7 % and was reported up at 6.1% in 2008. In the same survey, it was shown that pockets of country like Autonomous Region of Muslim Mindanao (ARMM) can have a GAM of as high as 9.6%.

Considering that children make up at least 50% of those affected by the dramatically changing types and worsening impact of emergencies/disasters, much greater attention should be paid to assessing and responding to their nutritional vulnerabilities and addressing their nutrition, health and related needs.

The usual management of severe acute malnutrition is restricted to hospital pediatric wards for reasons that severely malnourished children seek hospital consultation because of diarrhea, pneumonia, and other communicable diseases. This situation limits coverage of malnourished children and impact of the nutrition rehabilitation intervention. In the mid 80's up to late 90's, Malnutrition Rehabilitation Wards (Malward) were set-up in a number of government hospitals. However, only a few of the malward are still in operation to date.

Recent works in the management of severe acute malnutrition in children showed that most of these children can be managed in their communities without admission to a hospital or inpatient therapeutic feeding centers. With the development of a protocol for an integrated, approach in the management of severe acute malnutrition using ready to use therapeutic foods (RUTF), standard treatment drugs, coupled with active case finding for timely detection through community mobilization and proper referral to stabilization centers, a Community-based Management of Acute Malnutrition program could prevent deaths of thousands of children. Further, this will also contribute to the decongestion of our secondary and tertiary health facilities.

While the efforts (Vitamin A Supplementation, ASIN Law, Sangkap Pinoy Seal, etc.) of the DOH as supported by the Local Government Units (LGUs), food industry, advocates, etc. to fill the gap in micronutrient deficiencies has gained successes, additional focus is necessary for the improvement in the nutritional status of Filipino children. The implementation of CMAM will fill in that gap. CMAM will improve the geographical coverage and standardize the management including identification and quality of care of severely malnourished children.

Disaster Risk Reduction as a national and local priority shall include building government and local capacities in CMAM. This is why the principles of community development and public health approaches to nutrition are essential facets of emergency/disaster management.

The overarching requirement for the successful implementation of CMAM is the need to put in place the delivery of appropriate direct services as among the enabling environment at all levels (regions, provinces, municipalities including hospitals) to ensure success and sustainability. Manual of Operations/protocol on CMAM, capacity building, commitment of stakeholders to develop and maintain capacities of implementers, need for financial support requirements to support CMAM at all levels, strong monitoring and reporting system are some of these enabling environment.

To operationalize the implementation of the CMAM in the Philippines and to handle issues and concerns regarding rolling out and scaling up, a National Task Force is hereby created with the following members:

A. TASK FORCE COMPOSITION

Convenor: Eduardo C. Janairo, MD, MPH
Director IV, National Center for Disease Prevention and Control

Honorata L. Catibog, MD, MNSA
Director III, National Center for Disease Prevention and Control

Co-Convenors: Assistant Secretary Maria-Bernardita T. Flores CESO II
Executive Director IV
National Nutrition Council

Carmencita A Banatin, MD, MHA
Director III
Health Emergency Management Staff

Members:	Dr. Pura Rayco-Solon	UNICEF
	Dr. Michael Emerson Gnilo	UNICEF
	Dr. Mariella Castillo	WHO-WR
	Dr. Amado Parawan	Save the Children
	Dr. Ana Gil Alonso	ACF
	Ms. Frederic Baldini	MSF
	Ms. Luz S.See	DOH-NCDPC
	Ms. Elizabeth M. Joven	-do-
	Ms. Vicenta A. Borja	-do-

Ms. Liberty Importa	-do-
Ms. Josephine Guiao	DOH-NCHFD
Ms. Florinda V. Panlilio	DOH-HEMS
Ms. Janice P. Feliciano	DOH-NNC
Dr. Zenaida V. Narciso	DOST-FNRI
Ms. Juvy Mae Templonuevo	DSWD - PMB
Ms. Precilla Escalanate	DSWD – RO4
Ms. Alpha A. Larga	Council for the Welfare of Children (CWC)

Representatives from the academe and relevant professional organizations shall be on call as need arises.

B. ROLES AND RESPONSIBILITIES

The task force shall assume the following duties/responsibilities:

1. Formulate the manual of operations (MOP) on CMAM and ensure that the MOPs for both facility-based and community-based components are in place.
2. Consistently review existing guidelines and recommend policies to maintain high coverage aimed at identifying and treating severely malnourished children.
3. Provide training and support for community health and nutrition workers and Dietary Nutritionist-Dietitians to identify children with severe acute malnutrition who need urgent treatment and to recognize those children with complications who need urgent referral.
4. Make recommendations on needed resources that should be provided for the management of severe acute malnourished children. These resources include but not limited to: a) making RUTF available to children with SAM and, b) ensuring funding support to provide free treatment among children who come from the poorest families.
5. Ensure the integration of CMAM with other health activities such as preventive nutrition initiatives (promotion of infant and young child feeding practices particularly exclusive breastfeeding (BF) and appropriate complementary feeding, IMCI at first level health facilities, and feeding in emergencies
6. Assess capacities, available resources and gaps that need to be addressed to facilitate successful integration of CMAM in emergency/disaster management system.
7. Network with Deans/Heads of Nutrition Colleges to ensure enrichment of the subject area on Nutritional Assessment in the Nutrition pre-service curriculum.
8. Conduct operation research to refine protocols of CMAM.
9. Lead in the assessment, monitoring, and evaluation of the implementation of CMAM.
10. Lead in advocacy and social mobilization as sustainable support to CMAM.

The Task Force may invite additional resource persons from other DOH offices and other stakeholders/organization should the need for it arise.

The Task Force shall meet regularly on the third Mondays of the month from 1:00 pm - 4:00 pm. Special meetings and longer meeting time may be called as need arises.

Under this Order, meals/snacks and materials or supplies that will be used in the meeting shall be alternately charged to the funds of the National Center for Disease Prevention and Control, Health Emergency Management Staff, and National Nutrition Council. Disbursements of funds shall be subject to the usual accounting and auditing rules and regulations.


ENRIQUE T. ONA, MD
Secretary of Health

ANNEX 48

Roles and Responsibilities of PIMAM stakeholders

1. DEPARTMENT OF HEALTH:

The **Heads of the Office for Technical Services and Office for Health Operations**, shall oversee that these guidelines are implemented in the different offices of the Department.

DOH-Central Office shall:

- a. Create the National Program Management Team (NPMT) and serve as the policy-making body and leader in promoting the importance of standardized PIMAM services both during development and times of emergencies and disasters among the government and private sector including planners, decision makers, policy makers and the general public.
- b. Formulate, in coordination with members of the Health Sector, and implement policies, guidelines, protocols and standards and service packages and integrate all related programs to allow a holistic approach, not just focusing on malnutrition.
- c. Provide assistance and guidance to all implementing agencies in strengthening and financing service delivery.
- d. Provide training on the guidelines/protocol to relevant stakeholders; conduct dialogues with relevant stakeholders and review the implementation of the program
- e. Spearhead the conduct of studies, management of information, and documentation of best practices to support and initiate evidence-based reforms.



Disease Prevention and Control Bureau (DPCB) shall:

- a. As the NPMT lead, ensure that all of the functions set by the NPMT shall be carried out effectively and efficiently.
- b. Regularly convene the NPMT to plan and address issues and other concerns that may arise during the course of the scale-up and program implementation and provide members with the program technical and administrative updates.
- c. Generate additional membership of potential partners for an enhanced program implementation.
- d. Lead in the integration, standardization, and dissemination of indicators, tools, and recording and reporting forms.
- e. Facilitate the report (number and status of cases, interventions done, utilization of logistics) generation and analysis per facility and generate evidences and studies based on programming data and coordinate with relevant DOH Bureaus/Offices for integration.
- f. Ensure that storage facilities have at least a 20% buffer stock of therapeutic products and routine medicines for the treatment of SAM and other materials and tools to last for 3 months.
- g. Address possible issues and concerns on procurement or production of logistical needs (RUTF/ RUSF, MUAC tapes, weighing scales, height boards, standard weights for calibration - 2kg).
- h. Facilitate the development of system for inventory, transport and tracking of necessary logistics to the end-user.

Health Emergency Management Bureau (HEMB) shall:

- a. Serve as the lead coordinating office for the Quad cluster during times of emergencies and disasters and provide support to the National Nutrition Cluster.
- b. Facilitate the coordination of response activities and information sharing among DOH Offices and Bureaus and cluster partners during emergencies.
- c. Coordinate the augmentation of human resource and logistics in emergencies when assistance from the national government is needed.
- d. Ensure the integration of PIMAM indicators in the SPEED and HEARS reporting systems for emergencies and disasters.

Health Promotion and Communication Service (HPCS) shall:

- a. Lead in the advocacy and promotion activities.
- b. Develop and produce appropriate advocacy and communication strategies, IEC materials and collaterals.
- c. Support the NPMT in the dissemination of the IEC materials and collaterals.
- d. Provide technical assistance in the local version translation of the IEC materials.

Epidemiology Bureau (EB) shall:

- a. With the NPMT, facilitate the integration and consequent updating of PIMAM indicators under the FSHIS and regular reporting systems of the department.
- b. Support enhancement of surveillance systems and facilitate information sharing among DOH Bureaus and Units and cluster partners especially on cases of communicable diseases.

Epidemiology Bureau (EB) shall:

- a. With the NPMT, facilitate the integration and consequent updating of PIMAM indicators under the FSHIS and regular reporting systems of the department.
- b. Support enhancement of surveillance systems and facilitate information sharing among DOH Bureaus and Units and cluster partners especially on cases of communicable diseases.

Bureau of Local Health Systems Development (BLHSD) shall:

- a. Support the advocacy for the implementation of PIMAM program in all LGUs.
- b. Spearhead the integration of PIMAM program performance indicators in the LGU scorecard and to provide technical assistance in the conduct of M&E.

Health Facility Development Bureau (HFDB) shall:

- a. Facilitate the setting up and/or dedication of ITC areas in all hospitals with due priority for DOH Hospitals.
- b. Provide technical support to ITCs through the dietary department in all hospitals.
- c. Facilitate the organization and conduct of the capacity development for ITC.

Health Facilities and Services Regulatory Bureau (HFSRB) shall identify specific PIMAM requirements that will be incorporated in the checklist for routine licensing applications (new and renewal of license) of health facilities and PHILHEALTH accreditation.

Knowledge Management Information Service (KMIS) shall provide technical assistance to the NPMT in ensuring the functionality, maintenance, and integration of PIMAM into existing health information management systems (iClinicsys, PHIE, FHSIS, PIDSR, disease registries, and others).

Pharmaceutical Division shall expedite the registration of PIMAM commodities in the PNDF and issuance of clearance for commodities, drugs and medicines as needed.

Food and Drug Administration (FDA) shall:

- a. Provide technical assistance in the acceptance of international and local donations, especially food and drugs.
- b. Facilitate the acceptance and clearance of food, drugs and supplies which are necessary for PIMAM program implementation.

Health Human Resource Development Bureau (HHRDB) shall:

- a. In coordination with other NPMT members, standardize the training of trainers (PIMAM, active screening, Essential Nutrition Action, Breast feeding community Initiative, mother-to-mother network group).
- b. Develop or conduct other related learning and educational development activities.

Health Policy Development and Planning Bureau (HPDPB) shall, in coordination with other NPMT members, review and provide technical assistance in the development of the PIMAM protocol.

2. NATIONAL NUTRITION COUNCIL (NNC) shall:

- a. As NPMT co-lead, provide assistance to the DPCB in the in the fulfillment of the functions set for PIMAM implementation in the country.
- b. Provide both Technical / Management support.
- c. Utilize the existing Philippine Plan of Action for Nutrition (PPAN) strategy for enhancing the effective PIMAM program implementation, specifically it shall incorporate the program's screening activity in the conduct of the regular Operation Timbang (OPT) and annual Monitoring and Evaluation of Local Level Program Implementation (MELLPI).
- d. Generate support from the council members to facilitate the effective and efficient PIMAM program implementation.

3. DOH REGIONAL OFFICES AND NATIONAL NUTRITION COUNCIL REGIONAL OFFICES

The **DOH Regional Directors** shall directly oversee the implementation and adoption of these policies within their Regions, create Regional PIMAM management teams, and provide feedback, suggestions, and policy recommendations to the Secretary of Health.

The **Regional PIMAM Management Teams**, led by the Family Health Medical Officer, shall be responsible for the implementation and adoption of these guidelines in their respective regions.

The Regional Offices for Health, being the lead of the PIMAM Regional Management Team, and Regional National Nutrition Councils, as co-lead, shall:

- a. Formulate plans, procedures and protocols to implement this policy and guidelines.
- b. Provide and implement a mechanism of coordination and collaboration with hospitals (both government and private), LGUs, partners, and other stakeholders, to ensure the timely and effective service delivery.
- c. Support monitoring and evaluation activities.
- d. Provide technical assistance and logistics support to implementing agencies and regions. Design, update, and conduct necessary training to enhance capabilities of PIMAM implementers.
- e. Conduct studies and facilitate technical resource development that will contribute to improving service delivery.
- f. Identify, develop and enhance capacity of the members of the health and nutrition sector.



- g. Plan for and manage supplies efficiently and effectively.
- h. Develop/improve and sustain a safe and efficient referral system of children with acute malnutrition.
- i. Through the respective Development Management Officers, ensure the supportive supervision, monitoring, and coordination of PIMAM implementation at the LGU level including logistics coordination.

4. LOCAL GOVERNMENT UNITS

The **Provincial/Municipal/City Chief Executives** shall directly oversee the implementation and adoption of these policies within their locality, create Local PIMAM Management Teams, and provide feedback, suggestions, and policy recommendations to the Regional Offices for Health.

The **Local PIMAM Management Team**, led by the Provincial/City/Municipal Health Officer, shall be responsible for the implementation and adoption of these guidelines in their respective locality. They shall report to the Provincial/City/Municipal Chief Executive.

The LGUs shall:

- a. Institutionalize (structure, organization and policies, people, resources, systems, partners) health emergency management in their responsible areas.
- b. Formulate plans, procedures and protocols to implement their policy and guidelines
- c. Enforce existing local policies and guidelines.
- d. Consider the principles set in this policy in their respective health and nutrition plans and systems.
- e. Identify, develop and enhance capacity of the members of the health and nutrition sector.
- f. Plan for and manage supplies efficiently and effectively.
- g. With support from the Regional Offices for Health, develop/improve and sustain a safe and efficient referral system of children with acute malnutrition in their respective LGUs.

5. HOSPITALS

The **Medical Center Chiefs/Chief of Hospitals** shall administer these regulations and support all the policies and guidelines mentioned in this Order. He/she shall lead in the dissemination of these guidelines, their integration of the same in the hospital and the creation of Hospital PIMAM Management Teams. He/she shall ensure the availability of personnel and funds to support all the needed training and responses. He/she shall submit reports to the respective Regional Office, LGU, or DOH-CO.

The **Hospital PIMAM Management Team**, led by the Chief of Clinics, shall directly oversee the implementation of these guidelines in their respective hospitals. He/she shall report to the Chief of Hospital/Medical Center Chief.

Hospitals shall:

- a. Formulate plans, procedures and protocols to implement this policy and guidelines.
- b. Implement all policies, and adhere to all standards, requirements and systems.
- c. Provide and implement a mechanism of coordination and collaboration with hospitals (both government and private), LGUs, partners, and other stakeholders, to ensure the timely and effective service delivery.
- d. Support monitoring and evaluation activities.

6. PHILIPPINE HEALTH INSURANCE CORPORATION shall develop strategies to ensure coverage for children requiring treatment of severe acute malnutrition including, but not limited to: outpatient treatment with routine medicines and therapeutic food provided in capacitated health facilities, inpatient treatment of severe acute malnutrition with medical complications, reimbursements, point-of-care service delivery in non-PhilHealth accredited institutions/health service providers during emergencies and disasters.

7. OTHER GOVERNMENT AGENCIES shall

- a. Adopt these guidelines in their offices and provide feedback and report to LGU, Regional Office for Health, or DOH Cluster where they belong.
- b. Adhere to and observe all requirements and standards on public health especially those needed to respond to emergencies and disasters in accordance to the thrust of the Department of Health.
- c. Coordinate and participate in inter-agency activities with the Department of Health on Health Emergency Management.
- d. Support the DOH/LGUs/Hospitals in providing technical assistance (through the conduct of assessment or trainings) and logistics support.

8. ACADEME AND PROFESSIONAL SOCIETIES shall

- a. Adopt these guidelines in their institutions/organizations and provide feedback and report to LGU, Regional Office for Health, or DOH.
- b. Adhere to and observe all requirements and standards on public health especially those needed to respond to emergencies and disasters in accordance to the thrust of the DOH.
- c. Coordinate and participate in inter-agency activities with the DOH.
- d. Support the DOH/LGUs/Hospitals in providing technical assistance (through the conduct of assessment or trainings) and logistics support.
- e. Support the DOH/LGUs/Hospitals/Universities/Schools in ensuring that all curricula relevant to PIMAM are updated and implemented and that bodies of evidence on PIMAM are generated and disseminated.

9. NON-GOVERNMENT ORGANIZATIONS/AGENCIES, DEVELOPMENT PARTNERS PRIVATE SECTOR AND CIVIL SOCIETY GROUPS shall

- a. Adopt these guidelines in their locality and provide feedback and report to LGU, Regional Office for Health, or DOH Cluster where they belong.
- b. Participate in information dissemination, advocacy activities and training.
- c. Adhere to and observe all requirements and standards needed to respond to emergencies and disasters in accordance to the thrust of the Department of Health.
- d. Provide development/technical assistance to strengthen capacities and systems during scale-up and implementation of the program consistent with the above principles.
- e. Coordinate with appropriate DOH Offices for assistance in the implementation of this policy and services during development and emergencies.

ANNEX 49

Role requirements for BHW and BNS

Barangay Health Workers	Barangay Nutrition Scholars
The BHWs are selected based on Section 3 Rule IV Qualifications for Registration stipulated in the Implementing Rules and Regulations of the Republic Act 7883 otherwise known as the Barangay Health Workers Benefits and Incentives Act of 1995. Requirements: - Have completed the DOH basic training course for BHWs conducted by an accredited government agency or NGO - Be at least eighteen (18) years of age as of the date of the filing of the application for registration - Have rendered voluntary primary care service for at least one (1) year immediately preceding the date of the filing of application for registration in his/her barangay as certified by the Rural health Midwife assigned to his/her barangay, or by a duly authorized representative of an NGO operating in the barangay who has personal knowledge about the BHW's performance and by the head of his/her association - Be physically and mentally fit - Perform activities under the supervision of the Rural Health Midwife - Primarily conduct active screening and assist the BNS – as part of the community-IMCI assessment of children	The Barangay Nutrition Scholars are selected based on Section 4 Qualifications as stipulated in Presidential Decree 1569 otherwise known as the Strengthening the Barangay Nutrition Program by Providing for a Barangay Nutrition Scholar in Every Barangay, Providing Funds Therefore, and Other Purposes. Requirements: - Bonafide residence in the barangay for at least four (4) years and the ability to speak the dialect - Possession of leadership potential and the initiative and willingness to serve the people for a least one (1) year - Willingness to learn, and to teach what he has learned to the members of the barangay - At least a primary school graduate - Physical and mental fitness - At least eighteen (18) years old but not greater than sixty (60) years old

ANNEX 50

Registry Book Example

	Reg. #	SAM No.	Patient's Name (surname, first name)	Patient's Name/ Caregiver's name	Address & Phone No.	Type of Entry	Entry to Facility								WH Z	Edema 0,1,2,3	MUAC (mm)
							Transfer from	Sex F/M	DOB mm/dd/yy	Age (months)	Date mm/dd/yy	Wt (kg)	Ht (cm)				
														Code of the OTC/ITC			
	1																
	2																
	3																
	4																
	5																
	6																
	7																
	8																
	9																
	10																
	11																
	12																
	13																
	14																
	15																
	16																
	17																
	18																
	19																
	20																

	Exit to Facility					Type of Exit		Date of minimum weight mm/dd/yy	Minimum weight (kg)	Observation
	Date mm/dd/yy	Wt (kg)	Ht (cm)	WH Z	Edema 0,1,2,3	MUAC (mm)	Type			
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										
11										
12										
13										
14										
15										
16										
17										
18										
19										
20										

ANNEX 51
Critical Care Chart Example

CRITICAL CARE CHART											
Patient's Name:		Reg. No.		Sheet No.		Diagnosis: Check the vital signs that are to be monitored in the "check" column and write in the times in the time row (only check those that are needed) - attach graph for graphing critical signs if necessary.					
Age:		SAM-No.		Edema: 0 + ++ +++							
IPF/emergency ward/casualty/pecliatr ward/other:				Dr. in Charge:							
Date:		Nurse in Charge:		Check the patient everymin/hour							
				TIME Hr		Check		Time started		AM/PM	
EXAMINATION											
Level of Consciousness											
Weight - Kg.g											
Capillary refill (nail bed) - secs											
Cold extremities Yes No											
Respiration rate - per min											
Pulse - per min											
Liver (cm below costal margin)											
Stool (liquid/semi/solid) number											
Vomit - number											
Passed urine Yes No											
Temperature (axillar/rectal)											
Eyelids (retract/sleep eyes/open)											
Other											
Other											
TREATMENT GIVEN											
ResoMal.....mL											
IV-fluid.....mL											
Blood/pack cells.....mL											
F75/sugar water.....mL											
IV glucose 10%.....mL											
Oxygen											
Wet cloths											
Kangaroo-rewarming											
stat Drug											
stat Drug											
stat Drug											



ANNEX 52

PhilHealth reimbursements for acute malnutrition (Excerpt)

ICD Code	Description	Case Rate	Professional Fee	Health Care Institution Fee
B65.8+ J17.3*	Pneumonia in schistosomiasis due to Schistosoma intercalatum; mattheei; mekongi	15,000	15,000	10,500
B65.9	Schistosomiasis, unspecified	2,800	840	1,960
B65.9+ J17.3*	Pneumonia in schistosomiasis	15,000	4,500	10,500
B77.8+ J17.3*	Pneumonia in ascariasis	15,000	4,500	10,500
B77.9	Ascariasis	2,800	840	1,960
B82.0	Intestinal helminthiasis, unspecified	2,800	840	1,960
B82.9	Intestinal parasitism, unspecified	2,800	840	1,960
E16.2	Hypoglycemia	2,800	840	1,960
E40	Kwashiorkor	8,190	2,457	5,733
E41	Nutritional marasmus; Severe malnutrition with marasmus	8,190	2,457	5,733
E43	Unspecified severe protein-energy malnutrition	8,190	2,457	5,733
E44.1	Mild protein-energy malnutrition	8,190	2,457	5,733
E86.1	moderate dehydration	2,800	840	1,960
E86.2	severe dehydration	2,800	840	1,960
E87.0	Hyperosmolality and hypernatraemia; Sodium [Na] excess; Sodium [Na] overload	2,800	840	1,960
E87.1	Hypo-osmolality and hyponatraemia	5,950	1,785	4,165
E87.2	Acidosis; Acidosis NOS; Lactic Acidosis; Metabolic Acidosis; Respiratory Acidosis	5,950	1,785	4,165
E87.3	Alkalosis; Alkalosis NOS; Metabolic Alkalosis; Respiratory Alkalosis	5,950	1,785	4,165
E87.4	Mixed disorder of acid-base balance	5,950	1,785	4,165
E87.5	Hyperkalaemia; Potassium [K] excess; Potassium [K] overload	5,950	1,785	4,165
E87.6	Hypokalaemia; Potassium [K] deficiency	5,950	1,785	4,165
E87.7	Fluid overload	5,950	1,785	4,165
E87.8	Other disorders of electrolyte and fluid balance, not elsewhere classified; Electrolyte imbalance NOS; Hyperchloraemia; Hypochloraemia; Other metabolic disorders	5,950	1,785	4,165

ANNEX 53

Defaulter form

Defaulter Details (Front)

Name of Child _____ Registration number _____
Health Centre _____ Today's date _____
Child's MUAC: _____ mm

Name of Caregiver: _____ Contact No.: _____

If MUAC < 115mm ask;
DO YOU THINK YOUR CHILD IS MALNOURISHED?
☐ YES ☐ NO

For all defaulters ask:

WHY IS YOUR CHILD NOT CURRENTLY ENROLLED IN TREATMENT?

- ☐ Too far (How long does it take to walk?hours)
- ☐ No time / too busy. What is the parent doing instead? _____
- ☐ Mother is sick
- ☐ The mother cannot carry more than one child
- ☐ The mother feels ashamed or shy about coming
- ☐ Security problems
- ☐ There is no one else who can take care of the other siblings
- ☐ The amount of RUTF was too little to justify the journey
- ☐ My husband refuses
- ☐ I do not think the program can help my child (prefer traditional healer, etc.)
- ☐ The child wasn't improving
- ☐ Condition improved and didn't need treatment anymore (in mother's opinion)
- ☐ Condition improved and was discharged by staff
- ☐ Child died
- ☐ Other reasons: _____

Additional notes:



Defaulter Details (Back)

For each defaulter please take the following information from the OTC card:

Name:	
Registration number:	
Date of enrolment into study	
Date of last attendance:	
MUAC on admission:	
Weight on admission:	
MUAC on last attendance before default:	
Weight on last attendance before default:	
Number of weeks attended OTC:	
Distance / time taken to walk to HC (tick)	☐ < 30 mins ☐ 30 - 60 mins ☐ 1 - 2 hours ☐ 2 - 3 hours ☐ > 3 hours

Additional notes / significant information



ANNEX 54 Supervision checklist for OTC

Preparation			
Activity	Yes	No	Remarks
RUTF stock checked and reconciled			
OTC Inventory - Digital scale (scales must be accurate to 100g minimum) - Height Boards - WFH tables (WHO 2006) - MUAC tapes - OTC follow up cards - OTC protocols - OTC Medications - Clean drinking water - Cups, spoons - Soap/water (for hand washing) - Carrying bags (for RUTF)			

Screening			
Activity	Yes	No	Remarks
BHW / BNS deployed for MUAC / edema measurement in community			
Appropriate number of MUAC tapes are available in good condition			
BHW / BNS aware of the cut off points for selection of children; 6 - 59 months - MUAC (for children > 6 months) - MUAC < 115mm (11.5cm) refer to OTC - Children < 6 months referred to OTC			
BHW / BNS conducting MUAC / edema measurements appropriately			
Individual beneficiary's MUAC and edema clearly indicated on a piece of paper along with name/age/sex (if referred from community)			
Eligible children clearly directed toward OTC clinic by BHW / BNS			
BHW / BNS clearly explaining to caregivers reason why ineligible children were not selected			



Final screening of new arrivals and follow up of OTC cases			
Activity	Yes	No	Remarks
Height measurement procedure is appropriate (where height measurement is used)			
Weight measurement procedure is appropriate			
MUAC measurement procedure is appropriate			
WFH appropriately identified using weight for height chart			
MUAC / edema measured for all OTC cases			
Measurements clearly indicated in the OTC cards.			
BHW / BNS / Midwife / Medical Officer explains the findings to mothers			

Medical Consultation			
Activity	Yes	No	Remarks
Sufficient amount of routine medicines are available			
Thermometer is available and in good condition			
OTC cards are available in sufficient amount			
Sufficient arrangement made for sitting of beneficiaries			
Clinical examination of every OTC case done appropriately following protocol			
Findings of the clinical examination clearly indicated in the OTC card			
Appetite test performed appropriately			
Routine medicines for OTC cases are provided to each child and indicated in cards			
SAM with complications or lack of appetite identified appropriately and referred to ITC			
Appropriate amount of RUTF distributed and clearly explained to mothers			
Mothers counselled on disadvantages of sharing			
RUTF			
Discharges from OTC made appropriately			
Absent OTC children are searched for (by outreach workers / volunteers)			
Record keeping is appropriate			
Staff are sympathetic to mothers and children			

RUTF Distribution			
Activity	Yes	No	Remarks
Soap is available Caregiver washes hands before giving RUTF to child			
RUTF education given to all new OTC mothers			
Caregiver is able to explain how to use RUTF correctly for her/his child			
Record keeping is appropriate			

Conclusion			
Activity	Yes	No	Remarks
Nurse completes RUTF stock record sheet (if appropriate)			
Nurse completes the TCL / Family Folder			
OTC file properly organized			
OTC cards for discharged patients are returned to clinic for filing except referrals to ITC			
Names of OTC children for follow up in the community including absentees and defaulters are provided to BHW / BNS workers to find during the week			
Adequate stock and buffer stock in place for caseload			
RUTF stock reconciled with storekeeper			



ANNEX 55

Response Actions of National Nutrition Cluster (adapted from Minimum Service Package)

Actions of the Nutrition Cluster at the national level will depend on the extent of the disaster. This section proposes actions that must be taken by the National Nutrition Cluster for 3 scenarios:

- National Cluster Actions for functional LGU Nutrition Cluster
- National Cluster Level Actions augmenting functional Regional/LGU Nutrition Cluster
- National Cluster Level Actions taking over for non-functional Regional/LGU Nutrition Cluster

A. National Cluster Actions for functional LGU Nutrition Cluster	
Timeline	Nutrition
1. Pre-Emptive Evacuation Phase	1.1 Update resource inventory/mapping of micronutrients 1.1.1 Tents 1.1.2 Vitamin A capsules 1.1.3 Multiple micronutrient powders 1.1.4 Multiple Micronutrient supplements for pregnant women 1.1.5 IECs for Nutrition 1.1.6 MUAC Tapes 1.1.7 Weighing scale 1.1.8 Weight for height reference table 1.1.9 Height Board 1.1.10 Ready-to-Use Therapeutic Food (RUTF) 1.1.11 Ready-to-Use Supplementary Food (RUSF) 1.1.12 Antibiotics, deworming tablets (for routine acute malnutrition management, to be coordinated with the health office/centers) 1.1.13 Human milk banks (inform them ahead for proper coordination) 1.1.14 Breastfeeding Kit (container/katsa, feeding cup with cover, food container with spoon and fork, 1 liter glass tumbler with cover, IEC materials, birth registration form) 1.2 Mapping of partners (4Ws - Who, what, when, where) 1.3 Coordination with partners on the following: 1.3.1. Conduct of general and blanket supplementary feeding for 6 to 59 months old children, and pregnant and lactating women 1.3.2. Setting-up of mother-baby friendly areas in evacuation center for IYCF counseling and complementary feeding 1.4 Alert notification to health facilities with capacities for SAM (severe acute malnutrition “severe wasting” management), ensure functional referral systems 1.5 Activation 1.5.1. Joint Rapid Nutrition Assessment Teams, if necessary 1.5.2. Infant feeding/ Breastfeeding Support Groups, if necessary 1.6 Intra/InterCluster Coordination Meetings
2. Within First 24 hours of Impact	2.1 Coordinate/Facilitate team deployment by LGU
25 to 71 hours	2.2 Assist LGU in establishing contacts, gathering critical information (baseline) and identifying immediate priorities to include areas that situation may worsen, especially regarding support for IYCF and EO 51 monitoring 2.3 Support LGU in the conduct of gap analysis and in the prioritization and planning/ scheduling of nutrition interventions 2.4 Facilitate and coordinate the preparation and submission of daily situation report

Timeline	Nutrition
3. More than 72 hours	3.1 Provision of technical assistance on the following: 3.1.1 Implementation of nutrition interventions 3.1.2 Information management (e.g. 4Ws, use of data tracking matrix of DSWD, situation reports) 3.1.3 Monitoring and evaluation 3.1.4 Documentation 3.2 Support LGU in policy monitoring of EO51 and reporting of violations 3.3 Lead/facilitate cluster coordination initiatives 3.4 Assist LGU in the advocacy for nutrition services related to mental health and psychosocial care, water, sanitation and hygiene, health, and others 3.5 Activation of 4Ws 3.6 Technical assistance for “exit” strategy
B. National Cluster Level Actions augmenting Functional Regional/LGU Nutrition Cluster	
Timeline	Nutrition
1. Pre-Emptive Evacuation Phase	1.1 Update resource inventory/mapping of micronutrients by Nutrition Clusters at all levels 1.1.1 Vitamin A capsules 1.1.2 Multiple micronutrient powders 1.1.3 Ferrous sulfate and iron with folic acid 1.1.4 IECs for Nutrition 1.1.5 MUAC Tapes 1.1.6 Weighing scale 1.1.7 Weight for height reference table 1.1.8 Height Board 1.1.9 Ready-to-Use Therapeutic Food (RUTF) 1.1.10 Ready-to-Use Supplementary Food (RUSF) 1.1.11 Antibiotics, deworming tablets (for routine acute malnutrition management, to be coordinated with the health office/centers) 1.1.12 Human milk banks (inform them ahead for proper coordination) 1.1.13 Breastfeeding Kit (container/katsa, feeding cup with cover, food container with spoon and fork, 1 liter glass tumbler with cover, IEC materials, birth registration form) 1.2 Mapping of partners (4Ws- Who, what, when, where) by Nutrition Clusters at all levels 1.3 National/Regional Nutrition Clusters providing augmentation to LGU Nutrition Clusters on the following: 1.3.1 Conduct of general and blanket supplementary feeding for 6 to 59 months old children, and pregnant and lactating women 1.3.2 Setting-up of mother-baby friendly areas in evacuation centers for IYCF counseling and complementary feeding 1.4 Support LGU in giving alert notification to health facilities with capacities for SAM (severe acute malnutrition “severe wasting” management) 1.5 Augment activation of the following: 1.5.1 Joint Rapid Nutrition Assessment Teams, if necessary 1.5.2 Infant feeding/ Breastfeeding Support Groups, if necessary 1.6 Support LGU in the conduct of Intra/InterCluster Coordination Meetings



Timeline	Nutrition
2. Within First 24 hours of Impact	2.1 Augment team deployment by LGU
25 to 71 hours	2.2 Assist LGU in establishing contacts, gathering critical information (baseline) and identifying immediate priorities to include areas that situation may worsen.
	2.3 Support LGU in the conduct of gap analysis and in the prioritization and planning/ scheduling of nutrition interventions
	2.4 Support LGU in the preparation and submission of daily situation report
3. More than 72 hours	3.1 Augment LGU's logistics on the following: 3.1.1 Implementation of nutrition interventions 3.1.2 Information management (e.g. 4Ws, use of data tracking matrix of DSWD) 3.1.3 Monitoring and evaluation 3.1.4 Documentation
	3.2 Support LGU in policy monitoring of EO51 and reporting of violations
	3.3 Support LGU in the conduct of Intra/Inter-Cluster Coordination Meetings
	3.4 Assist LGU in the advocacy for services related to mental health and psychosocial care, water, sanitation and hygiene, health, and others
	3.5 Technical assistance for "exit" strategy
C. National Cluster Level Actions taking over for non-functional Regional/LGU Nutrition Cluster	
Timeline	Nutrition
1. Pre-Emptive Evacuation Phase	1.1 Updating of inventory of resources and mobilization/mapping of micronutrients 1.1.1 Vitamin A capsules 1.1.2 Multiple micronutrient powders 1.1.3 Ferrous sulfate and iron with folic acid 1.1.4 IECs for Nutrition 1.1.5 MUAC Tapes 1.1.6 Weighing scale 1.1.7 Weight for height reference table 1.1.8 Height Board 1.1.9 Ready-to-Use Therapeutic Food (RUTF) 1.1.10 Ready-to-Use Supplementary Food (RUSF) 1.1.11 Antibiotics, deworming tablets (for routine acute malnutrition management, to be coordinated with the health office/centers)
	1.2 Coordinate the conduct of general/blanket supplementary feeding
	1.3 Conduct of targeted supplementary feeding for 6 to 59 old months children, and pregnant and lactating mothers
	1.4 Distribute Vitamin A to RHUs for 6 to 59 months children
	1.5 Coordinate the setting up of mother-baby friendly areas in evacuation centers for IYCF counseling and complementary feeding
	1.6 Team Activation 1.6.1 Joint Rapid Nutrition Assessment Teams 1.6.2 Infant feeding/ Breastfeeding Support Groups
	1.7 Referral of SAM (Severe Acute Malnutrition "severe wasting") with complications to Integrated Management of Acute Malnutrition (IMAM) referral hospitals
	1.8 Cluster Coordination Meeting

Timeline	Nutrition
2. Within First 24 hours of Impact	2.1 Assessment Team Deployment
25 to 71 hours	2.2 Rapid nutrition assessment
	2.3 Infant feeding in emergencies assessment
	2.4 Cluster coordination
	2.5 Planning for Intervention
3. More than 72 hours	* the following activities will not only be delivered in the evacuation center
	3.1 Implementation of the following nutrition interventions:
	3.1.1 Rapid screening for acute malnutrition using mid-upper arm circumference (MUAC) tape
	3.1.2 Blanket and targeted supplementary feeding
	3.1.3 Integrated Management of Acute Malnutrition (IMAM) activity components
	3.1.3.1 Screening and identification of severe acute malnutrition (SAM or "severe wasting") and moderate acute malnutrition (MAM or "wasting") using MUAC (or weight-for-height if capacity exists) as basis and checking of bilateral pitting edema
	3.1.3.2 Enrolment/admission
	3.1.3.3 Growth monitoring and promotion
	3.1.3.4 Standard case management
	3.1.3.5 Case referral
	3.1.3.6 IMAM crash course for health staff and volunteers
	3.1.4 Promotion, protection, and support of infant and young child feeding in emergencies
	3.1.4.1 Policy (Milk Code) active monitoring and advocacy
	3.1.4.2 Establishment/setting up of breastfeeding areas/corners/tents in evacuation centers/camps/temporary shelters
	3.1.4.3 Organization and orientation of breastfeeding support groups
	3.1.4.4 Infant feeding in emergencies assessment and counseling
	3.1.4.5 Provision of breastfeeding support services
	3.1.4.5.1 Transport and storage of pasteurized human breastmilk in coordination with human milkbank
	3.1.4.5.2 Identification of wet nurses
	3.1.4.5.3 Organization of relactation sessions
	3.1.4.5.4 Distribution of breastfeeding kits
	3.1.5 Micronutrient Intervention
	3.1.5.1 Provision of vitamin A capsules (VAC)
	3.1.5.2 Iron and folic acid supplementation
	3.1.5.3 Multiple micronutrient powder (MNP) supplementation
	3.1.5.4 Supplementary Feeding
	3.2 Information Management
	3.2.1 Monitoring, supervision and evaluation:
	3.2.1.1 Service delivery
	3.2.1.2 Resource mobilization and use
	3.2.1.3 Emerging needs, e.g. need for "Diskwento" caravan
	3.2.1.4 Anthropometric survey/surveillance



Timeline	Nutrition
	3.2.2 Documentation and information sharing
	3.2.2.1 from the LGU to the National office (DOH)
	3.2.2.2 within LGUs
	3.2.2.3 between and among partners
	3.2.2.4 clusters
	3.2.2.5 others
	3.3 Referral of psychosocial high-risk or positive cases to mental health and psychosocial support (MHPSS) interventions and activities
	3.4 Referral to WASH, Health Clusters, and other interventions
	3.5 Cluster coordination
	3.6 Policy monitoring of EO51 and reporting of violations
	3.7 Develop “transition” strategy

ANNEX 56

Calculating Case Load for SAM

HOW DO WE ESTIMATE CASE LOAD FOR SAM AND / OR MAM IN CHILDREN 6 - 59 MONTHS IN A GIVEN TIME PERIOD?

Adapted from the article of Mark Myatt, Consultant Epidemiologist, Brixton Health, CMAM Forum

A common approach to is to use the formula:

case load = N × P × K × C

where:

N is the size of the population in the program area. This is usually the population aged between 6 and 59 months which, in low income countries, is commonly estimated as 20% of the total population. In the Philippines, this population is estimated to be 12.15%.

P is estimated prevalence of SAM or MAM. This is usually estimated using a nutritional anthropometry survey (e.g. Operation Timbang Plus, the National Nutrition Survey, or a SMART survey). It is important that prevalence is estimated for the program's admitting case-definition based on MUAC measurements, Weight-for-height/length (W/H or W/L) SD Scores and edema.

In PIMAM, the admitting case definitions for SAM are:

- 1. MUAC < 115mm (11.5cm)
- 2. Presence of bilateral pitting edema
- 3. W/H or W/L < -3 SD

K is a correction factor to account for new (incident cases) over a given time period.

C is expected mean program coverage over a given time period. Program coverage may range from 10% to 90%. It should be noted that programs that place emphasis on using weight-for-height in admitting case-definitions tend to achieve considerable lower levels of coverage than programs that place emphasis on using MUAC in admitting case-definitions.

Deciding appropriate input values for N, P, K, and C

An appropriate value for **N** is usually derived from census data. In some settings, certain factors may lead to census data not being accurate (e.g. political manipulation, the absence of a functioning civil society, population displacement, and poor security). Population estimates should, therefore, be corrected by the application of estimates of population growth, for displacement, migration, and mortality in the target population.

An appropriate value for **P** for SAM is usually estimated with poor relative precision. For example, a SMART survey with a sample size of 600 and a design effect of 1.5 may return an estimate of SAM prevalence of 1.25% with a 95% confidence interval (CI) of 0.41% to 2.89%. On average, 10 - 20% of the total GAM prevalence can estimate SAM prevalence if no available data can be used. Existing prevalences for GAM and MAM are, however, usually estimated with better relative precision.

K is estimated from:

incidence = prevalence / average duration of untreated disease

The average duration of episodes of untreated SAM and MAM is usually taken to be 7.5 months.

This yields:

incidence = prevalence x t / 7.5 months

where t is the time period specified in months.

incidence = prevalence x 12 months / 7.5 months = prevalence x 1.6

Need can be estimated as the sum of prevalent cases and incident cases:

need = prevalence + (prevalence x t / 7.5)

Thus **K** can be estimated as:

K = 1 + t / 7.5

For a year this is:

K = 1 + 12 / 7.5 = 2.6

C is the mean coverage that is expected to be achieved by the program over the time period. This depends on the type of program and how well the program operates in terms of case-finding, recruitment, and retention.

For start-up programs, the correction factor, K, can be assigned the value of 1.6 while the Coverage, C, can be assigned the value of 50%. The correction factor of 1.6 is the most commonly used globally but other studies indicate that it is variable according to context (may be as high as 5). Both values are conservative enough for estimating initial RUTF needs to be procured in the start-up year. However, once nutrition survey data or programming data are available, the values should be reviewed and revised quarterly based on actual caseloads.

An example calculation:

Population : 121,400	N = 121,400 × 0.1215 = 14,750
Proportion 6 - 59 months : 12.15%	
Prevalence of SAM : 1.34%	P = 0.0134
Time period (Start-up) : 1 year	K = 1.6
Expected coverage : 50%	C = 0.50

The expected case load is:

$case\ load = N \times P \times K \times C$
 $case\ load = 14,750 \times 0.0134 \times 1.6 \times 0.50 = 158$

A 95% confidence interval could be calculated using the upper and lower 95% confidence limits for P in the formula. Confidence intervals will usually be very wide for SAM. This is due to the lack of precision in the estimate of SAM prevalence available from typical nutritional anthropometry surveys.

The overall caseload for SAM can also be used to estimate the need for inpatient (stabilisation) care. At the start of a program there may be a large number of complicated cases. In this context, the need for inpatient care will be high (e.g. 10 - 15% of prevalent cases). For the Philippines, a value of 10% for complicated cases is a conservative figure for start-up programs.

Using the example data:

$Initial\ inpatient\ demand = 14,750 \times 0.0134 \times 0.10 \times 0.50 = 10$

The need for inpatient care should, in a well CMAM functioning program, decline over time and not exceed 5% of estimated case-load over the specified time-period. Using the example data:

$Ongoing\ inpatient\ demand = 158 \times 0.05 = 8$

It should be noted that this is an approximate method. This is due to uncertainty in all of the variables.

This document was drafted by Mark Myatt (Consultant Epidemiologist, Brixton Health) on 30th May 2012 and revised accordingly for the Philippine SAM guidelines on May 14 2015.

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ANNEX 57
Issuance of Supplies and Materials Procedure (SAMPLE)

Steps	End-user	Service Provider	Person in charge	Fees	Form
1	Present duly accomplished Requisition and Issue Slip to the PHO/DOH Regional Office for Approval	Determine the necessity of the Supplies requested then return to the end user with signature.	City/Municipal Health Officer/Chief of Clinics	None required	Requisition and Issue Slip
2	Submits Requisition and Issue Slip to the Supply Office	Check the inventory for availability	Provincial/Regional Storekeeper/ Supply Officer	None required	Requisition and Issue Slip
3		Record in the stock card	Provincial/Regional Storekeeper/ Supply Officer	None required	Requisition and Issue Slip
4	Accept/receive the supplies	Releases supplies and materials requested	Provincial/Regional Storekeeper/ Supply Officer	None required	Requisition and Issue Slip
	END OF TRANSACTIONS	TOTAL			

ANNEX 58
Supplies RIS Form

REQUISITION AND ISSUE SLIP (Agency)					
Division : Office:		Responsibility Center Code		RIS No. SAI No.	Date: Date:
Requisition				Issuance	
Stock No.	Unit	Description	Quantity	Unit Value	Remarks
Purpose					
	Requested by:	Approved by:	Issued by:	Received by:	
Signature					
Name					
Designation					
Date					

ANNEX 59

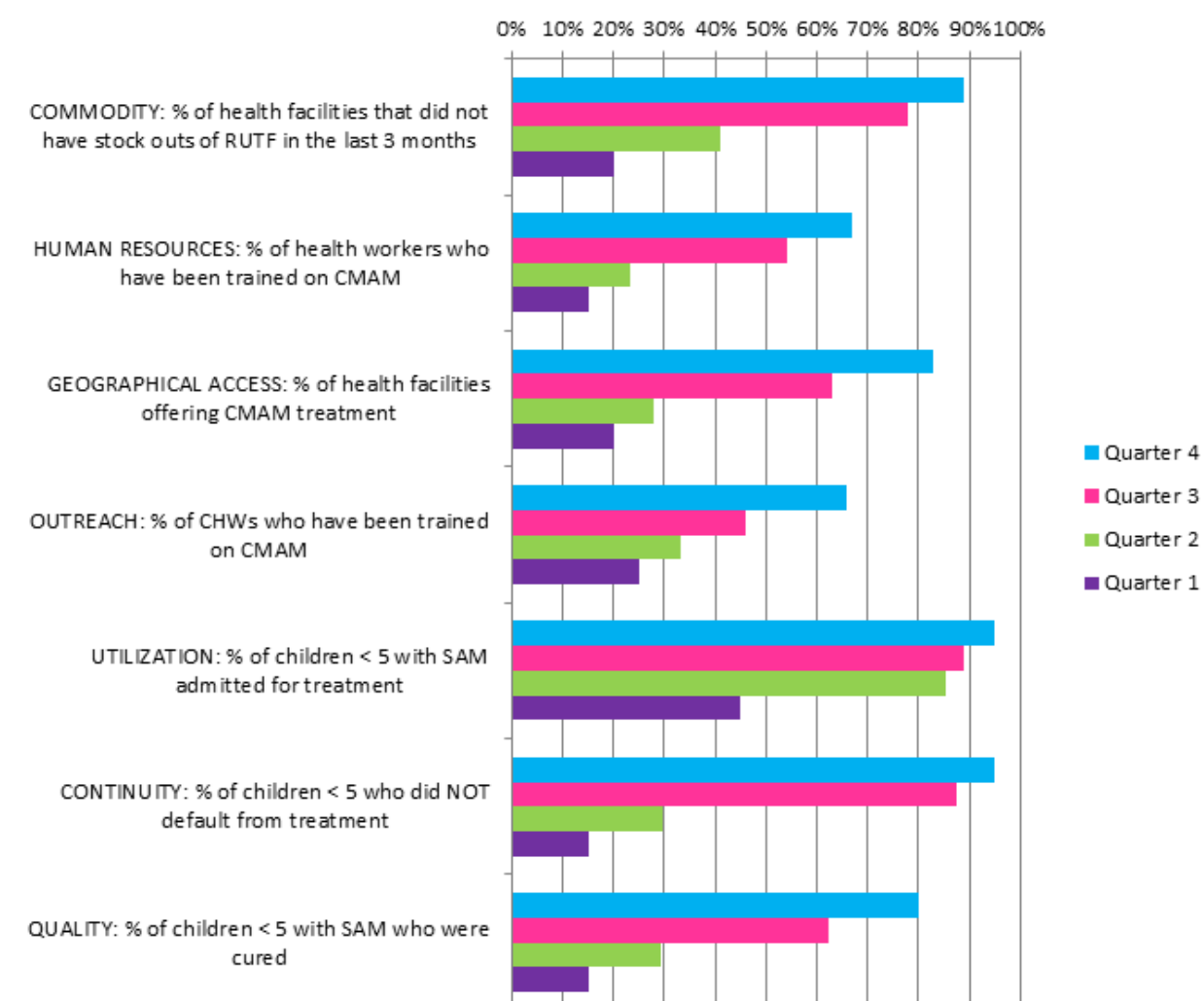
Bottleneck Analysis

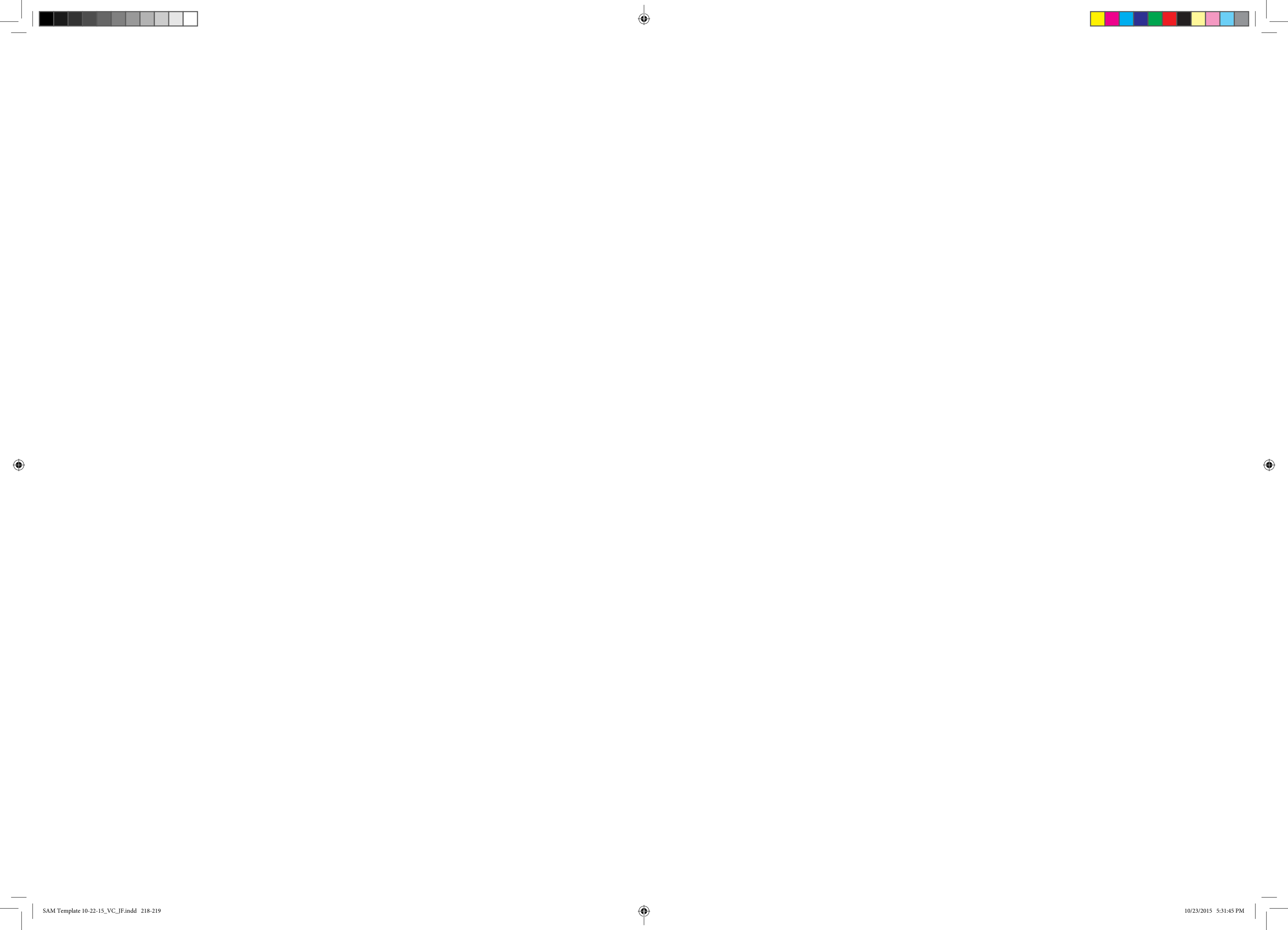
Periodic evaluation of the CMAM program through bottleneck analysis (BNA) can help identify obstacles to service delivery in order to address impediments and improve coverage of services. The program areas are evaluated across seven determinants across a specific time period: commodity availability, human resources availability, geographic availability, community mobilization activities, utilization of services, continuity of services, and quality of services. The BNA is recommended to be performed every 3 months.

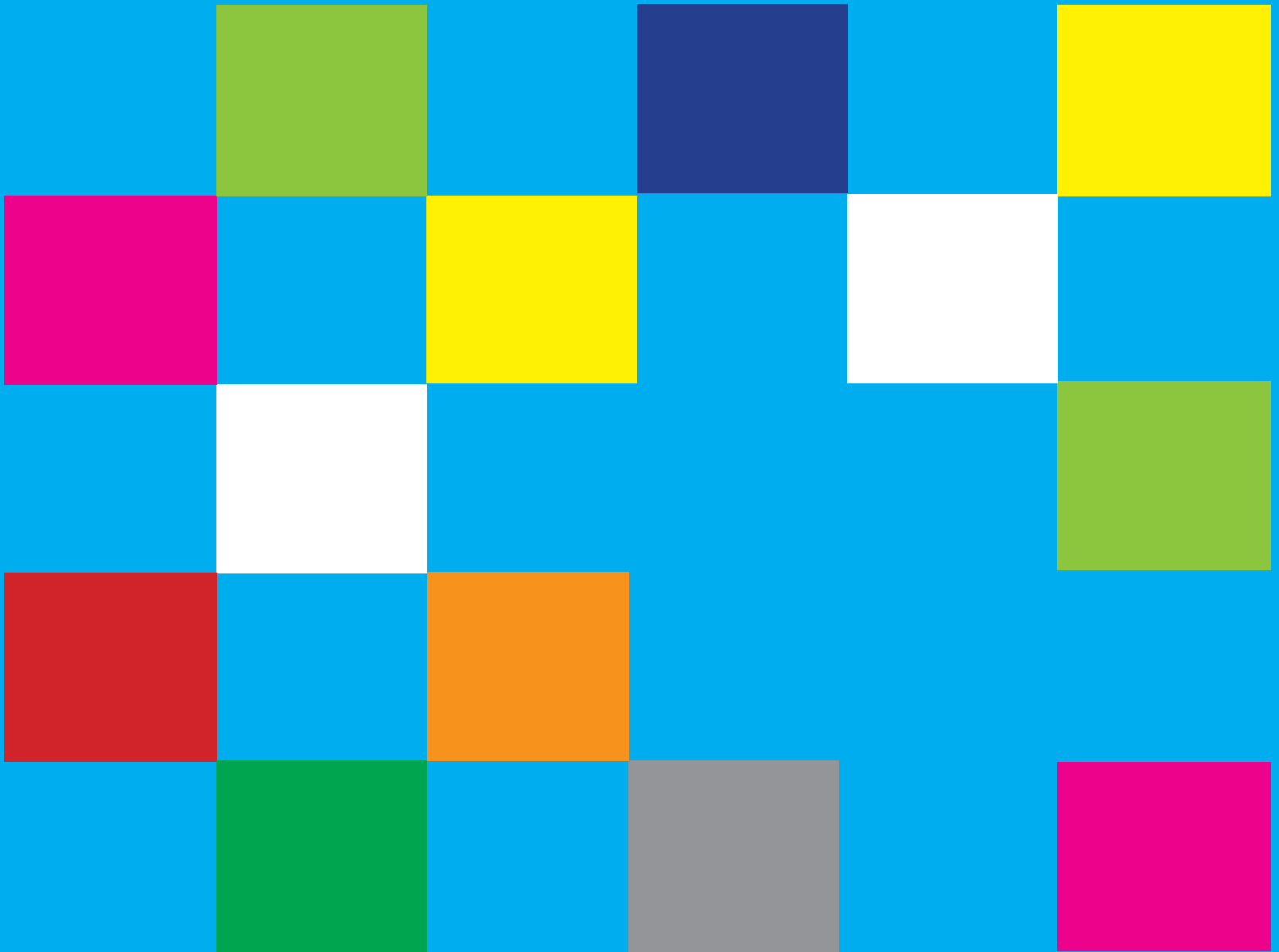
Indicator	Numerator/Denominator
COMMODITY: % of health facilities that did not have stock outs of RUTF in the last 3 months	Numerator: Number of health facilities with no stock outs
	Denominator: Total number of health facilities offering CMAM services in area monitored
HUMAN RESOURCES: % of health workers who have been trained on CMAM	Numerator: Number of health workers trained in CMAM
	Denominator: Total number of health workers in area monitored
GEOGRAPHICAL ACCESS: % of health facilities offering CMAM treatment	Numerator: Number of health facilities offering CMAM treatment in area monitored
	Denominator: Total number of health facilities in area monitored
OUTREACH: % of CHWs who have been trained on CMAM	Numerator: Number of community health workers trained in CMAM
	Denominator: Total number of community health workers in area monitored
UTILIZATION: % of children < 5 with SAM admitted for treatment	Numerator: Number of children < 5 newly admitted for SAM treatment
	Denominator: Number of children expected to have SAM for period monitored
CONTINUITY: % of children < 5 who did NOT default from treatment	Numerator: Number of children < 5 years newly admitted for treatment of SAM minus defaulters
	Denominator: Total number of children expected to have SAM in area monitored for the period monitored
QUALITY: % of children < 5 with SAM who were cured	Numerator: Number of children with SAM who were cured in area monitored
	Denominator: Total number of children expected to have SAM in area monitored for period monitored

Once the above figures are obtained, it may be helpful to plot this data in graphs to evaluate and compare trends. Visualization of data trends may help programme areas identify constraints or bottlenecks and work towards improving service delivery. The following figure is a sample BNA in an area across 4 quarters.

Sample CMAM Bottleneck Analysis across 4 Quarters







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