Nepal IMAM National Guideline: Annexes

Annex 1. Tools to facilitate community assessment

SUMMARY OF COMMUNITY ASSESSMENT TOOLS

1. Geographic community map

Plot the presence of NGOs, CBOs, community health committees and community volunteer networks on a geographic representation of the catchment area. Add geographic and demographic information and community structures (e.g., road, river, canyon, marketplace, mosque, health facility, water source). Represent the information on a hand drawn map on, e.g., a flip chart.

2. Matrix of community actors and their initiatives, target population and coverage

List NGOs, CBOs, community committees and community volunteer networks by community and/or assessment area in a matrix. List the various community actors with their initiatives and/or activities, target population and coverage.

3. SWOT analysis for community participation and outreach for IMAM

Conduct a strengths, weaknesses, opportunities and threats (SWOT) analysis consisting of the identified strengths and weaknesses of the current situation and the identified opportunities and threats for future community participation and outreach strategies and activities for IMAM. Plot the analysis on a matrix.

4. Matrix of key perceptions and practices on health and nutrition

List key perceptions and practices impacting health and nutritional status and implications for community outreach strategies and activities for IMAM. Identify potential ways to appropriately address the identified key issues.

5. Matrix of potential community outreach workers for IMAM

List community outreach workers, including various extension workers and volunteers with potential for involvement in community outreach for IMAM. Identify the strengths and weaknesses of involving these actors for community outreach for IMAM.

6. Matrix of community actors selected for community participation and outreach for IMAM

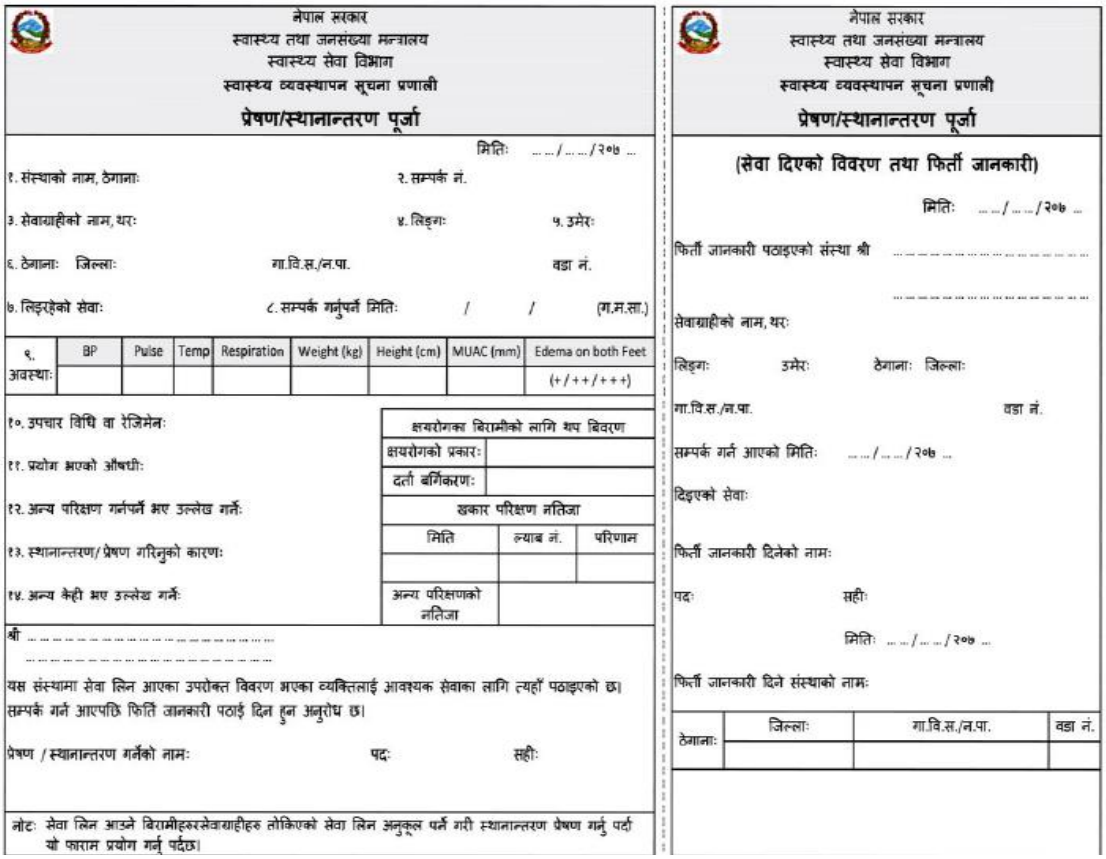
List the various community actors that are identified to be used for community outreach activities and coordination/supervision, outlining respective responsibilities at start up and during the implementation phase.

Annex 2. Developing community messages/handbill/leaflets

Messages to the community to increase **awareness about IMAM programme** should include the following information:

1. Which children will be targeted using the local disease terms for wasting and oedema (swelling)
2. The age group of the children: mainly after 6 months and till 5 years, with provision to treat wasted infants under 6 months in inpatient care
3. Where the IMAM service for SAM is located: which health posts and PHCs
4. What service is available for children with MAM and where to access this
5. When services for SAM are offered:
   - on a daily basis for admission
   - specific day of the week and time for follow-up visits (consults)
6. Explain the benefits of IMAM, noting that children with severe acute malnutrition without medical complications can be treated simply in outpatient care:
   - weekly visits at the health facility and continuation of treatment at home using RUTF, allowing mothers/caregivers to remain with their family;
   - Only a few children with SAM (in case of medical complications or below 6 months of age) will need to be treated in inpatient care.
7. FCHVs and ECD facilitators will assess the nutritional status of children in the community by measuring the arm circumference with a colour coded tape and checking for swollen feet.
   - Community health workers will also measure arm circumference during GMP at PHC-ORC
   - Children at ECD centre can be regularly screened
   - Community members can also take their child directly to the health facility for assessment
8. The referral process for children identified as malnourished should be explained.
9. Explain that a child can be re-assessed (re-measured) at different intervals to monitor his/her nutritional status and be admitted if s/he has deteriorated.
10. RUTF is not only a food but also a special medicine to children with SAM children:
11. Children that are not suffering from severe acute malnutrition can still benefit from services for MAM and improved feeding practices. They can ask help and advice from the FCHV and other health workers.

Annex 3. Standard referral/transfer slip (community & facility)



नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
स्वास्थ्य सेवा विभाग
स्वास्थ्य व्यवस्थापन सूचना प्रणाली

प्रेषण/स्थानान्तरण पूर्जा

मितिः ... ... / ... ... / २०७ ...

१. संस्थाको नाम, ठेगानाः
२. सम्पर्क नं.
३. सेवाग्राहीको नाम, थरः
४. लिङ्गः
५. उमेरः
६. ठेगानाः जिल्लाः गा.वि.स./न.पा. वडा नं.
७. लिइरहेको सेवाः
८. सम्पर्क गर्नुपर्ने मितिः / / (ग.म.सा.)

९. अवस्थाः	BP	Pulse	Temp	Respiration	Weight (kg)	Height (cm)	MUAC (mm)	Edema on both Feet (+/++/+++)

१०. उपचार विधि वा रेजिमेनः
११. प्रयोग भएको औषधीः
१२. अन्य परिक्षण गर्नपर्ने भए उल्लेख गर्नेः
१३. स्थानान्तरण/प्रेषण गरिनुको कारणः
१४. अन्य केही भए उल्लेख गर्नेः

क्षयरोगका बिरामीको लागि थप विवरण		
क्षयरोगको प्रकारः		
दर्ता वर्गिकरणः		
खकार परिक्षण नतिजा		
मिति	ल्याब नं.	परिणाम
अन्य परिक्षणको नतिजा		

श्री ... ...

यस संस्थामा सेवा लिन आएका उपरोक्त विवरण भएका व्यक्तिलाई आवश्यक सेवाका लागि त्यहाँ पठाइएको छ। सम्पर्क गर्न आएपछि फिर्ति जानकारी पठाई दिन हुन अनुरोध छ।

प्रेषण / स्थानान्तरण गर्नेको नामः पदः सहीः

नोटः सेवा लिन आउने बिरामीहरुसेवाग्राहीहरु तोकिएको सेवा लिन अनुकूल पर्ने गरी स्थानान्तरण प्रेषण गर्नु पर्दा यो फारम प्रयोग गर्नु पर्दछ।

नेपाल सरकार
स्वास्थ्य तथा जनसंख्या मन्त्रालय
स्वास्थ्य सेवा विभाग
स्वास्थ्य व्यवस्थापन सूचना प्रणाली

प्रेषण/स्थानान्तरण पूर्जा

(सेवा दिएको विवरण तथा फिर्ती जानकारी)

मितिः ... ... / ... ... / २०७ ...

फिर्ती जानकारी पठाइएको संस्था श्री ... ...

सेवाग्राहीको नाम, थरः

लिङ्गः उमेरः ठेगानाः जिल्लाः

गा.वि.स./न.पा. वडा नं.

सम्पर्क गर्न आएको मितिः ... ... / ... ... / २०७ ...

दिइएको सेवाः

फिर्ती जानकारी दिनेको नामः

पदः सहीः

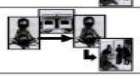
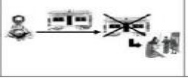
मितिः ... ... / ... ... / २०७ ...

फिर्ती जानकारी दिने संस्थाको नामः

ठेगानाः	जिल्लाः	गा.वि.स./न.पा.	वडा नं.

Annex 4. MUAC screening and case follow up recording formats for Community agents[1]

(ञ)	शीघ्र कुपोषणको एकीकृत व्यवस्थापनः एम.यु.ए.सी. छनौट																
४५	हरियो	हृष्टपुष्ट (जना) खुशी परिवार															
४६	पहेलो	मध्यम शिघ्र कुपोषण (जना) घरमा महिला स्वास्थ्य स्वयं सेविकाद्वारा परामर्श															

क्र.सं.	गतिविधिहरू		श्रावण	भाद्र	आश्विन	कार्तिक	मंसिर	पौष	माघ	फाल्गुण	चैत	वैशाख	जेष्ठ	आषाढ	जम्मा
४७	रातो	अति कडा शीघ्र कुपोषण (जना) स्वा.संस्थामा प्रेषण															
४८	फुकेनास (जना) स्वास्थ्य संस्थामा प्रेषण																
(ट)	शीघ्र कुपोषणको एकीकृत व्यवस्थापनः घरभेट र अनुगमन																
४९	रातोः कडा शीघ्र कुपोषित बच्चा (जना) उपचार पछि निको भएको																
५०	रातोः कडा शीघ्र कुपोषित बच्चा (जना) उपचार गरिरहदा पनि तौल वृद्धि नभएको																
५१	रातोः कडा शीघ्र कुपोषित बच्चा (जना) उपचार गर्दा गर्दै स्वास्थ्य संस्था जान छाडेका																

[1] Community agents, in this aspect, reflects Female Community Health Volunteers (FCHVs).

Annex 5. Taking anthropometric measurement

1. Checking for oedema

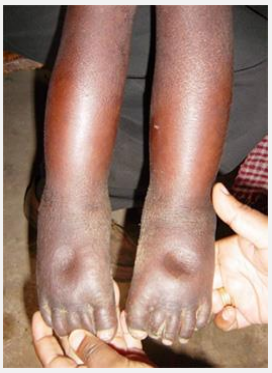
Apply thumb pressure gently for at least 3-5 seconds on the topside of each foot to determine the presence of oedema. The client has oedema if the depression caused by the thumb remains for some time after lifting the thumb. It is important to test both feet; if the pitting is not bilateral, the oedema is not of nutritional origin. Nutritional oedema should be classified in order to determine severity and mode of care (see Table below). For example, a client who presents with oedema +++/Grade 3 should be initially managed in inpatient care.

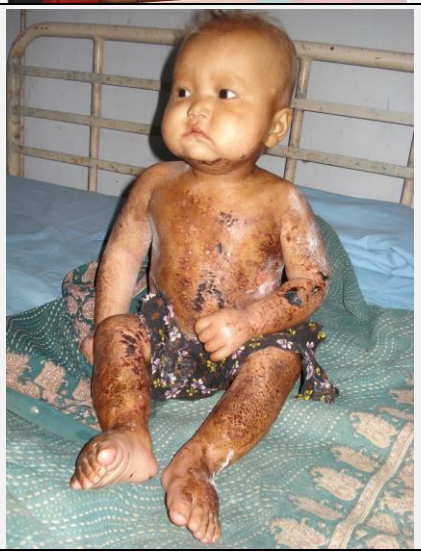
Table. Classification of nutritional oedema.

Grade	Definition	Bilateral pitting oedema found in
Absent	No bilateral pitting oedema	
+	Mild nutritional oedema	feet
++	Moderate nutritional oedema	feet, lower legs, hands or lower arms
+++	Severe nutritional oedema	General; including feet, hands and face

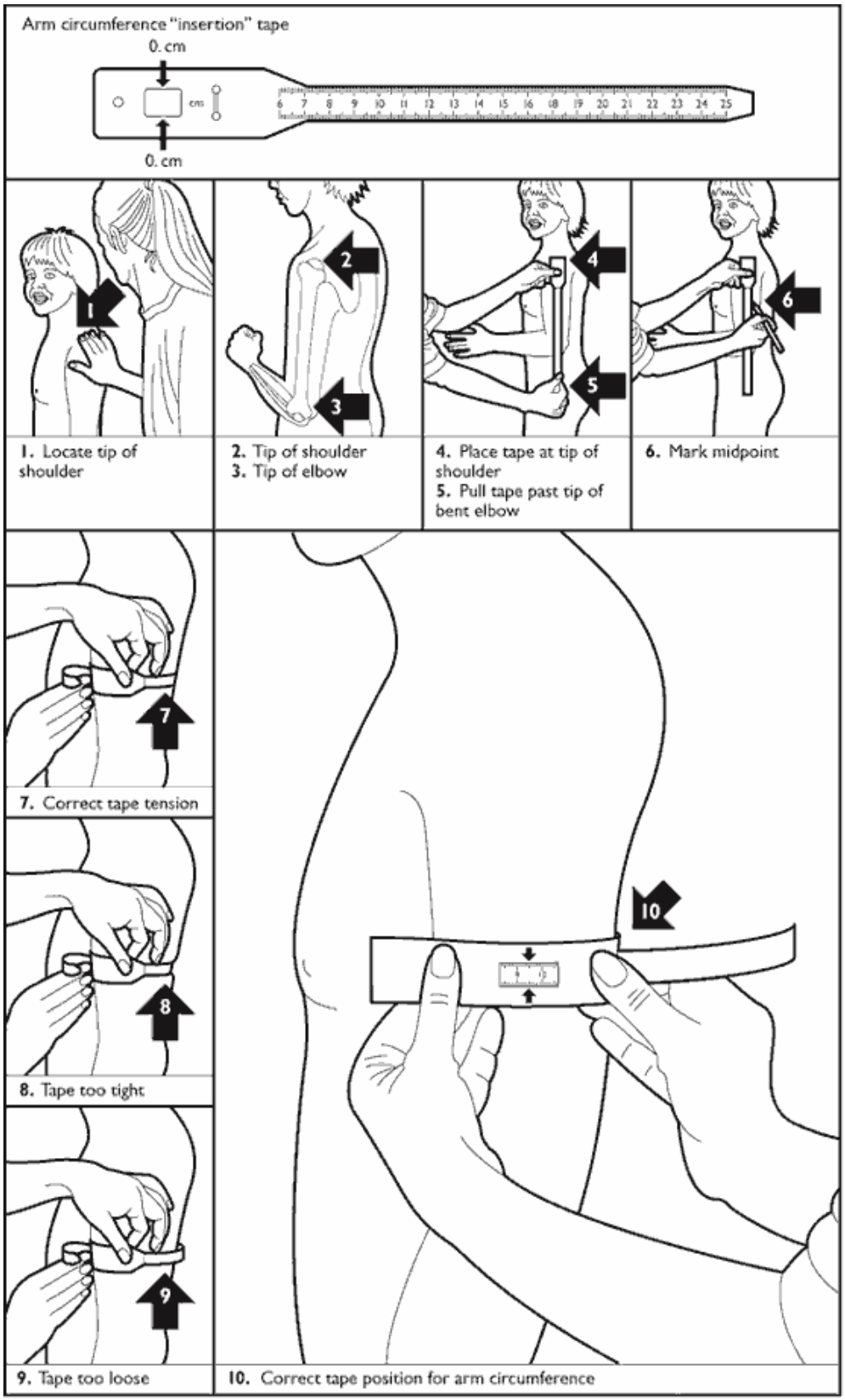
Note: It is important to interpret oedema with caution as it may be a sign of underlying medical conditions (e.g. nephritic syndrome, severe anaemia, high blood pressure, other renal or heart conditions) or physiological changes such as in pregnancy. A clinician in an inpatient facility should take detailed history, physical examination and where possible biochemical tests.

Pictures of Bilateral Pitting Oedema

Grade + In this child, there is bilateral pitting oedema in both feet. This is grade + oedema (mild), however the child might have grade ++ or +++, so legs and face will also need to be checked.	

Grade ++ In this child, both feet plus the lower legs, hands and lower arms are swollen. This is grade + + bilateral pitting oedema (moderate).	
Grade +++ This child has +++ bilateral pitting oedema (severe). It is generalised, including both feet, legs, arms, hands and face.	

2. Measuring MUAC
   - Determine the mid-point between the elbow and the tip of the shoulder on the **left** flexed arm
   - Allow the arm to hang down and relax
   - Place the tape measure around the left arm ensuring that it fits well (is not loose and not so tight that it is squeezing the flesh)
   - Read the measurement from the window of the tape or directly from it without tightening or loosening it.
   - Record whether the measurement lies in the red, yellow or green colour zone on the tape
   - Repeat the measurement to ensure accuracy



Source: How to Weigh and Measure Children: Assessing the Nutritional Status of Young Children, United Nations, 1986.

3. Measuring weight

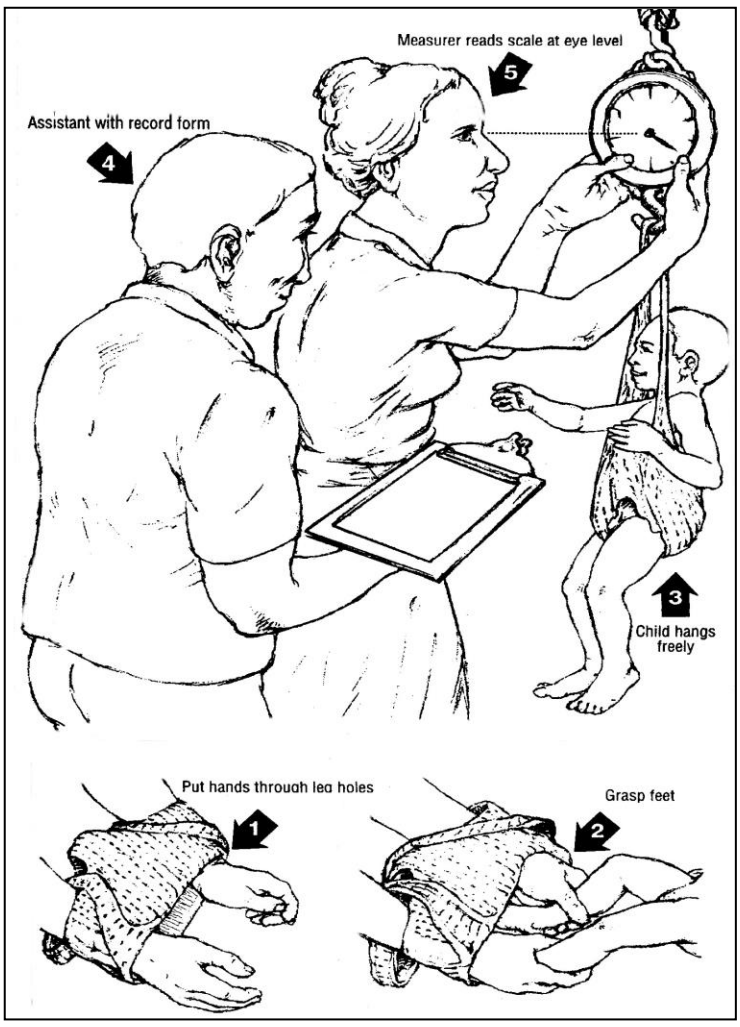
To increase accuracy and precision, two people are needed to measure weight. Usually weight is measured with a 25-kg hanging spring scale (Salter) measuring with 100-g precision.

The scale should be hanging from the ceiling or from a tripod stand. Weighing pants (or a weighing hammock for smaller infants) are used to hang the children on the scale to be weighed. To measure the weight of a child correctly, the scale should be adjusted to zero with the empty weighing pants hanging on the scale.

To measure the weight properly (*see* figure below):

1. Make sure the needle of the scale (with the empty weighing pants) is on zero;
2. Undress the child; in cold climates or in certain cultures, it might be impossible or impractical to undress a child completely, but always try to undress as much as possible, to take an accurate weight measurement!
3. Place the child in the weighing pants; make sure the child is not holding onto anything. Make sure the child is safely in the weighing pants or hammock with one arm in front and one arm behind to help maintain balance.
4. When the child is steady, the weight is recorded to the nearest 100 grams. If the child is moving and the needle does not stabilise, the weight should be estimated by recording the value at the midpoint of the range of oscillations. A good moment to do the reading is when the child takes a deep breath, especially while crying.
5. Read the child's weight. The arrow must be steady and the weight/scale should be read at eye level;
6. Record the weight in kg and to the nearest 100g, i.e. 6.4 kg.

The scale should be checked daily against a known weight. To do this, set the scale to zero and weigh objects of a known weight (e.g. a number of full bottles of water → 1 litre of water is equal to 1kg). If the measure does not match the weight to within 10 grams, the scale should be replaced or the springs must be changed.



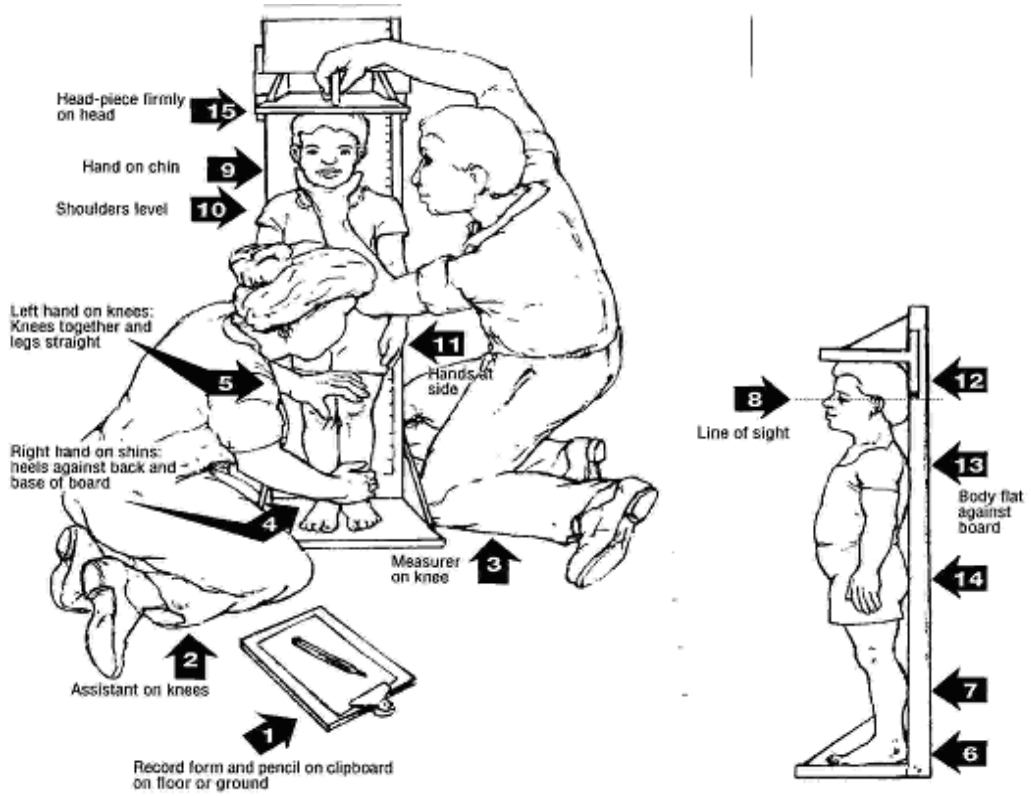
For infants a paediatric balance-beam which measures to a precision of 10g (0.01kg) should be used. Infants should be laid on the scale.

Measure length/height

A specially made wooden board is used to measure the height of a child. Two people are needed to measure length and height. Children aged 2 years or older (87 cm or taller, WHO standards) are measured standing up (height), while those less than 2 years old (children < 87 cm, WHO) are measured lying down (length).

To measure the height properly follow the below steps (see Figure 2.10):

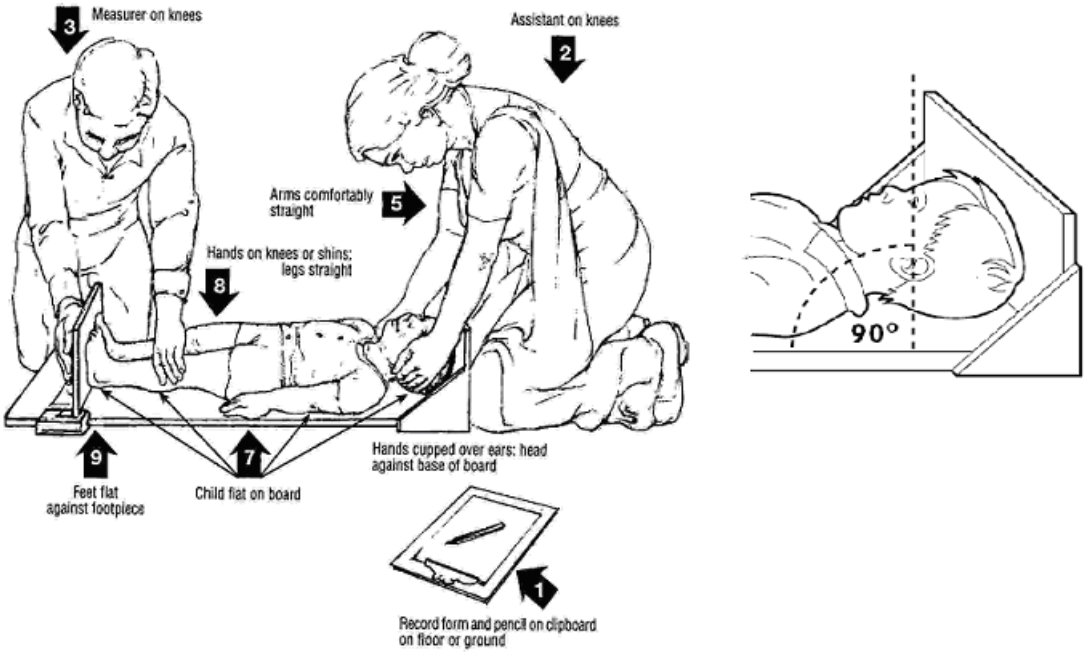
1. The height board is placed upright on a flat surface. Remove shoes, socks, head cover and hair ornaments (not necessary to undress the child completely) and place the child on the base of the height board, standing with the back and buttocks against the back of the board.
2. The position of the child on the board is important. The head, shoulders, bottom, back legs, and heels should touch the board.
3. The child should not bend the knees (i.e. knees, back and neck should be straight).
4. Both heels should be FLAT on the floor, and the feet close together;
5. The child's arms should be straight down, by his/her side (make sure the child is not grasping the back of the board);
6. The child's head should be straight and looking ahead. A line between his ears and eyes should be parallel to the floor (and to the movable piece of the height board);
7. The measurement should be done be 2 people: one holding the child's legs and feet, and the other one arranging the child's head. The person holding the head in position reads the measurement, so it can be recorded. The person reading the measurement should always have his/her eyes at the same level than the graduations s/he reads.
8. The height measure is given to the nearest 0.1 in cm, for example 76.3 cm.



Children less than 87 cm are measured lying down.

To measure the length properly conduct the below steps (see figure 2.11):

1. Place the height board flat on the ground. Lay the child on the board (if needed with the help of the mother); the head should be at the fixed part and the feet at the side of the sliding wood piece.
2. Align the child with the board (s/he should not be diagonally on the board);
3. The mother or the measurer holds the child's head, making sure the child's head is touching the back of the board. The child's eyes should be looking straight up. A line between his ears and eyes should be parallel to the headpiece;
4. The other person holds down the child's knees, pressing the sliding wood piece against the child's heels and the soles of his/her feet;
5. The child's arms should be lying alongside its body, and if necessary, the mother can hold the arms down;
6. The person holding the feet reads the measurement and makes sure it is correctly recorded.
7. The height measure is given to the nearest 0.1 in cm e.g. 76.3 cm.



Annex 6. Ready to Use Therapeutic Food

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[2]. 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,

[2] WHO 1999 'Management of severe malnutrition; a manual for physicians and other senior health workers'.

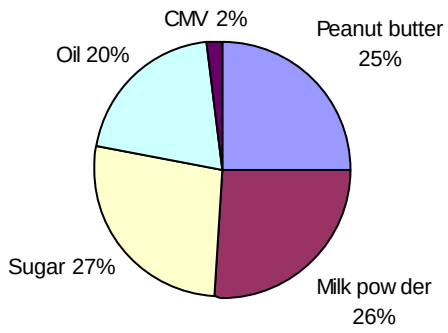
it is an ideal vehicle to deliver many micronutrients that might otherwise be broken down by cooking. Studies have shown that severely malnourished children given RUTF had a faster rate of recovery than those given F-100[3].

While RUTF is a generic name, Plumpy'nut® is the trademark name for the manufactured product from the French company, Nutriset[4], and eezee paste is the trademark name of the manufactured product from the Indian Company, Compacue.

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.
1 sachet = 92 grams of product = 500 kcal.

Figure 2.13 - The composition of PlumpyNut



Nutritional value per 100g of product:	
Energy: 545 kcal	
Proteins: 13.6 g = 10% protidic calories Lipides: 35.7 g = 59% lipidic calories (Thus by deduction: 31% carbohydratic calories = 42.2 g carbohydrates)	
Vitamins:	Minerals:
Vitamin A: 910 micrograms Vitamin D: 16 micrograms Vitamin E: 20 mg Vitamin C: 53 mg Vitamin B1: 0.6 mg Vitamin B2: 1.8 mg Vitamin B6: 0.6 mg	Calcium: 320 mg Phosphorus: 394 mg Potassium: 1111 mg Magnesium: 92 mg Zinc: 14 mg Copper: 1.78 mg Iron: 11.53 mg

[3] Diop EHI, Dossou, NI, Ndour MM, Briend 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

[4] The company producing other therapeutic supplies such as F-100 and F-75

Vitamin B12: 1.8 microgram Vitamin K: 21 microgram Biotin: 65 microgram Folic acid: 210 microgram Pantothenic acid: 3.1 mg Niacin: 5.3 mg	Iodin: 110 microgram Sodium: <290 mg Selenium: 30 microgram

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 aluminium 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[5], in order to try to ensure a cheaper and more sustainable supply of the product.

As peanut-based recipes require unfortified milk powder, which often has to be imported, and the peanuts can be prone to aflatoxin contamination, which complicates quality assurance, investigations into alternative recipes eliminating the use of both peanuts and milk are underway. Such investigations are ongoing in Bangladesh but as the recipes have not been fully developed, there is currently no locally available RUTF for Asia.

Annex 7. Preparation and use of 10% sugar water

A child should get around 50ml, or the amount that can be tolerated of the following sugar water solution

quantity of water	quantity of sugar	
	(grammes)	(teaspoons)
100 ml	10g	2 tsps
200 ml (average cup)	20g	4 tsps
500 ml (small bottle)	50g	10 tsps
1 litre	100g	20 tsps

Notes:

- Take safe drinking water (slightly warm if possible to help dilution). Add required amount of sugar and shake or stir vigorously
- Give to all children with suspected hypoglycaemia or refusing RUTF and being transferred to inpatient care.

[5] Mainly on the African continent

Annex 8. The Appetite test

How to do the appetite test

1. The appetite test should be conducted in a separate quiet area.
2. Explain to the carer the purpose of the appetite test and how it will be carried out.
3. The carer, where possible, should wash her and the child's hands.
4. The carer should sit comfortably with the child on her lap and either offer the RUTF from the packet or put a small amount on her finger and give it to the child.
5. The carer should offer the child the RUTF gently, encouraging the child all the time. If the child refuses then the carer should continue to quietly encourage the child and take time over the test. The test usually takes a short time but may take up to one hour. The child must **not be forced** to take the RUTF.
6. The child needs to be offered plenty of water to drink from a cup as he/she is taking the RUTF.

The result of the appetite test

Pass	*Fail*
The child takes at least 3-4 mouth fulls of RUTF, or the equivalent of ¼ of a sachet	The child does not take at least 3-4 mouth full of RUTF is considered to lack sufficient appetite for outpatient treatment and should be referred to hospital for in-patient care.

Notes:

- Even if the caretaker/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 in-patient care. After showing sufficient appetite in inpatient care, they can be transferred to the out-patient treatment.
- The appetite test should always be performed carefully. If there is any doubt concerning the appetite then the patient should be referred for in-patient treatment until the appetite returns.
- The appetite test is to ensure that - in the course of a day - the patient will take at least the amount that will maintain body weight. A patient should not be sent home if there is a risk they will continue to deteriorate because they will not take sufficient Therapeutic food.
- Sometimes a child will not eat the RUTF because he is frightened, distressed or fearful of the environment or staff. Common stress factors are crowds, a lot of noise, other distressed children or intimidating health professionals with white coats or harsh tone of voice. Therefore, the appetite test should be conducted a separate quiet area. If a quiet area is not available in the health facility then the appetite can be tested outside.

Follow-up

- Conduct appetite test at every follow-up

- Failure of an appetite test at any time is an indication for full evaluation of the health and nutrition condition of the child and probably for transfer to in-patient assessment and treatment.
- If the appetite is “good” during the appetite test and the rate of weight gain at home is poor then a home visit should be arranged, if feasible, to gain understanding of the reasons for failure to respond. It may then be necessary to bring a child into in-patient care to do a simple “trial of feeding” to differentiate i) a metabolic problem with the patient from ii) a difficulty with the home environment; such a trial-of-feeding, in a structured environment (e.g. Stabilisation Centre/inpatient therapeutic centre), is also the first step in investigating failure to respond to treatment.

Annex 9. OTC patient register/card

HMIS 2.6

शिघ्र कुपोषणको एकिकृत

क्र.सं./ दर्ता	विरामीको नाम, थर, विवरण र भर्नाको किसिम					भर्ना, पोषणको अवस्था तथा प्रेषण सम्बन्धी विवरण (गोलो चिन्ह लगाउने)				मेडिकल इतिहास, शारीरिक परीक्षण र अन्य स्वास्थ्य सम्बन्धि जानकारी (गोलो चिन्ह लगाउने र लेख्ने)							औ औष
१	२	३	४	५	६	७	८	९	१०	११	१२	१३	१४	१५	१६	१७	१
क्र.सं.	नाम र थर				जाती कोड	भर्ना मिति (ग.म.सा.)			भर्नाको आधार	झाडापखाला	छ	छैन	मुख	सामान्य	घाउ	केन्डिडा	भिटामिन ए
						ग	म	सा		वान्ता	छ	छैन	आँखा	सामान्य	भित्र गडेको	डिस्चार्ज	एमोक्सीसीलि
	लिङ्ग	महिला	पुरुष	उमेर (महिनामा)		पोषणको अवस्था				खोकी	छ	छैन	जलवियोजन	नभएको	मध्यम	कडा	औलोको उप
	अभिभावकको नाम				नाता	उचाइ/लम्बाई (से.मी.)				स्तनपान गरेको	छ	छैन	छाला	सामान्य	लुतो	घाउ/खटिरा	अल्बेन्डाजोल
						तौल (के.जी.)				खानाको रुची	छ	छैन	ग्रन्थि सुन्जिएको	छैन	घाटी	काखी/योइन	
मूल दर्ता नं.	जिल्ला		गा.वि.स./नगरपालिका		वडा नं.	एम.यू.ए.सि. (मि.मि.)			१	पिसाब भएको	छ	छैन	दादुराको खोप	लिएको	नलिएको	ग म सा	
						उ. अ. तौल (Z-Score)			२	दिसा		पटक	पुर्ण खोप	लिएको	नलिएको	बाँकी	
	गाँउ/टोल					दुवै खुट्टा सुन्जिएको			३	आँखाको कोस	सामान्य	फिक्का	भिन्न किसिमको सक्षम		भएको	नभएको	
						प्रेषण किसिम	आफै/ स्वयं प्रेषण		१	कान	सामान्य	डिस्चार्ज	RUTF जाँच		पास	फेल	
सेवा दर्ता नं.	भर्ना किसिम (गोलो चिन्ह लगाउने)						विशेष उपचार कक्ष		२	कोखा हानेको	छ	छैन	अतिरिक्त जानकारी:				
	नयाँ भर्ना				१		गाउँघर क्लिनिक		३	श्वासप्रश्वास दर		प्रति मि.					
	पुनः दर्ता भएको (२ महिना भित्र)				२		म.स्वा.स्वं.से.		४	तापक्रम		सेण्टिग्रेड					
	बाहिरबाट आएको (बहिरङ्ग/विशेष उपचारकक्ष/ पोषण पुनःस्थापना गृहबाट)				३		पोषण पुनःस्थापना केन्द्र		५	हात/ खुट्टा	सामान्य	चिसो					
	त्रुटि वा डिफल्टर पछि भर्ना				४		अन्य स्वास्थ्य संस्था		६								
क्र.सं.	नाम र थर				जाती कोड	भर्ना मिति (ग.म.सा.)			भर्नाको आधार	झाडापखाला	छ	छैन	मुख	सामान्य	घाउ	केन्डिडा	भिटामिन ए
						ग	म	सा		वान्ता	छ	छैन	आँखा	सामान्य	भित्र गडेको	डिस्चार्ज	एमोक्सीसीलि
	लिङ्ग	महिला	पुरुष	उमेर (महिनामा)		पोषणको अवस्था				खोकी	छ	छैन	जलवियोजन	नभएको	मध्यम	कडा	औलोको उप
	अभिभावकको नाम				नाता	उचाइ/लम्बाई (से.मी.)				स्तनपान गरेको	छ	छैन	छाला	सामान्य	लुतो	घाउ/खटिरा	अल्बेन्डाजोल
						तौल (के.जी.)				खानाको रुची	छ	छैन	ग्रन्थि सुन्जिएको	छैन	घाटी	काखी/योइन	
मूल दर्ता नं.	जिल्ला		गा.वि.स./नगरपालिका		वडा नं.	एम.यू.ए.सि. (मि.मि.)			१	पिसाब भएको	छ	छैन	दादुराको खोप	लिएको	नलिएको	ग म सा	
						उ. अ. तौल (Z-Score)			२	दिसा		पटक	पुर्ण खोप	लिएको	नलिएको	बाँकी	
	गाँउ/टोल					दुवै खुट्टा सुन्जिएको			३	आँखाको कोस	सामान्य	फिक्का	भिन्न किसिमको सक्षम		भएको	नभएको	
						प्रेषण किसिम	आफै/ स्वयं प्रेषण		१	कान	सामान्य	डिस्चार्ज	RUTF जाँच		पास	फेल	
सेवा दर्ता नं.	भर्ना किसिम (गोलो चिन्ह लगाउने)						विशेष उपचार कक्ष		२	कोखा हानेको	छ	छैन	अतिरिक्त जानकारी:				
	नयाँ भर्ना				१		गाउँघर क्लिनिक		३	श्वासप्रश्वास दर		प्रति मि.					
	पुनः दर्ता भएको (२ महिना भित्र)				२		म.स्वा.स्वं.से.		४	तापक्रम		सेण्टिग्रेड					
	बाहिरबाट आएको (बहिरङ्ग/विशेष उपचारकक्ष/ पोषण पुनःस्थापना गृहबाट)				३		पोषण पुनःस्थापना केन्द्र		५	हात/ खुट्टा	सामान्य	चिसो					
	त्रुटि वा डिफल्टर पछि भर्ना				४		अन्य स्वास्थ्य संस्था		६								

व्यवस्थापन रजिष्टर

पधीबाट व्यवस्थापन/ उपचार					फलो अप/भेट मिति र स्वास्थ्य अवस्था																डिस्चार्ज मिति र परिणाम	
धी	मात्रा	मिति																				
८	१९	२०	२१	२२	२३	२४		२५		२६		२७		२८		२९		३०		३१		३२
(आइ.यू.)					एम.यू.ए.सि. (मि.मि.)																	डिस्चार्ज मिति
न					उचाइ/लम्बाई (से.मी.)																	ग म सा
चार					तौल (के.जी.)																	डिस्चार्ज परिणाम
(एम.जी.)					उचाइ अ. तौल (Z-Score)																	निको भएको १
अन्य औषधी					दुवै खुट्टा सुन्निएको																	निको नभएको २
					वान्ता (पटक/ दिन)																	डिफल्टर/त्रुटि ३
					झाडापखाला (पटक/ दिन)																	प्रेषण (अस्पताल) ४
					ज्वरो (पटक/ दिन)																	मृत्यु ५
					खोकी (पटक/ दिन)																	लक्षित तौल (के.जी.)
					जलवियोजन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	
					तापक्रम (से.ग्रे.)																	कैफियत:
					श्वासप्रश्वास दर (प्रति मि.)																	
					छाला संक्रमण	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	
					आज दिने RUTF (पाकेट)																	
(आइ.यू.)					एम.यू.ए.सि. (मि.मि.)																	डिस्चार्ज मिति
न					उचाइ/लम्बाई (से.मी.)																	ग म सा
चार					तौल (के.जी.)																	डिस्चार्ज परिणाम
(एम.जी.)					उचाइ अ. तौल (Z-Score)																	निको भएको १
अन्य औषधी					दुवै खुट्टा सुन्निएको																	निको नभएको २
					वान्ता (पटक/ दिन)																	डिफल्टर/त्रुटि ३
					झाडापखाला (पटक/ दिन)																	प्रेषण (अस्पताल) ४
					ज्वरो (पटक/ दिन)																	मृत्यु ५
					खोकी (पटक/ दिन)																	लक्षित तौल (के.जी.)
					जलवियोजन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	
					तापक्रम (से.ग्रे.)																	कैफियत:
					श्वासप्रश्वास दर (प्रति मि.)																	
					छाला संक्रमण	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	छ	छैन	
					आज दिने RUTF (पाकेट)																	

शीघ्र कुपोषणको एकिकृत व्यवस्थापन कार्यक्रम
दर्ता कार्ड

HMIS – 3A

बच्चाको नाम			बहिरङ्ग स्वास्थ्य संस्थाको नाम		
सेवा दर्ता नं.			जिल्ला		
उमेर (महिना)			गा.वि.स./नगरपालिका/वडा नं.		
लिङ्ग	पु	म	गाउँ/टोल		
भर्नाको आधार	एम.यु.ए.सी.	उ.अ.तौ. (z-score)	दुवै खुट्टा सुन्निएको	लक्षित तौल (के.जी.)	

भेट मिति			दुवै खुट्टा सुन्निएको	एम.यु.ए.सी. (मि.मि)	उचाइ/लम्बाई (से.मी.)	तौल (के.जी.)	उ.अ.तौ. (z-score)	आज दिएको RUTF पाकेट
ग	म	सा						
ग	म	सा						
ग	म	सा						
ग	म	सा						
दादुरा खोपको लागि प्रेषण ?			गरेको		नगरेको		खोप दिएको	दिएको मिति ग म सा

मिति			दुवै खुट्टा सुन्निएको	एम.यु.ए.सी. (मि.मि)	उचाइ/लम्बाई (से.मी.)	तौल (के.जी.)	उ.अ.तौ. (z-score)	आज दिएको RUTF पाकेट
ग	म	सा						
ग	म	सा						
ग	म	सा						
ग	म	सा						
ग	म	सा						
ग	म	सा						

डिस्चार्ज परिणाम	निको भएको	त्रुटि वा डिफल्टर	निको नभएको	मेडिकल पठाउने	अन्य (गल्ति भर्ना)	मृत्यु

डिस्चार्ज मिति	ग म सा

Annex 10. Routine/Systematic Medicines in OTC

Vitamin A

One dose on the day of admission to OTC.

Children with oedema should not be given Vitamin A dose, unless there are signs of deficiency (these children receive vitamin A on day of discharge)

Do not give if the child has received vitamin A in the last one month, or if a national Vitamin A campaign is up-coming within the next month, to prevent toxicity.

Vitamin A systematic treatment:

Age	Vitamin A (IU orally on day of admission)
6 months to 11 months	100,000IU
12 months to 5 years	200,000IU

Systematic 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 3 times a day for 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: Amoxicillin[6]

Dosage of Amoxicillin (tablets)

Weight (kg)	Dose
	Tablets 250mg
≤ 9.9	125 mg (½ tablet) *tid*
10.0 – 19.9	250 mg (1 tablet) *tid*
20.0 – 30.0	375 mg (1½ tablet) *tid*
>30.0	500 mg (2 tablets) *tid*

[6] 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.

Amoxycillin tablets and syrup are equally effective but risk of wrong doses is less in dispersible tablets.

Dosage of Amoxicillin (syrup)

Weight (kg)	Dose	
	Syrup 125mg/5ml	**Syrup 250 mg/5ml**
≤ 9.9	125 mg (5ml) *tid*	125 mg (2.5ml) *tid*
10.0 – 19.9	250 mg (10ml) *tid*	250 mg (5 ml) *tid*
20.0 – 30.0	375 mg (15ml) *tid*	
>30.0	Give tablets	Give tablets

Dosage of Cotrimoxazole prophylaxis for HIV positive children (additional)

Body weight	Cotrimoxazole strength			
	Suspension	**Paediatric tablets**	**Regular Tablets**	**Double tablets**
1-4 kg	2.5 ml	1 tab	**¼ tab**	–
5-8 kg	5.0 ml	2 tabs	½ tab	¼ tab
9-16 kg	10.0 m	–	1 tab	½ tab
17-50 kg	–	–	2 tabs	1 tab
> 50 kg 2 tabs	–	–	2 tabs	2 tabs
Suspension [40 mg TMP/100 mg SMX, (120 mg)] **Paediatric strength [20 mg TMP/100 mg SMX (240 mg)]** **Regular strength [80 mg TMP/400 mg SMX, (480 mg)]** **Double strength [160 mg TMP/800 mg SMX, (960 mg)]**				

Second line treatment

Oral Chloramphenicol can be used for children who have not responded to Amoxycillin e.g. continued fever that is not due to malaria.

Give 3 times a day for 7 days.

Dosage of Chloramphenicol (syrup)

Weight (kg)	Dose
	Syrup 125mg/5ml
2.0 – 5.9	62.5 mg (2.5 ml) tid
6.0 – 9.9	125 mg (5 ml) tid
10.0 – 19.9	250 mg (10 ml) tid
≥20	375 mg (15ml) tid

Dosage of Chloramphenicol (tablets)

Weight (kg)	Dose
	Tablets 250mg
2.0 – 5.9	Give syrup
6.0 – 9.9	125 mg (½ tablet) *tid*
10.0 – 19.9	250 mg (1 tablet) *tid*
≥20	375 mg (1½ tablet) *tid*

Measles

All severely acutely malnourished children from 9 months and older should be given measles vaccine on week 4 of their admission in the OTC programme. Severely acutely malnourished children often cannot build a sufficient antibody response to give satisfactory protection on vaccination. The vaccination is given on week 4 so that the nutritional status has improved sufficiently to ensure an antibody response.

Children younger than 9 months at admission will be given the vaccination when they complete 9 months, after at least 4 weeks in OTC.

Measles vaccination for OTC patients should be arranged and harmonised with EPI immunisation services for cold-chain requirements.

During emergencies, if there are measles cases in the area and especially during any epidemic periods all unvaccinated children above 6 months should receive measles vaccine at **admission** to maximise protection. In these cases a second dose should also be given on discharge for the reasons given above in order to ensure long term protection.

Iron and folic acid

Iron-folic acid is not to be given routinely.

When moderate anaemia is identified according to IMCI Guidelines, treatment should begin after 14 days in the programme and not before[7] and given according to National/WHO guidelines[8].

For severe anaemia (palmar pallor) refer to inpatient care.

Folic acid is not part of the standard protocol, since the quantity of folic acid present in RUTF is sufficient for needs of the malnourished child.[9]

[7] Iron is contra-indicated in severely malnourished children as a high-dose may increase the risk of severe infections and therefore in case of moderate anaemia should be given after 14 days after initiation of the treatment.

[8] INACG, 1998

[9] Since Sulfadoxine-pyrimethamine (Fansidar) is part of the national protocol for Falciparum malaria treatment, if malaria is suspected upon admission, no folic acid should be given within 7 days.

De-worming

Albendazole is given at the second as it is better absorbed after re-conditioning of the Gastro-Intestinal tract with Amoxycillin.

Dosage of Albendazole

Age	<1 year	1 to 2 years	>= 2years
Albendazole	Do not use	200 mg	400 mg

Annex 11. Malaria treatment in OTC

Malaria

For outpatient treatment, the national malaria treatment protocol should be followed (apart from the in case of the use of IV Quinine[10]). In malaria endemic areas and for patients from endemic areas, if diagnostic tests are not possible, treat for probable malaria (a person from malaria endemic area with symptoms and/ or signs of uncomplicated clinical malaria, after the exclusion of other causes of fever) with Chloroquine.

In this case monitor the child closely for first 48 hours, and if fever condition does not improve, immediately refer to the nearest facility where diagnostic tests can be performed.

Dosages of Chloroquine(syrup & tablets) by age group

	Dose			
	*Syrup 50mg/5ml**		*Tablet 150mg**	
Day	*Age less than 12 months*	*Age 12-59 months*	*Age less than 12 months*	*Age 12-59 months*
1	*7,5 ml (1½ teaspoon)*	*15,0 ml (3 teaspoon)*	*½ tablet (75 mg)*	*1 tablet (150 mg)*
2	*7,5 ml (1½ teaspoon)*	*15,0 ml (3 teaspoon)*	*½ tablet (75 mg)*	*1 tablet (150 mg)*
3	*7,5 ml (1½ teaspoon)*	*7,5 ml (1½ teaspoon)*	*½ tablet (75 mg)*	*½ tablet (75 mg)*

** One teaspoon = 5 ml of syrup = 50g Chloroquine base*

** each tablet is 150mg base

[10] An intravenous infusion of quinine is not safe in severe acute malnutrition.

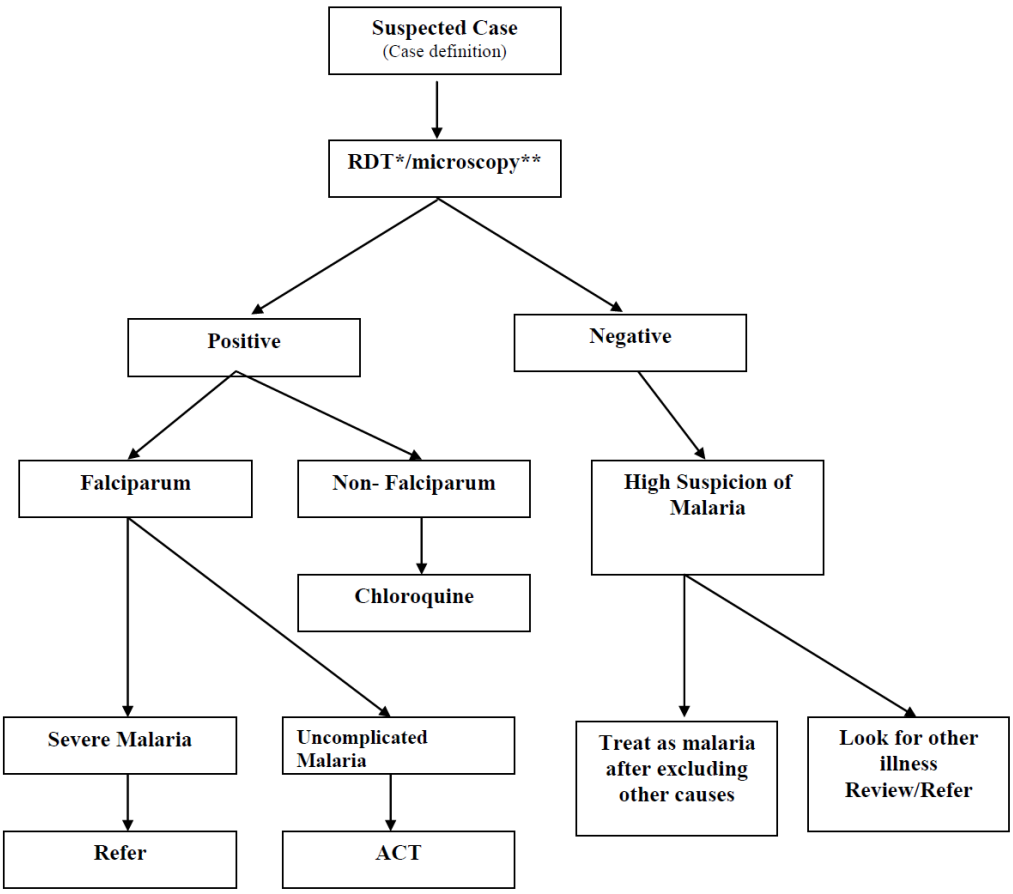
Notes:

- Chloroquine syrup should not be administered on empty stomach

- Repeat dose if there is vomiting within half an hour of administration

If laboratory capacity for malaria microscopy or Rapid Diagnostic Test is available at the outpatient health facility, all severe acute malnourished patients should be tested for malaria and positive cases treated according to the national guidelines for Vivax malaria and Falciparum malaria respectively. See below

An algorithm for diagnosis & treatment of malaria is depicted below:
(Decision chart for treatment of malaria)



- * RDT – validated antigen detecting only and done where microscopy is not available or feasible

** Microscopy - gold standard test

For confirmed P.vivax malaria Chloroquine remains the drug of choice in combination with Primaquine to prevent relapse.

Dosage of Chloroquine/ Primaquine for confirmed Plasmodium vivax

	Dose			
	Age less than 12 months*		Age 12-59 months	
Day	Chloroquine (tablet 150mg)	Primaquine (tablet 7.5 mg)	Chloroquine (tablet 150mg)	Primaquine (tablet 7.5 mg)
1	½ tablet	nil	1 tablet	½ tablet
2	½ tablet	nil	1 tablet	½ tablet
3	½ tablet	nil	½ tablet	½ tablet
				½ tablet
				½ tablet

* Primaquine is not given to children below 1 year of age and pregnant women

Notes:

- Chloroquine syrup should not be administered on empty stomach;

- Repeat dose if there is vomiting within half an hour of administration

For confirmed uncomplicated falciparan malaria Artemether-Lumefantrine (AL as CoartemR) is the drug of choice.

Dosage of Artemether-Lumefantrine for confirmed Plasmodium falciparum

Weight (Kg)	Age*	Dose (for three days) (tablet 20 mg Arthemether plus 120 mg Lumefantrine)	
		Morning	Evening
10 - 15	1-2 years	1 tablet	1 tablet
15 - 20	3-5 years	2 tablet	2 tablet

*Children aged 2-11 months and/or weighing less than 5kg should not be treated with Coartem. However, they should also not be treated with intravenous quinine since this is not safe in severe malnutrition, so oral Quinine sulphate is the drug of choice.

Dosage of Quinine sulphate for confirmed Plasmodium falciparan in children <1yr

Weight (Kg)	Age (years)	mg/ (Number of tablet(s)) 3 times a day
5 –10	2-11 months	75 mg. (1/4)

If complications arise or where cases present with **severe malaria** (defined as confirmed malaria with critical symptoms) cases should also be treated according to the national malaria protocol[11] and/or referred to a facility able to implement this

[11] Quinine infusion should not be administered to children with SAM.

protocol. In the latter case a pre-referral single dose of Artemisinin suppositories should be given in order to minimise the risk of death in the critical first 24hrs, during the process of referral.

Pre-referral dosage of Artemisinin suppositories (Artesunate single dose) for severe malaria

Weight (kg)	Age	dose (mg)
5–8.9	0 -12 months	50 mg suppository
9–19	13–42 months	100 mg suppository
20–29	43–60 months	200 mg suppositories

Annex 12. Supplemental medicines in OTC

Medicine	Use	Specification	Prescription	Special Instructions
Metronidazole	Bloody diarrhoea, longer than 7 days	Syrup 100mg/5ml and 200 mg/5ml	Dose 20-30 mg/kg/day*	Continue for 5 days
Tetracycline eye ointment	Eye infection	Ointment	Apply 3 times per day	Wash eyes before application Continue for 2 days after infection has gone
Clotrimazole	Candida	Mouth paint	Candida	Continue for 7 days
Paracetamol	Fever over 101ºF (38.5ºC) (1 dose only)	Syrup 125 mg/5ml	Lower doses according to weight than for IMCI**	Single doses only – do NOT give to take home[12]
Benzyl benzoate	Scabies	Lotion 25%; 200ml	Apply over whole body below neck; repeat without bathing following 3 days. Wash off 24 hours later.	Avoid eye contact. Do not use on broken or secondary infected skin.
Whitfields or zinc ointment	Ringworm and other fungal infection	Ointment	Apply twice a day	Continue treatment until condition has completely resolved
Gentian violet	Minor abrasions or fungal infections	1% solution in water	Apply on lesion	Can be repeated at next visit and continued until condition is resolved
Betadine solution	Disinfection	Solution	Apply on lesion	Cleaning and disinfection
Ferrous Sulphate/Folate	Moderate anaemia identified according to IMCI guidelines	Tablets	According to WHO protocols (INACG 1998)	ONLY to be given after 14 days in the programme
Second line anti-malarial: Quinine Sulphate***	For non-response to first line treatment	Tablets/syrup	10mg/kg of body weight 3 times a day up to 7 days	

[12] Patients with fever over 101.3ºF /38.5 ºC (axillary) should be referred to hospital or stabilisation centre; the single doses should be given at health facility before transfer.

***Metronidazole dosages**

Syrup: 125 mg / 5 ml	
< 4.0 kg	Do not give
4.0 – 7.9 kg	62.5 mg (2.5 ml) *tid*
8.0 – 15.0 kg	125 mg (5 ml) *tid*
> 15.0 kg	250 mg (10 ml) *tid*

****Paracetamol dosages**

Syrup: 125 mg / 5 ml	
< 4.0 kg	25 mg (1 ml) *stat*
4.0 – 7.9 kg	62.5 mg (2.5 ml) *stat*
8.0 – 15.0 kg	125 mg (5 ml) *stat*
> 15.0 kg	250 mg (10 ml) *stat*

*****Second line malarial treatment**

If 1st line malaria treatment (Chloroquine) has been given without diagnostic test then, if the child fails to respond to treatment they should be referred to the nearest facility for diagnostic tests and appropriate treatment.

If 1st line malaria treatment was based on diagnostic test then Quinine sulphate in tablet form is the second line drug of choice.

Annex 13. Calculation of RUTF rations

Amount of RUTF to feed and take home in OTC*

92 g (1 sachet) has 500Kcal (average amount to feed: 200kcal/kg/day)					
Weight of child (kg)			**Ration per week (No of Sachets)**	**Ration per day (No of sachets)**	**Consumption per day (No of sachets)**
3.5	**-**	**3.9**	14	**2**	**1.5**
4	**-**	**5.4**	14	**2**	**2**
5.5	**-**	**6.9**	21	**3**	**2.5**
7	**-**	**8.4**	21	**3**	**3**
8.5	**-**	**9.4**	28	**4**	**3.5**
9.5	**-**	**10.4**	28	**4**	**4**
10.5	**-**	**11.9**	35	**5**	**4.5**
> 12			35	**5**	**5**
Give small amount every 3 hours (day and night), with water to drink					

* Since open packages could not be kept overnight in case of rats and other infestations, the number of sachets has been rounded-up for the take-home rations.

Annex 14. Equipment and supplies for OTC set-up

Medical Equipment / Supply	Use	Specification	Number
Thermometer	Identification of Fever & Hypothermia	Low Reading	3
MUAC tapes	Nutritional status assessment	Cut-off at 11.5 & 12.5 cm	10
Salter scale (plus pants)	Weight measurement	(25 kg, 100 g)	2
OTC cards			100
Clear plastic envelopes	for filing OTC cards		100
OTC file for admission cards		With dividers	1
Stapler and box of staples			1
Pens			3
Small clock		With second hand	1
Bucket with lid	Water for washing		2
Soap	Hand washing		1
Nail clippers			1
Hand towels / paper towels			2
Plastic cups	Serving sugar solution		10
Small spoons	Serving sugar solution		10
Water jug with lid	Sugar solution		2
Water purification tablets, or water guard	For drinking water		100
Jerry can	For water		1
Small bowl	To use for dressings		
Medicine cups or teaspoons	For dispensing medicines		
Medicine bags/slips	To dispense medicines to be taken home	Symbols to indicate proper dosage	100
Mortar and pestle	To crush tables		1
Examination gloves			100
Gauze 10 x 10			20
Small bandage			10
Tape			2 rolls
Zinc ointment			10 tubes
Dressing scissors			2 pairs
Normal saline for wounds		100 or 200 ml	10
Cotton wool			5 rolls

Minimum Stock to Keep Topped Up	
OTC cards for new admissions	100
Drinking water	1 jerry can
Sugar to make 10% sugar water solution	500g
RUTF	See guidance on minimum stock
Medicines and dressings	(see below)

Medicines	
Routine Medicines: per 500 children	
Amoxicillin syrup (what is being used?)	500 bottles
Albendazole	500 doses (?tabs)
Vitamin A capsules	1 tin
Chloroquine tablets	1500 tablets
Measles vaccine (where not possible to refer to an existing EPI programme)	100 doses
Additional Medicines: per 500 children	
Chloramphenicol syrup or tablets	100 bottles or 1 tin
Tetracycline eye ointment	50 tubes
Nystatin suspension	20 bottles
Paracetamol syrup or 100mg tablets	2 bottles or 1 tin
Benzyl benzoate 200ml	100 bottles
Whitfields ointment	50 tubes
Gentian violet – powder	1 tin
Betadine solution	2 bottles
Anti Malarials depending on the protocol for the facility	1 tin
Ferrous Folate (or iron sulphate and folic acid) - for treatment of anaemia	1 tin

Notes:

- All medicines must be clearly labelled.
- Daily stocks carried should be reviewed after the first month as requirements will vary depending on number of admissions
- Amounts carried should be kept as low as possible to facilitate storage

Annex 15: ITC patient register/card

शिशु कुपोषणको एकिकृत व्यवस्थापन कार्यक्रम, भर्ना : अस्पतालमा उपचार गरेको कार्ड							
बिरामीको विवरण	नाम					दर्ता नं	
	जिल्ला		गा.वि.स/वडा नं			गाउँ	
	उमेर (महिनामा)		लिङ्ग	पु.	म	[illegible]	
	जम्मा परिवार संख्या					भर्ना मिति	
	अभिभावकको हेरचाह गर्नेको नाम					[illegible]	भएको / नभएको
	भर्ना (कोनै रोजाउने)	आफै/स्वयं रेफिरल	समुदाय बिरामी रेफरल/स्वयंसेवक रेफिरल	उ.स्वा.चौकी/स्वा.चौकीले रेफर गरेको	अस्पतालको रेफरल	आमा	भएको / नभएको
	अतिरिक्त जानकारी					जुम्ल्याहा	भएको / नभएको
						पुन भर्ना (पुन रोगी)	भएको / नभएको

नाप तौलको चार्ट											
	मिति										
	उचाई (से.मी)										
	तौल (के.जी)										
	उचाईको अनुपातमा तौल (z- score)										
	एम.यु.ए.सी (मि.मि)										
	खुट्टा सुन्निएको (0 देखि +++)										

[illegible]	तौल चार्ट											

उपचारात्मक खाना

	१	२	३	४
मिति				
खाना (F75/PN)				
मात्रा प्रति दिन (मिलि वा पाकेट)				
खानाको पटक प्रति दिन				
प्रति खानाको मात्रा (दुध मात्र)				
थप आइरन				

A= गयल
V=वान्ता
R= नमानेको
NG= टिउब लगाएको
IV= IV फिलउड

मात्रा लिइएको
१००%
३/४
१/२
१/४
=मिलि=अतिरिक्त

	१				२				३				४	
	समय				समय				समय				समय	
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	समय				समय				समय				समय	
	खाना				खाना				खाना				खाना	

कैफियत

सर्वेक्षण चार्ट

	१	२	३	४
मिति				
दिसा/पटक				
वान्ता/पटक				
जलवियोजन ० देखि +++				
खोकी ० देखि +++				
Septic shock 0 to+++				
श्वासप्रश्वास दर				

नियमित औषधि	मिति	१	२	३	४	५
	भिटामिन ए.....IU					
	फोलिक एसिड ५ मि.ग्रम (मुखवाट)					
	एन्टिवायोटिक समय					
	एन्टिवायोटिक समय					
	मलेरीया					
	जुका नियन्त्रण (पनस्थापना काल)					
विषेश औषधि	एन्टिवायोटिक समय					
	रीसोमोल मि लि					
	IV फिलिउड/रगत					
	NG-टिउव					

नाम, मात्रा, दिने तरीका (मुखवाट, मासुमा, ना नशावाट) दिएको लेख्ने । X चिन्ह वाकसमा लगाउने यदि नर्सले औषधि दि

परिक्षणको तिजा	Hb/Pcv					
	मलेरीया स्समेर					
	गुलकोज					
	क्षयरोग परीक्षण					

काड छ□छैन □	खोप लगाएको दिन जन्म	१	२	३	४
वि.सि.जि					
पोलियो					
डि.पि.टि					
दादुरा			अन्य	अन्य	

डिस्चार्ज स्वास्थ्य शिक्षा दिएको	मोति	हस्ताक्ष.
कुपोषण हुनुमा कारण झाडा पखाला, रुघाखोकी, ज्वरो छाला, आखा र कानको संक्रमन खेल्ने र सचेतिकरण वच्चाको पोषण वच्चाको हेरचाह सरसफाइ योन जन्य रोग परिवार नियोजन अन्य		
भिटामिन ए दिइएको	छ	छैन
खोपको मात्रा पुगेको	छ	छैन
स्थनपान डिस्चारको वेलामा	छ	छैन

Annex 16: Management of medical complications in the presence of severe acute malnutrition

This annex is intended for clinical health workers (trained physicians and nurses) with responsibility for the clinical management of children with SAM with medical complications.

The metabolism of children with SAM with medical complications is seriously disturbed, and the immune system seriously impaired. This involves large movements of electrolytes and water between the various compartments of the body. Such temporary electrolyte disequilibrium makes the patient more vulnerable to misdiagnosis and mismanagement of conditions like dehydration or severe anaemia which can in turn lead to death from heart failure. Hypoglycaemia, hypothermia, electrolyte imbalance, micronutrient deficiencies and severe infections are commonly associated with SAM, sometimes without obvious clinical manifestations. The standard treatment for conditions like dehydration and severe anaemia given to non-malnourished children can lead to death if applied to children with SAM.

Case management of children with SAM and medical complications should only be conducted by clinical staff who has received the appropriate training. This section provides an introduction to the main principles of the management of complications and should not be taken as a reference guide. There are many detailed guidelines available[13] [14].

Dehydration

Dehydration in marasmus

Misdiagnosis and mistreatment for dehydration is the commonest cause of death in the child with SAM under treatment. In marasmus, all classical signs of dehydration are unreliable and should not be used for diagnosis of dehydration. Skin pinch (tent sign), sunken eyes and dryness are all signs of marasmus as well as of dehydration. Diagnosis of dehydration should mainly be based on the recent *history* rather than on child's examination alone.

For a diagnosis of dehydration to be considered there needs to be:

- Definite history of significant recent fluid loss (diarrhoea looking like water, not just 'loose' stools, appearing with sudden onset in the last hours or days)
- Clear history of a recent change in the child's appearance
- The child must not have any oedema.

If in addition to the above, the child presents a weak or absent radial or femoral pulse, and cool or cold hands and feet then the patient is going into shock. If there is also loss of consciousness the shock is severe[15].

The dehydrated child with SAM should be rehydrated orally with ReSoMaL (Annex 18). Intravenous infusions are only used when there is severe shock or loss of consciousness.

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13 WHO (1999) *Management of severe malnutrition: a manual for physicians and other senior health workers.* Geneva: WHO

14 Golden, M. And Grellety, Y. (2006) *Guidelines for the management of the severely malnourished* ACF International

15 It is also important to differentiate diagnosis from toxic shock (drugs, traditional medicines or infection), septic shock, liver failure and cardiogenic shock. Treatment of such conditions on the basis that they are 'dehydrated' can easily lead to cardiac overload and death of the patient.

Before starting treatment, register weight, respiratory rate, and level of the liver edge. In addition, heart sounds and pulse rate can be assessed. Initially, 5 ml/kg bodyweight of ReSoMal should be administered every 30 minutes. Monitoring of rehydration should be carried out following weight change. Every hour, reassess weight and all the other constants (respiratory and pulse rate, level of liver edge, heart sounds). Adapt rehydration with care. If weight increases and the constants increase, stop rehydration and reconsider diagnosis. During rehydration breastfeeding should not be interrupted. All other sources of fluids should be stopped.

In cases of dehydration shock the patient should be treated during the first hour with

- Half strength Darrow's solution, Ringer-Lactate with 5% Dextrose IV, or
- Half strength saline with 5 % Dextrose at 15 ml/kg IV

The child should then be reassessed and treatment continued if the child's weight is stable or decreasing until improvement of the child's condition.

Continue with oral rehydration (or with a NGT) with 10 ml/kg/hour of ReSoMal when signs of shock are under control and the status of the patient improves. If the child's condition worsens during IV rehydration and weight increases, stop all fluids and reconsider diagnosis.

Dehydration in kwashiorkor

Kwashiorkor patients are over-hydrated, but they are frequently hypovolemic due to dilation of blood vessels with low cardiac output.

If the child with kwashiorkor has definite watery diarrhoea and is deteriorating clinically, fluid loss can be replaced carefully at the rate of 30 ml of ReSoMal per watery stool.

The treatment of hypervolemia in kwashiorkor is the same as the treatment of septic shock. Monitor fluid replacement carefully in kwashiorkor, as there is a high risk of cardiac congestion.

Septic shock

Septic shock presents with signs of dehydration and cardiogenic shock. Differential diagnosis is difficult. Signs of hypovolemic shock are a fast weak pulse, cold peripheries, disturbed consciousness, absence of signs of heart failure.

Immediate treatment:

- Give broad-spectrum antibiotics (second line added to first line if already in place)
- Keep warm to prevent hypothermia
- Give sugar-water by mouth or NG tube to prevent hypoglycaemia
- Avoid washing, excess examination or other investigations, to reduce stress to the child
- Do not transport if at all possible

Then:

- In patients with incipient septic shock: give standard F75 diet by NG tube
- In patients with developed septic shock (unconscious due to poor brain perfusion): give a slow IV infusion of one of the following: Whole blood of 10 ml/kg over at least 3 hours (no other liquids during this time) or any of the infusions recommended above for dehydration shock with 5 per cent glucose. Monitor every 10 minutes for signs of deterioration (over hydration or heart failure, expressed as an increased respiratory rate, development of grunting respiration, increasing liver size or vein engorgement). As soon as the patient improves stop all IV and continue with F75 diet.

Heart failure

Diagnosis: Physical deterioration with weight gain, sudden increase in liver size, tenderness in liver, increased respiratory rate, grunting respiration, crepitations in lungs, prominent superficial and neck veins, engorgement of the neck veins when the abdomen is pressed, increased oedema or reappearance of oedema, among other clinical signs and symptoms. It progresses to marked respiratory distress with rapid pulse, cold hands and feet, oedema and cyanosis and sudden death from cardiac shock.

Heart failure and pneumonia may be difficult to tell apart as they can be clinically similar. When weight gain precedes or is associated with the symptoms, heart failure should be the first diagnosis. If there is loss of weight, consider pneumonia instead.

Children with oedema do not necessarily present weight gain during heart failure if the expanded circulation is due to mobilisation of oedema fluid from the tissues to vascular space.

Treatment:

- Stop all intakes of oral or IV fluids. No fluid or food should be given until heart failure has improved (even if this takes 24 to 48 hours). Small amounts of sugar-water can be given orally to prevent hypoglycaemia.
- Give Furosemide (1 mg/kg)
- Digoxin can be given in a single dose (5 micrograms/kg, lower than the normal dose)

If heart failure is associated with severe anaemia, treatment of the heart failure takes precedence over the treatment of anaemia.

Hypothermia

Rectal temperature below 35.5ºC or under arm temperature below 35ºC is usually a symptom of severe infection and needs to be treated as such. Use the kangaroo technique (place the child directly on the mother's skin and wrap mother and child together) to heat the child. Cover the head of the child.

- Give hot drinks to the mother, so her skin gets warmer
- Monitor body temperature
- Keep room warm (28ºC to 32ºC)
- Treat for hypoglycaemia and give second line antibiotic treatment

Severe anaemia

Symptoms of moderate and severe anaemia may appear between day two and day 14 of treatment of SAM, due to the movement of fluids from tissues (oedema and intracellular water) to vascular space both in marasmus and kwashiorkor. This temporary excess of fluids will produce dilution anaemia (i.e. pseudo-anaemia) that should never be treated with transfusions (this risks aggravating the problem and inducing cardiac overload and death).

Pseudo-anaemia normally resolves spontaneously after 2 or 3 days when kidney function recovers and excess fluids can be eliminated. For this reasons, it is always advised to measure haemoglobin concentration on admission. If anaemia is detected in the first 24 hours of treatment (haemoglobin concentration less than 40 g/l, or packed-cell volume less than 12 per cent) the child has severe anaemia.

If the child has true severe anaemia:

- Give 10 ml/kg of packed red cells or whole blood slowly over 3 hours
- No other liquids or food should be given until 3 hours after blood transfusion
- No child should be transfused between 48 hours after start of treatment with F75 and 14 days later
- Do not give Iron during the Stabilisation phase to children with SAM with medical complications

Hypoglycaemia

Hypoglycaemia presents most often in children that have travelled long distances to attend the site. As a preventive measure, these children should be given sugar-water as soon as they arrive. In addition, patients that develop hypothermia or have septic shock should be given extra sugar regardless of their blood glucose levels. Main signs of hypoglycaemia are sleepiness usually accompanied by eye lid retraction.

Treatment:

- If patient is conscious and able to drink, give 50 ml (5 to 10 ml/kg) of sugar-water (approx. 10 per cent ordinary sugar in potable water), or F75 (or F100) diet by mouth
- If patient is losing consciousness give 50 ml of sugar-water via naso-gastric tube immediately
- If patient is already unconscious, give same amount via naso-gastric tube. Also administer glucose as a single intravenous injection (approx. 5 ml/kg of sterile 10 per cent glucose solution)
- All malnourished patients with suspected hypoglycaemia should be treated with second line antibiotics as infection is a frequent cause of hypoglycaemia
- The response to treatment is very rapid. If a very lethargic or unconscious patient does not respond consider another cause for the symptoms

Annex 17. Routine/Systematic medicines in ITC

Vitamin A

Provide on the day of admission.

Dosage of vitamin A systematic treatment

Age	Vitamin A IU orally on day 1
6 to 11 months	100,000IU
12 months (or 8 kg) and more	200,000IU

On the day of admission – except for children with oedema, unless there are signs of deficiency (Children admitted with oedema receive vitamin A on day of discharge)

Do not give vitamin A if child has received vitamin A in the last one month, or if there is a vitamin A campaign up-coming.

Folic acid

Provide on the day of admission.

- 5 mg as one single dose,
- 2.5 mg as one single dose, in malaria endemic area, if the child has no history of fever. [16]

[16] No folic acid should be given within 7 days after administrating Sulfadoxine-pyrimethamine (Fansidar) which is the national protocol for Falciparum malaria treatment, because it works antagonistic on drug effectiveness. Thus if malaria is suspected upon admission, no folic acid should be given till malaria status and treatment are determined.

Systematic Antibiotics

Antibiotics should be given to every severely malnourished patient, even if they do not have signs of systemic infection.

The antibiotic regimen (this can be changed according to the resistance pattern of bacteria that arises from time to time in the environment of the unit):

- First line treatment: Amoxicillin [17] (if Amoxicillin is not available, use Ampicillin)
- Second line treatment: two options:
    - plan a) add Chloramphenicol and continue Amoxycillin
    - plan b) add Gentamicin and continue Amoxycillin
- Third line: individual medical decision.

Duration of antibiotic treatment: Every day during Stabilisation + four more days.

Dosage of Gentamycin, Amoxycillin and Chloramphenicol

Weight range	**Plan A**		**Plan B**	
	Dosage per day		Dosage per day	
	Gentamicin	**Amoxycillin**	**Chloramphenicol**	**Amoxycillin**
Kg	in mg	in mg	in mg (Syrup125mg/ml)	in mg
2 – 6	7.5mg/kg give once daily IM	125 mg * 3	62.5 mg (2.5 ml) * 3	125 mg * 3
6 – 10		250 mg * 3	125 mg (5 ml) * 3	250 mg * 3
10 – 30		375 mg * 3	250 mg (10 ml) * 3	375 mg * 3
> 30		500 mg * 3	500 mg (15 ml) * 3	500 mg * 3

Malaria

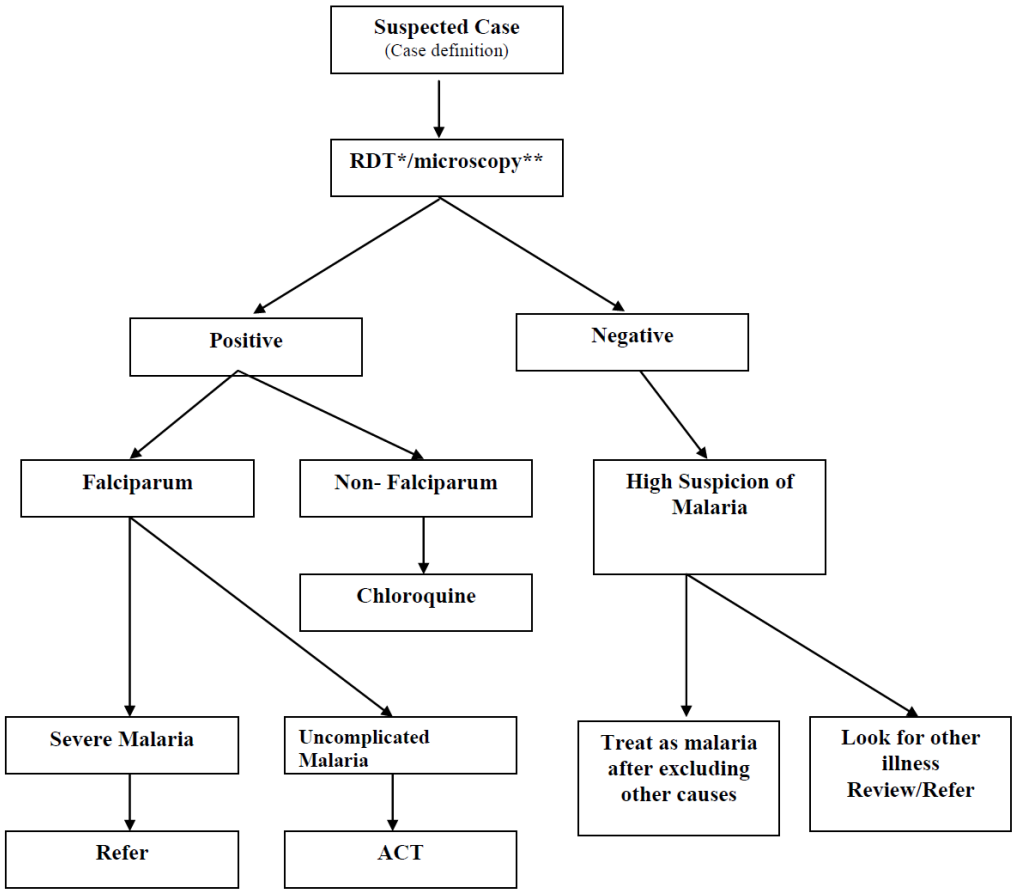
For inpatient treatment, the national malaria treatment protocol[18] should be followed. In endemic areas and for patients from endemic areas, if laboratory capacity for malaria microscopy or Rapid Diagnostic Test is available at the Stabilisation Centre / Hospital, all severe acute malnourished patient should be tested for malaria and positive cases treated according to the national guidelines for Vivax malaria and Falciparum malaria respectively. See below

[17] This is recommended as second-line antibiotic by IMCI: it is given to these grossly immuno-compromised patients who are severe enough to be admitted into hospital. Amoxycillin 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.

[18] An intravenous infusion of quinine is not safe in severe acute malnutrition.

An algorithm for diagnosis & treatment of malaria is depicted below:

(Decision chart for treatment of malaria)



- * RDT – validated antigen detecting only and done where microscopy is not available or feasible

** Microscopy - gold standard test

For confirmed P.vivax malaria Chloroquine remains the drug of choice in combination with Primaquine to prevent relapse.

Dosage of Chloroquine/ Primaquine for confirmed Plasmodium vivax

	Dose			
	Age less than 12 months*		**Age 12-59 months**	
Day	**Chloroquine (tablet 150mg)**	**Primaquine (tablet 7.5 mg)**	**Chloroquine (tablet 150mg)**	**Primaquine (tablet 7.5 mg)**
1	½ tablet	nil	1 tablet	½ tablet
2	½ tablet	nil	1 tablet	½ tablet
3	½ tablet	nil	½ tablet	½ tablet
				½ tablet
				½ tablet

* Primaquine is not given to children below 1 year of age and pregnant women

Notes:

- Chloroquine syrup should not be administered on empty stomach;

- Repeat dose if there is vomiting within half an hour of administration

For **confirmed uncomplicated falciparan malaria** Artemether-Lumefantrine is the drug of choice.

Dosage of Artemether-Lumefantrine for confirmed Plasmodium falciparum

Weight (Kg)	**Age***	**Dose (for three days) (tablet 20 mg Arthemether plus 120 mg Lumefantrine)**	
		Morning	**Evening**
10 – 15	1-2 years	1 tablet	1 tablet
15 – 20	3-5 years	2 tablet	2 tablet

*Children aged 2-11 months and/or weighing less than 10 kg should not be treated with Coartem. However, they should also not be treated with intravenous quinine since this is not safe in severe malnutrition, so either oral or intra-muscular administration should be practiced.

Treating probable malaria: If diagnostic tests are not possible, treat for probable malaria (a person from malaria endemic area with symptoms and/ or signs of uncomplicated clinical malaria, after the exclusion of other causes of fever) with Chloroquine. In this case monitor the child closely for first 48 hours, and if fever condition does not improve, immediately refer to the nearest facility where Plasmodium falciparum can be diagnosed.

Dosages of Chloroquine (syrup & tablets) by age group

	Dose			
	*Syrup 50mg/5ml**		*Tablet 150mg**	
Day	*Age less than 12 months*	*Age 12-59 months*	*Age less than 12 months*	*Age 12-59 months*
1	*7,5 ml (1½ teaspoon)*	*15,0 ml (3 teaspoon)*	*½ tablet (75 mg)*	*1 tablet (150 mg)*
2	*7,5 ml (1½ teaspoon)*	*15,0 ml (3 teaspoon)*	*½ tablet (75 mg)*	*1 tablet (150 mg)*
3	*7,5 ml (1½ teaspoon)*	*7,5 ml (1½ teaspoon)*	*½ tablet (75 mg)*	*½ tablet (75 mg)*

** One teaspoon = 5 ml of syrup = 50g Chloroquine base*
**** Each tablet is 150mg base

Notes:

- *Chloroquine syrup should not be administered on empty stomach*
- *Repeat dose if there is vomiting within half an hour of administration*

If there is **no response to malaria treatment** second line treatment can be administered as per the national malaria protocol[19] as in OTC (see supplemental medicines in OTC Annex 12.).

If complications arise or where cases present with **severe malaria** (defined as confirmed malaria with critical symptoms) cases should also be treated according to the national malaria protocol.[20]

[19] An intravenous infusion of quinine is not safe in severe acute malnutrition.

[20] An intravenous infusion of quinine is not safe in severe acute malnutrition.

Measles

All children from 6 months and older should be given measles vaccine on admission.

Children aged less than 9 months at admission should be given a second measles vaccination on discharge after completing 9 months of age to ensure long term immunity.

Annex 18. F75 Preparation and use

Use

F75 is a therapeutic products that is available commercially as a powder formulation. It can also be prepared using basic ingredients of milk, sugar, cereal flour, vegetable oil and combined mineral and vitamin mix (CMV) for SAM (see **Annex 21. Alternative Recipes for F75, F100 and ReSoMal Using CMV**).

- F75 provides **75 kilocalories (kcal) per 100 millilitres (ml)** and has the correct balance of Type 1 and Type 2 nutrients, a greater nutrient density and bioavailability, and lower osmolality and renal solute load.
- It is designed to restore hydration and electrolyte and metabolic balance, and provide the necessary calories and nutrients for maintenance needs and for starting the restoration of adequate immune function.
- The amount of F75 given in the stabilisation phase is **100 kcal/130 ml/kg bodyweight/day**.
- F75 is provided in inpatient care during the stabilisation phase ONLY.

Preparation

Add 1 packet 102.5 gram of F75 + 500 ml of water.

- Use boiled and cooled water (even if water is chlorinated, it needs to be boiled to ensure it is safe)
- Smaller volumes can be prepared by measuring small amounts of F75 using the red scoop. Add 18 millilitres (ml) boiled and cooled water per one red scoop of F75 powder (4.1g).
- Milk should be used in the 3 hours following its preparation if stored at room temperature**.**

Class of Weight (kg)	6 feeds per day ml for each feed	8 feeds per day ml for each feed
2.0 to 2.1 kg	50 ml per feed	40 ml per feed
2.2 - 2.4	60	45
2.5 - 2.7	65	50
2.8 – 2.9	70	55
3.0 - 3.4	75	60
3.5 – 3.9	80	65
4.0 – 4.4	85	70
4.5 – 4.9	95	80
5.0 – 5.4	110	90
5.5 – 5.9	120	100
6.0 – 6.9	140	110
7.0 – 7.9	160	125
8.0 – 8.9	180	140
9.0 – 9.9	190	155
10.0 – 10.9	200	170
11.0 – 11.9	230	190

12.0 – 12.9	250	205
13.0 – 13.9	275	230
14.0 – 14.9	290	250
15.0 – 19.9	300	260

Annex 19. Preparation and Use of ReSoMaL in Inpatient Therapeutic Care

Use

ReSoMal is a rehydration solution for children with SAM provided in inpatient care only, after careful diagnosis of dehydration based on the child's medical history and clinical signs. The child is closely monitored while ReSoMal is administered. If the child's respiratory rate rises, bilateral pitting oedema (e.g., of eyelids) increases or neck veins become distended, ReSoMal is stopped. The child is reassessed after one hour.

- ReSoMal is always provided in controlled amounts and never given freely for use to the child and/or caregiver.
- The old practice of giving this product to children with loose stools or diarrhoea (in the absence of a proper diagnosis of dehydration) should be strongly discouraged. Children with persistent diarrhoea (diarrhoea since more than 2 weeks) do not usually need rehydration. Their metabolism has adapted to the frequent diarrhoea and should not be rapidly rehydrated.
- ReSoMal should never be used at outpatient care: children presenting with signs of dehydration in outpatient care should be referred to inpatient care (as outlined in table below). If this is not possible, they should be treated with 10% sugar water at the site and closely monitored.
- Do not use ReSoMal in case of **cholera or profuse watery diarrhoea**; use ORS instead.

Preparation of ReSoMal for Children with Marasmus and Dehydration

Child's Weight (kg)	First 30 minutes(ml)	Second 30 minutes (ml)	Second hour (ml)
2.0-2.9	10	10	20
3.0-3.9	15	15	30
4.0-4.9	20	20	40
5.0-5.9	25	25	50
6.0-6.9	30	30	60
7.0-7.9	35	35	70
8.0-8.9	40	40	80
9.0-9.9	45	45	90
10.0-10.9	50	50	100
11.0-11.9	55	55	110
12.0-12.9	60	60	120
13.0-13.9	65	65	130
14.0-14.9	70	70	140
15.0-15.9	75	75	150

Annex 20. Failure to respond to treatment in inpatient care

Identifying failure to respond

Some children undergoing inpatient care might fail to respond to treatment or exhibit deterioration in condition at different stages of the treatment. Criteria for defining failure to respond to treatment are listed in the table below.

Failure to achieve initial improvement at the expected rate is termed **primary failure to respond to treatment**. This can be attributed to unrecognised infection or drug-resistant infections such as bacterial (tuberculosis [TB]), viral (measles, hepatitis B, HIV) or parasitic (malaria) infections.

Deterioration in a child's condition after a satisfactory response has been established is termed **secondary failure to respond to treatment**. This may be due to acute infection contracted during inpatient care, reactivation of infection as immune and inflammatory responses recover, or insufficiency in essential nutrients in the diet provided to the child.

Criteria for Failure to Respond to Treatment in Inpatient Care

Criteria	Time after Admission
Primary failure to respond	
Failure to regain appetite	4 - 7 days
Oedema is not reducing	4 - 7 days
Oedema still present	10 days
Failure to gain at least 5 g/kg bodyweight	10 days
Secondary failure to respond	
Failure to gain at least 5 g/kg bodyweight Static weight	During inpatient rehabilitation phase: for 2 successive days for 3 successive days

Investigation and care of cases who fail to respond to treatment

A child who is undergoing treatment for severe acute malnutrition (SAM) and meeting any of the above criteria should be diagnosed as failing to respond to treatment. When such a diagnosis is made the causal factors should be investigated:

1. Failure to respond to treatment should be recorded on the individual treatment chart,
2. An extensive medical evaluation of the child must be carried out by senior experienced staff (medical history, physical examination and/or laboratory investigations of urine and stool samples). The following laboratory investigations are recommended:
    - Routine urine analysis including pus cells and culture
    - Blood screening and culture

- Screening for TB
- Stool test for trophozoites and cysts of Giardia, amoeba and helminthic infestation
- HIV test according to the national guidance
- Malaria screening
- Hepatitis screening

2. The overall management of these cases should be reviewed, e.g., evaluation of adherence to treatment protocol and availability of trained staff and measures put in place (supervision, training) to rectify and issues.

EXAMPLES OF FREQUENT CAUSES OF FAILURE TO RESPOND IN INPATIENT CARE

Problems related to the health facility:

- Poor environment for malnourished children
- Lack of adherence to treatment protocols for SAM
- Failure to treat malnourished children in a separate area
- Failure to correctly monitoring the child's progress
- Insufficient and/or indequately trained staff
- Inadequate supervision and constant rotation of staff in treatment facility
- Inaccurate weighing machines
- Food prepared or given incorrectly
- Inappropriate communication and counselling services
- Insufficient nutrition supplies

Problems related to the caregiver:

- Inappropriate care and feeding practices either related to abilities, psycological state or other work and responsibilities
- RUTF not given on time given by caretaker
- Siblings, family members or caretaker use RUTF' Sharing within family
- Intake of other foods/family foods
- Lack of/no caretakers/parents

Problems related to the individual child:

- Insufficient appetite to take feeds
- Vitamin and mineral deficiencies
- Malabsorption of food
- Psychological trauma (particularly in refugee situations or families living with HIV/AIDS)
- Rumination
- Infection, especially diarrhoea (amaebiasis, giardiasis, dysentery), pneumonia, TB, urinary infection/otitis media, malaria, HIV/AIDS, schistosomiasis, Kalazar/Leishmaniasis, hepatitis/cirrhosis
- Other serious underlying disease: congenital abnormalities (e.g., Down's syndrome), neurological damage (e.g., cerebral palsy), errors of metabolism
- Mal-absorption, small bowel bacterial overgrowth

Primary Failure to Respond

In particular these children should be assessed carefully for infection as follows:

- Observe general physical appearance of the child
- Examine the child carefully. Measure the vital signs (temperature, pulse rate and respiration rate).
- Where appropriate, examine urine for pus cells and culture blood. Examine and culture sputum or tracheal aspirate for TB; examine the fundi for retinal tuberculosis; do a chest x-ray.[21] Examine stool for blood; look for trophozoites or cysts of giardia, amoeba; culture stool for bacterial pathogens. Test for HIV, hepatitis and malaria.

Secondary Failure to Respond

This deterioration/regression in condition after having progressed satisfactorily to the rehabilitation phase with a good appetite and weight gain is usually due to:

- Inhalation of diet into the lungs. Children with SAM often have poor neuromuscular coordination between the muscles of the throat and the oesophagus. It is quite common for children to inhale food into their lungs during recovery if they are: 1) force-fed, particularly with a spoon or pinching of the nose; 2) laid down on their back to eat, and 3) given liquid diets. Inhalation of part of the diet is a common cause of pneumonia in all malnourished patients. Patients should be closely observed whilst they are being fed by the caregiver to ensure that the correct feeding technique is used.
- An acute infection that has been contracted in the health facility (called a nosocomial infection) or at home. At times, as the immune and inflammatory system recovers, there appears to be a "reactivation" of infection during recovery; acute onset of malaria and TB (e.g., sudden enlargement of a cervical abscess or development of a sinus) could occur several days or weeks after starting a therapeutic diet. Attempts should be made to identify the infection and provide appropriate treatment
- Check that family foods have not been introduced too soon which can slow the child's recovery.
- Check health, hygiene and sanitation conditions that the child who is under treatment is not infected with waterborne diseases and other infections

Actions based on failure to respond

- Keep accurate records of all children who fail to respond to the treatment and of those who died. These records should include, at a minimum, the child's age, sex, date of admission, mid-upper arm circumference (MUAC), weight-for-height (WFH; or length) on admission, principal diagnosis, treatment and, where applicable, date, time and apparent cause of death.
- Always systematically examine the common causes of failure to respond and death, and identify areas where case management practices should be improved to rectify the problems.
- If these actions are not immediately successful, then an external evaluation by someone experienced with inpatient care of SAM should be conducted. An investigation into the

[21] Gastric aspirates are very rarely positive in the malnourished child with active TB, particularly if there is overnight feeding. This test should not be relied on, is difficult to perform well and is traumatic for the child. If it is used, overnight feeds should not be given.

organisation and application of the protocol for treatment should be carried out as part of the evaluation.

- Review the supervision of staff with refresher training if necessary.
- Re-calibrate scales (and height/length boards).
- If the child is really failure to response, refer to ITC for further investigations and treatme

Annex 21. F100 preparation and use

Use

F100 is therapeutic product that is available commercially as powder formulation. It can also be prepared using basic ingredients of milk, sugar, cereal flour, vegetable oil and combined mineral and vitamin mix (CMV) for SAM.

- F100 provides **100 kcal/100 ml** and has the correct balance of Type 1 and Type 2 nutrients and a greater nutrient density and bioavailability.
- It is designed to provide adequate calories and nutrients to promote catch-up growth in children recovering from SAM.
- The amount of F100 given in the transition phase is **130 kcal/130 ml/kg bodyweight/day**.
- The amount given in the rehabilitation phase is **200 kcal/200 ml/kg bodyweight/day**,
- F100 is provided in inpatient care during the transition and rehabilitation phases. It should NEVER be given in outpatient care or for use at home.

Preparation

Add 1 packet 114 gram of F100 + 500 ml of water

- Use boiled and cooled water (even if water is chlorinated, it needs to be boiled to ensure it is safe)
- Smaller volumes can be prepared by measuring small amounts of F100 using the red scoop. Add 14 millilitres (ml) boiled and cooled water per one red scoop of F100 powder (4.1g).
- Milk should be used in the 3 hours following its preparation if stored at room temperature

F100 for Transition (same quantities as F75 in stabilisation)

Class of Weight (kg)	6 feeds per day ml for each feed	8 feeds per day ml for each feed
2.0 to 2.1 kg	50 ml per feed	40 ml per feed
2.2 - 2.4	60	45
2.5 - 2.7	65	50
2.8 – 2.9	70	55
3.0 - 3.4	75	60
3.5 – 3.9	80	65
4.0 – 4.4	85	70
4.5 – 4.9	95	80
5.0 – 5.4	110	90
5.5 – 5.9	120	100
6.0 – 6.9	140	110
7.0 – 7.9	160	125
8.0 – 8.9	180	140
9.0 – 9.9	190	155
10.0 – 10.9	200	170
11.0 – 11.9	230	190
12.0 – 12.9	250	205
13.0 – 13.9	275	230
14.0 – 14.9	290	250
15.0 – 19.9	300	260

F100 for Rehabilitation

Class of weight (kg)	6 Feeds per day F100 ml for each feed	5 Feeds per day ml for each feed
< 3.0	F100 full strength not given	F100 full strength not given
3.0 – 3.4	110	130
3.5 – 3.9	120	150
4.0 – 4.9	150	180
5.0 – 5.9	180	200
6.0 – 6.9	210	250
7.0 – 7.9	240	300
8.0 – 8.9	270	330
9.0 – 9.9	300	360
10.0 – 11.9	350	420
12.0 – 14.9	450	520
15.0 – 19.9	550	650
20.0 – 24.9	650	780
25.0 – 29.9	750	900
30.0 – 39.9	850	1000
40.0 – 60.0	1000	1200

Annex 22. Alternative recipes for F75, F100 and ReSoMaL using CMV

F75 FORMULA

Type of milk	Milk (g)	Sugar (g)	Oil (g)	Cereal powder* (g)	CMV red scoop (6.35 g)	Water (ml)
Dry skim milk	50	140	54	70	1	Add cooled boiled water up to 2,000 ml
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 litre (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 millilitres (ml) with cooled boiled water.

F100 FORMULA

Type of milk	Milk (g)	Sugar (g)	Oil (g)	CMV red scoop (6.35 g)	Water (ml)
Dry skim milk	160	100	120	1	Add cooled boiled water up to 2,000 ml
Dry whole milk	220	100	60	1	
Fresh cow milk	1,800	100	50	1	
Fresh goat milk	1,800	100	60	1	

To prepare F100, add the milk, sugar, and oil to one litre water and mix. Boil for 5-to-7 minutes. Allow to cool, add the CMV and mix again. Make up the volume to 2,000 ml with cooled boiled water.

RESOMAL

Ingredient	Amount
Standard WHO ORS	1 L package
CMV	1 red scoop (6.35 g)
Sugar	50 g
Water	Up to 2,000 ml

Ingredient	Amount
Low Osmolality WHO ORS	1 L package
CMV	1 red scoop (6.35 g)
Sugar	40 g
Water	1,700 ml

Ingredient	Amount
Low Osmolality WHO ORS	1/2 L package
CMV	1/2 red scoop (3.18 g)
Sugar	20 g
Water	850 ml

To prepare ReSoMal from oral rehydration solution (ORS), add CMV and sugar to one package of ORS, and add cooled boiled water following the above recipes.

COMBINED MINERAL VITAMIN MIX (CMV)

CMV or vitamin and mineral mix complies with the recommendations for vitamin and mineral enrichment in the dietetic treatment of SAM. It is used to prepare F100, F75 and ReSoMal (from the current ORS [WHO formula] + sugar + water). It comes in an airtight metallic tin with a red measuring scoop that holds 6.35 g of mix, enough to prepare 2 L of F75, F100 or ReSoMal. CMV has a shelf life of 24 months from manufacturing date.

The mineral mix should have a moderate positive non-metabolisable base sufficient to eliminate the risk of metabolic acidosis. The non-metabolisable base can be approximated

by the formula: estimated absorbed millimoles (mmol) (sodium +potassium + calcium + magnesium) - (phosphorus + chloride). The mineral mix reproduced below has a suitable positive non-metabolisable base. Its shelf life is 24 months from the manufacturing date.

CMV Specifications

Table 5. Nutritional Value of Commercial CMV (per 6.35 g or 1 levelled scoop)

Vitamins	Minerals
Biotin: 0.2 mg	Vitamin D: 60 µg
Folic acid: 700 µg	Vitamin E: 44 mg
Niacin: 20 mg	Vitamin K: 80 µg
Pantothenic acid: 6 mg	
	Copper: 5.7 mg
Vitamin A: 3,000 µg	Iodine: 154 µg
Vitamin B1: 1.4 mg	Iron: 0 mg
Vitamin B12: 2 µg	Magnesium: 146 mg
Vitamin B2: 4 mg	Potassium: 2,340 mg
Vitamin B6: 1.4 mg	Selenium: 94 µg
Vitamin C: 200 mg	Zinc: 40 mg

Annex 23. Equipment and supplies for inpatient care

List of items for SC

1. Glucometer (including lancets & strips)
2. Syringes(2ml,5ml,10ml,20ml,50ml)
3. Nasogastric tubes (size; Fr. 6,7.8,10,12)
4. Rectal thermometers
5. IV Sets(Burette set)
6. IV drips(0.45 Normal saline with 5%dextrose,10%dextrose)
7. IV cannula (no. 24,23,22,20)
8. Injectable Antibiotics (Gentamicin, Ampicillin)
9. Oral Antibiotic; Amoxicillin
10. Inj. Lasix (Furosemide)
11. Plaster tapes
12. Small weighing scale(e.g. to weigh 40 gm. sugar)
13. ReSoMal /ORS/cmv/Mineral mix
14. Clothing to keep the child warm(baby blankets, caps, shocks, baby wrappers, cotton saree for KMC)
15. Utensils to boil water to prepare F75,F100

Annex 24. Assessment of infant and caregiver

Simple rapid assessment (SRA)[22]

This does not require medical or nutrition training, or observation of breastfeeding. It covers:

- Age-appropriate feeding
- Breastfeeding ease
- The baby's condition.

If any of the below reasons for referal for full assessment are identified the caregiver should be refered to the health facility for full assessment following the National IYCF guidelines.

Practice form: Simple Rapid Assessment

Ask:

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

Look:

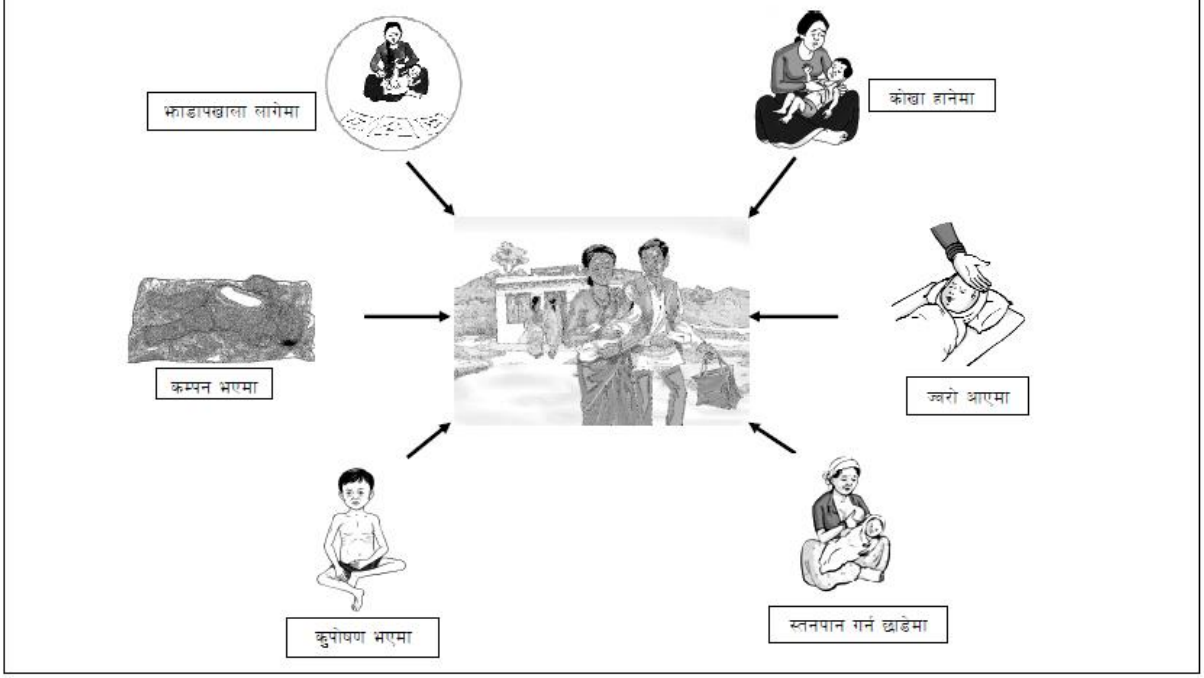
6. Does the baby look visibly thin?
7. Is the baby lethargic, perhaps ill?

Reasons to refer for Full Assessment:

____Not breastfed
____Breastfed but feeding not age-appropriate
under 6 months, not exclusively breastfed
over 6 months, and given no complementary foods
____Baby unable to suckle the breast
____Mother has other difficulties with breastfeeding
____Mother requests breastmilk substitutes
____Baby visibly thin
____Baby lethargic, perhaps ill

[22] (ENN 2004) Infant Feeding in Emergencies. Module 2. Version 1.0 for health and nutrition workers . Core Manual

सहभागी सामग्री १०.३ बच्चालाई स्वास्थ्य संस्था लैजानुपर्ने अवस्थाहरु



Annex 25. Preparation and use of F100 diluted and F75 for initial management of breastfed and non-breastfed infants with SAM

F100 Diluted Preparation

1. For preparation of one full packet of F-100:

Add one packet 114 gram of F100 to 500 ml of water instead. This is referred to as F100-Diluted.

2. For a small number of children or quantity
   - Add 35 ml of water to 100 ml of F100 already prepared, which will yield 135 ml of F100-Diluted. Discard any excess milk after use. Do not make smaller quantities.
   - If you need more than 135 ml, use 200 ml of F100 and add 70 ml of water to make 270 ml of F100-Diluted and discard any excess milk after use.

Look-Up Table for Maintenance Amounts of F100-Diluted (Severe Wasting) or F75 (Bilateral Pitting Oedema until the Oedema is Resolved) for Breastfed Infants

Child's Weight (kg)	F100-Diluted or F75 in case of oedema (ml per feed if 12 feeds per day)	F100-Diluted or F75 in case of oedema (ml per feed if 8 feeds per day)
≥ 1.2	**20**	**25**
1.3 – 1.5	**25**	**30**
1.6 – 1.7	**30**	**35**
1.8 – 2.1	**30**	**40**
2.2 – 2.4	**35**	**45**
2.5 – 2.7	**40**	**50**
2.8 – 2.9	**40**	**55**
3.0 – 3.4	**45**	**60**
3.5 – 3.9	**50**	**65**
4.0 – 4.4	**50**	**70**

Annex 26. Supplemental suckling with supportive care

Feeding Technique

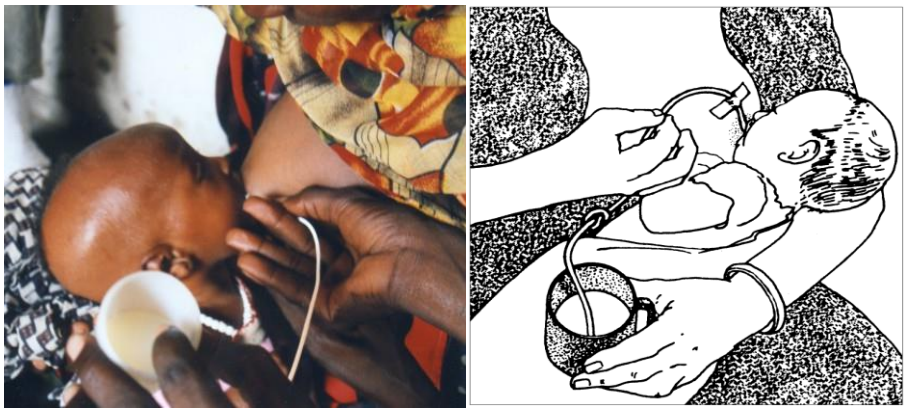
Use the supplementary suckling technique to re-establish or commence breastfeeding and also to provide maintenance amounts of F100-Diluted to severely malnourished infants. This technique entails the infant sucking at the breast while also taking supplementary F100-Diluted from a cup through a fine tube that runs alongside the nipple. The infant is nourished by the supplementary F100-Diluted while suckling stimulates the breast to produce more milk.

The steps required in using the supplementary suckling technique are simple. The caregiver holds a cup with the F100-Diluted. The end of a NGT (size nº8) is put in the cup and the tip of the tube is placed on the breast, at the nipple. The infant is offered the breast with the right attachment. The

cup is placed 5-10 centimetres (cm) below the level of the nipple for easy suckling. When the child suckles more strongly, the cup can be lowered to up to 30 cm.

After feeding is completed, 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.

Supplementary Suckling Technique



Supportive Care for Mothers

Supportive care for breastfeeding mothers should be provided, especially in very stressful situations. Focus needs to be directed at creating conditions that will facilitate and increase breastfeeding, such as establishing safe “breastfeeding corners” for mothers and infants, one-to-one counselling and mother-to-mother support. Traumatised and depressed women may have difficulty responding to their infants and require mental and emotional support which should also support an increase in breastfeeding. It is important to assess nutritional status of the mother (MUAC and bilateral pitting oedema).

Explain to the mother the different steps of treatment that their child will go through. Efforts should be made to strengthen the mother’s confidence and discourage self-criticism for perceived inability to provide adequate breast milk. Always alert the mother about the risk of pregnancy during breastfeeding amenorrhea.

Adequate Nutrition and Supplementation for Breastfeeding Mothers

Breastfeeding women need about 450 kcal per day of extra energy. Essential micronutrients in breast milk are derived from the mother’s food or micronutrient supplement. Therefore it is important that the mother’s nutrient and energy needs are met. The mother should consume at least 2,500 kcal per day. It is suggested that the health facility should provide nutritious food for the mother. The mother should also receive vitamin A (200,000 IU, unless there is a risk of pregnancy) if the infant is under 2 months. Dehydration may interfere with breast milk production. It is therefore important to ensure that the mother drinks at least 2 L of water per day.

Psychosocial Care of the Mother

Psychosocial care is a very essential component of the care for the mother and for the infant with SAM as the mother may have many problems of physical or psychological origin. These problems could affect her care of her infant or lead to defaulting. The table below demonstrates some of the mother’s difficulties.

The mother should receive a thorough explanation of her child's problem and how to manage it. She should be guided through a breastfeeding session and the supplementary suckling technique. The mother should also be counselled on social problems and receive a medical check if necessary. Advice on hygiene and the correct way to breastfeed should be provided to the mother in a supportive, participatory way through individual counselling or group discussions to relieve her stress and fears.

Possible Difficulties Encountered by Mothers of Infants with SAM

Mother Difficulties	Action Points
Nutrition and fluid intake	Provide enough fluid and balanced food; Screen the mother for malnutrition
Physical and mental health	Provide medical advice whenever requested
Physical difficulties related to breastfeeding	Treat sore nipples, cracked nipples and mastitis with breastfeeding counselling
Misinformation and misconceptions	Establish good communication with the mother

Annex 27. Transition and rehabilitation phase F100-diluted volumes for non-breastfed infants.

Transition Phase Look-Up Table for Volume of F100-Diluted for Non-Breastfed Infants

Child's Weight (kg)	F100-Diluted (ml per feed if 8 feeds per day)
≤ 1.5	45
1.6 – 1.8	53
1.9 – 2.1	60
2.2 – 2.4	68
2.5 – 2.7	75
2.8 – 2.9	83
3.0 – 3.4	90
3.5 – 3.9	96
4.0 – 4.4	105

Rehabilitation Phase Look-Up Table for Volume of F100-Diluted for Non-Breastfed Infants

Child's Weight (kg)	F100-Diluted (ml per feed if 6-8 feeds per day)
≤ 1.5	60
1.6 – 1.8	70
1.9 – 2.1	80
2.2 – 2.4	90
2.5 – 2.7	100
2.8 – 2.9	110
3.0 – 3.4	120
3.5 – 3.9	130
4.0 – 4.4	140

Annex 28. Nutrient requirements for MAM children (Golden MH 2009)

Nutrient	Unit	MAM (Food Based)			MAM (Complement Based)		
		7- 12 mo	1-2 yr	3-5 yr	7- 12 mo	1-2 yr	3-5 yr
Energy	Kcal	673	956	1,242	673	956	1,242
Protein	G	16	23	30	17	25	32
Nitrogen	G	2.6	3.7	4.8	2.8	4.0	5.2
Minerals							
Sodium	Mg	370	530	680	370	530	680
Potassium	Mg	950	1,350	1,750	1,050	1,550	2,000
Magnesium	Mg	135	190	250	200	290	370
Phosphorus	Mg	400	570	750	600	860	1,120
Sulfur	Mg	0	0	0	135	190	250
Zinc	Mg	9	12	16	13	19	25
Calcium	Mg	400	570	740	560	800	1,050
Copper	µg	450	650	850	600	850	1,100
Iron	Mg	6	9	11	12	17	22
Iodine	µg	135	190	250	135	190	250
Selenium	µg	20	30	35	35	55	70
Manganese	Mg	0.8	1.1	1.5	0.8	1.1	1.5
Chromium	µg	7	11	14	7	11	14
Molybdenum	µg	10	15	20	10	15	20
Vitamins, Water Soluble							
Thiamine	µg	400	575	750	670	950	1,250
Riboflavin	µg	540	770	990	1,200	1,700	2,250
Pyridoxine	µg	540	770	990	1,200	1,700	2,250
Cobalamin	Ng	675	960	1,240	1,750	2,500	3,200
Folate	µg	150	210	270	240	330	430
Niacin	Mg	6	8	11	12	17	22
Vitamin C	Mg	50	70	90	60	90	120
Pantothenic Acid	Mg	2.0	3.0	3.5	2.0	3.0	3.5
Biothin	µg	6.5	9.5	12.5	8.5	12.5	16.0
Vitamins, Fat Soluble							
Retinol	µg	650	920	1,190	1,280	1,820	2,360
Cholecalciferol	µg	5	7	9	7	11	15
Tocopherol	Mg	8	11	14	15	20	25
Phytomenadione	µg	13	20	25	25	40	50

Annex 29. Daily diet for MAM children

Children 1-2 years

Timing	Food item	Quantity
Morning	Fruit	6 table spoons
	Haluwa	6 table spoons
Mid morning	Milk	1 small cup
Lunch	Meat/poultry/Fish	2 table spoon
	Rice	5 table spoon
	Vegetable oil	1 teaspoon
	Tarkaari	6 table spoon
Mid afternoon	Fruit	6 table spoons
Dinner	Potato	1-2 table spoon
	Pulses	4 table spoon
	Veg oil/ghee	1 table spoon
	Green leafy vegetables	6 table spoons
	Roti	half (6 inch)
Evening	Curd/Yoghurt	1 small cup

Drinks
_ On top of this diet, children should be breast fed upon demand. For non breast fed children 500 mL extra milk should be provided. _ 4 glasses of safe drinking water per day

Children 2-5 years

Timing	Food item	Quantity
Morning	Semolina (prepared with ghee/veg oil)	8 table spoon cup (1 teaspoon)
	Fruit	8 table spoon

Mid morning	Nuts/seeds	1 table spoon
	Buckwheat/millet pancake	half
Lunch	Rice	4 table spoon
	Meat/poultry/fish	2 table spoon
	Green leafy vegetables	6 table spoon
	Vegetable oil	1 tea spoon
	Curd/ Yoghurt	half cup
Mid afternoon	Fruit/ Dried fruit	8 table spoon/ 4 table spoon
Dinner	Roti	1 (6-inch)
	Tarkaari	6 table spoons
	Pulses	4 table spoons
	Egg	1
Evening	Milk	1 cup

Drinks
_ Child needs about 4-5 glasses of safe drinking water per day

Annex 30. Recipes for preparing complementary food (Sarbottam Pitho/Poshilo Pitho)

Pulse-cereal grains-based "multimix" complementary food.

1. Basic recipe for "Sarbottam Pitho"or "Poshilo Pitho" (Super Flour) (7-8 days' supply)

Pulse (soyabean or any other small pulse) - 300 gm (1/2 mana)
Whole cereal grain (corn or other whole grain) - 150 gm (1/4 mana)
Whole cereal grain (wheat or other whole grain) - 150 gm (1/4 mana)

Method: Clean each item very well. Roast each item separately and thoroughly. Combine and grind into fine flour. (For infants 6-8 months of age some mothers prefer to use equal parts of the items, e.g. soybeans, corn, rice.) The flour should be very fine. The protein in S.P. is of equal value to the protein in eggs, milk, meat, etc.

Variations for use of "Sarbottam Pitho" or Poshilo Pitho (Super Flour)

2. "Sarbottam Pitho" or Poshilo Pitho Porridge

"Sarbottam Pitho"or Poshilo Pitho Flour - 25 gm (1 mutthi)
Water (potable)

Method: Mix the flour into boiling water and cook about 1 minute to make porridge either thin or thick according to age, condition or preference of the child.

Variations

- Add 25 gm finely ground or chopped green leafy or other vegetables to the boiling water. Cook these before adding the S.P. flour. (Unripe pumpkin or carrots are excellent additions.)
- Add dried or fresh fruit before or after the porridge is cooked.
- Add 3 gm clarified butter or oil if pulse other than soybean is used.

(Note: If soybeans or other small pulses are not available, one-half amount of walnuts may be substituted, e.g., in N. Nepal.)

3. "Sarbottam Pitho" or Poshilo Pitho Breads ("roti")

"Sarbottam Pitho" or Poshilo pitho flour – 50 gm (2 mutthi)
Water – as needed to make dough/batter
Salt
Oil - 5 gm (1 teaspoon)

Method: Mix a bit of water or other liquid into flour to make a stiff dough or batter. Make small roti (s) by flattening between palms of hands, then bake. Or drop batter onto hot oiled surface. These roti(s) make good snack food, too.

4. Variations/combinations for porridge or "roti"

Use the following proportions of individual ingredients. Follow the same basic method of cleaning, roasting and grinding into flour, and for cooking or baking.

Rice: mung bean: sesame seeds: (70:15:15)	– 25 gm (1 mutthi)
Rice: mung bean: sesame seeds (60:20:15)	– 25 gm (1 mutthi)
Rice: fish meal: sesame seeds (70:10:15)	– 25 gm (1 mutthi)

5. Variations using malting/germination.

(To improve flavour, texture and nutrient content of porridges, mush, etc.)

Sprout the pulse and cereal grains. Dry these and roast well. Grind into flour to be used for porridges, etc.

Or

Allow cereal grains such as wheat or millet to germinate.

Option 1: Mix 1/2 - 1 teaspoon of crushed fresh sprouts into the prepared porridge of mush to make it softer and easier to eat.

Option 2: Dry the germinated cereal grains and grind into flour.

Mix 1/2 - 1 teaspoon of this flour into the bowl of cooked porridge or mush to make it of liquid consistency within minutes.

Annex 31. Fortified Blended Foods

WFP Specialized Nutritious Foods Sheet

Programme	TREATMENT of Moderate Acute Malnutrition (MAM)				
Generic product term	**Lipid-based Nutrient Supplement (LNS) Large Quantity (92-100 g)[1]**			**Fortified Blended Foods (FBF) (200-250g)**	
Current WFP nutrition products	**Plumpy'sup®[2]** (Peanut-based) 	**eeZeeRUSF™** (Peanut-based) 	**Acha Mum** (Chickpea-based) 	**Super Cereal *Plus*** 	**Super Cereal[3]** 
Target group	Children 6-59 months	Children 6-59 months	Children 6-59 months	Children 6-59 months	Pregnant and Lactating Women (PLW) Malnourished individuals on ART/ DOTS
Key Ingredients	Peanuts, sugar, whey, vegetable oil, milk, soy protein, cocoa, V&M	Peanut, sugar, milk solids, vegetable oil, V&M	Chickpeas, vegetable oil, milk powder, sugar, V&M, soya lecithin	Corn/wheat/rice soya, milk powder, sugar, oil, V&M	Corn/wheat/rice soya, V&M
Daily ration	92g sachet	92g sachet	100g sachet	200g (includes provision for sharing)	200-250g (includes provision for sharing)
Nutrient profile	500 kcal, 13g protein (10%), 31g fat (55%). Contains EFA, meets RNI and PDCAAS	500 kcal, 13g protein (11%), 31g fat (56%). Contains EFA, meets RNI and PDCAAS	520 kcal, 13g protein (10%), 29g fat (50%). Contains EFA, meets RNI and PDCAAS	787 kcal, 33g protein (17%), 20g fat (23%). Contains EFA, meets RNI and PDCAAS	752-939 kcal, 31-38g protein (16%), 16-20g fat (19%). Meets RNI and PDCAAS
Duration of intervention[4]	60-90 days	60-90 days	60-90 days	60-90 days	PLW: 180 days, ART & DOTS: 180 days (estimated)
Shelf life[5]	24 months	24 months	6 months	12 months	12 months
Packaging details	Carton: 14.7kg (gross) and 13.8kg (net) has 150 sachets	Carton: 14.9kg (gross) and 13.8kg (net) has 150 sachets	Carton: 10.5kg (net) has 105 sachets	Primary: 1.5kg (net) bag; Secondary: 15kg (net) carton has 10 bags; or 18kg sack has 12 bags	25kg (net) bags

[1]Also referred to as RUSF. [2]Plumpy'sup is formerly known as Supplementary Plumpy (same product). Note: Plumpy'nut is a different product used for the treatment of severe acute malnutrition (SAM). [3]Super Cereal is usually mixed with 20g oil and 15g sugar before distribution (total est. 613-989 kcal, 15-31g protein (10-12%), 8-16g fat (33-41%)). [4]Can vary in different situations and contexts. [5]Shelf life indicated is valid for storage at temperatures less than 30 degrees C. **Abbreviations**: LNS = Lipid-based Nutrient Supplement, RUSF = Ready-to-Use Supplementary Food, FBF = Fortified Blended Food, EFA = Essential Fatty Acids, ART = Anti-Retroviral Therapy (treatment for AIDS), DOTS = Directly Observed Treatment (treatment for TB), RNI = Recommended Nutrient Intakes (FAO/WHO), PDCAAS = Protein Digestibility-Corrected Amino Acid Score (min. 70%), V&M = Vitamins and Minerals, mt = Metric Ton.

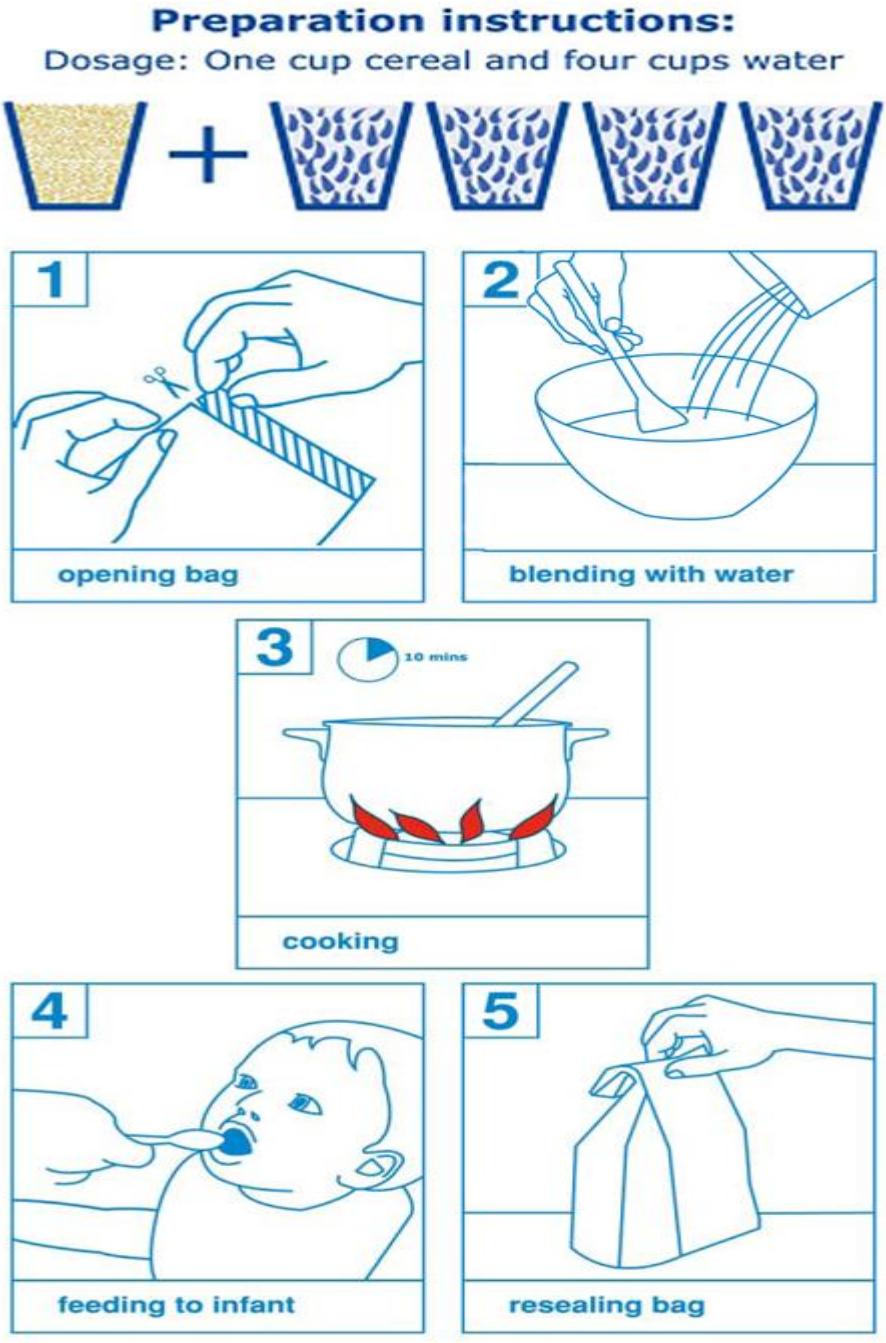
November 2012

Annex 32. Nutritional Value of Supercereal Plus

Nutritional value per 100 gr of dry matter of Supercereal Plus

Energy	**410 (minimum)**
Protein	16 (minimum)
Fat	9 (maximum)
Crude Fiber	3 (minimum)
Vitamin A	1,664 IU
Thiamine	0.128
Riboflavin	0.448
Niacin	4.8
Pantothenic Acid	6.7 mg
Vitamin B6	1.7 mg
Folate	60 mcg
Vitamin B12	2 mcg
Vitamin C	100 mg
Vitamin D	4 mcg
Vitamin K	100 mcg
Iron	4.5 mg
Iron B	2.5 mg
Zinc	5 mg
Iodine	40 mcg
Carrier	Qs
Potassium	400 mg
Phosphorus	200 mg
Calcium	130 mg

Annex 33. Preparation instructions for fortified blended food (Super Cereal Plus)



Annex 34. Optimum storage conditions for fortified blended food (Supercereal Plus)

PRODUCT NAME *SUPER CEREAL PLUS*

PRODUCT PICTURE

(Cerfar)

(Michiels)

CATEGORY

Fortified blended food

TARGET and USE

The product is used for the treatment of the Moderate Acute malnutrition (MAM) in supplement to the usual alimentation for children aged 6 months to 2 years.

Recommended weekly dose = *1 bag of 1.5kg (taking into account sharing around 100g/410kcal by day)*

Recommended usage = *product is eaten as a porridge after 10 minutes cooking in clean water*

PRODUCT DESCRIPTION

Fortified blended food produced with oil sugar and milk packed in laminated bags of 1.5kg

OPTIMUM STORAGE CONDITIONS

Storage temperature	< 30 °C	<30 °C -40 °C <	< 40 °C
Estimated Product shelf life	12 months	8 months	6 months
Product characteristic	–	A slight change might occur that represent a quality issue, not a hazard for the health of the beneficiaries.	The speed of degradation reactions increases dramatically. Under such conditions, the shelf life estimation is 6months.

IMPORTANT POINTS

- DEGRADATION SPEED GOES UP WITH TEMPERATURE
- The high temperature of storage will increase the degradation of the product (rancid taste, rancid flavour, loss of some nutrients...)
- Products have to be stored at temperature <30 oC to guarantee the shelf life from the specification
- At temperature above 40 oC, the products start to degrade dramatically
- Avoid leaving containers in the sun.

LOGISTIC INFORMATION

Supplier	Unit	Net weight per unit	number of bags per unit	Ton by container 20'	Maxim al layer in stack	Maximal tonnage in stack by m2
Cerfar SAS	Carton boxes	15kg	10	18.9	12*	2
Michiels	PP – PE	18kg	12	18.9	60	3.5

* Dunnage highly recommended every 3 layers

(Cerfar)

(Michiels)

APPROVED SUPPLIERS DETAILS[1]

Manufacturer name	Location
Cerfar SAS	Italy
Michiels	Belgium

[1] Please refer to the Head of ODP-FQ (Bertrand Salvignol: Bertrand.salvignol@wfp.org) for the update approval status of each supplier

Annex 35. Counselling messages for fortified blended food (Supercereal Plus)

Supplementary feeding ration is an addition to an existing diet

Supplementary feeding ration should not be shared with other family members

Supplementary feeding ration should not be shared with animals and cattle

Preparation steps for Supercereal Plus:

1) 2 mutthi (hands) of Super Cereal Plus and 1 small bowl of water

2) Blend Supercereal Plus with water

3) Cook 10 minutes

4) Feed the child

5) Reseal the bag

6) Due to its milk content, Super Cereal Plus should be freshly prepared prior to consumption every time and cannot be stored for a second serving

Annex 36. MAM individual monitoring cards

मध्यम शिघ्र कुपोषण व्यवस्थापन रजिष्टर

क.सं./ दर्ता नं.	बिरामीको नाम, थर , ठेगाना र भर्नाको किसिम						भर्ना , पोषणको अवस्था तथा प्रेषण सम्बन्धि विवरण (गोलो चिन्ह लगाउने)					RUSF वाट उपचार			औषधिवाट व्यवस्थापन उपचार				अनुगमन भेट मिति र पोषण अवस्था									डिस्चार्ज मिति र परिणाम
															औषधि	मात्रा	मिति										
१	२	३	४	५	६		७	८	९	१०		११	१२	१३	१४	१५	१६	१७	१९	२०	२१	२२	२३	२४	२५	२६	२७	२८
क.सं.	नाम र थर				जाती कोड		भर्ना मिति			भर्नाको आधार		RUSF भोक जाँच	पास	फेल	भिटामिन ए आई.यु)				मुआक (मि.मि.)									डिस्चार्ज मिति
							गा	मा	सा			आज दिईने RUSF को मात्रा			अवलेन्डाजोल													गा मा सा
	लिंग	महिला	पुरुष	उमेर (महिना)			पोषणको अवस्था								दादुरा खोप				तौल (के.जी.)									डिस्चार्ज परिणाम
	अभिभावकको नाम				नाता		मुआक (मिमि)			१		अतिरिक्त जानकारी																निको भएको १
															अन्य औषधि													निको नभएको २
मूल दर्ता नं.	जिल्ला		गा.वि.स./न.पा		वडा नं.		तौल (के.जी.			२									दुवै खुट्टा सुन्निएको									डिफल्टर ३
																												स्थानान्तरण ४
	गाँउ टोल						दुवै खुट्टा सुन्निएको			३									आवश्यक भएमा RUSF वाट भोक जाँच									मृत्यु ५
सेवा दर्ता नं.	भर्नाको किसिममा गोलो चिन्ह लगाउने						प्रेषणको किसिम	आफै आएको		१									घरमा कति पाकेट RUSF बाँकी छ									
	नयाँ भर्ना				१			विशेष उपचार कक्ष		२																		
	पुर्न दर्ता भएको (२ महिना भित्र)				२			गाँउघर क्लिनिक		३									आज दिईने RUSF को मात्रा									कैफियत
	स्थानान्तरण गरि आएको				३			म.स्वा.स्व.से.		४																		
	डिफल्टर भई आएको				४			वहिरंग उपचार केन्द्र		५																		
								अन्य स्वास्थ्य संस्था		६																		
क.सं.	नाम र थर				जाती कोड		भर्ना मिति			भर्नाको आधार		RUSF भोक जाँच	पास	फेल	भिटामिन ए आई.यु)				मुआक (मि.मि.)									डिस्चार्ज मिति
							गा	मा	सा			आज दिईने RUSF को मात्रा			अवलेन्डाजोल													गा मा सा
	लिंग	महिला	पुरुष	उमेर (महिना)			पोषणको अवस्था								दादुरा खोप				तौल (के.जी.)									डिस्चार्ज परिणाम
	अभिभावकको नाम				नाता		मुआक (मिमि)			१		अन्य																निको भएको १
															अन्य औषधि													निको नभएको २
मूल दर्ता नं.	जिल्ला		गा.वि.स./न.पा		वडा नं.		तौल (के.जी.			२									दुवै खुट्टा सुन्निएको									डिफल्टर ३
																												स्थानान्तरण ४
	गाँउ टोल						दुवै खुट्टा सुन्निएको			३									आवश्यक भएमा RUSF वाट भोक जाँच									मृत्यु ५
सेवा दर्ता नं.	भर्नाको किसिममा गोलो चिन्ह लगाउने						प्रेषणको किसिम	आफै आएको		१									घरमा कति पाकेट RUSF बाँकी छ									
	नयाँ भर्ना				१			विशेष उपचार कक्ष		२																		
	पुर्न दर्ता भएको (२ महिना भित्र)				२			गाँउघर क्लिनिक		३									आज दिईने RUSF को मात्रा									कैफियत
	स्थानान्तरण गरि आएको				३			म.स्वा.स्व.से.		४																		
	डिफल्टर भई आएको				४			वहिरंग उपचार केन्द्र		५																		
								अन्य स्वास्थ्य संस्था		६																		

नेपाल सरकार
स्वास्थ्य मन्त्रालय
स्वास्थ्य सेवा विभाग
स्वास्थ्य व्यवस्थापन सूचना प्रणाली

... ..., ... जिल्ला

मध्यम शीघ्र कुपोषणको एकिकृत व्यवस्थापन कार्यक्रम दर्ता कार्ड

FFRONT

मूल दर्ता नं.			सेवा दर्ता नं.		
बच्चाको नाम, थर			ठेगानाः जिल्ला		
उमेर (महिना)			गा.वि.स. /न.पा. /वडा नं.		
लिङ्ग	पुरूषः १	महिला २	गाँउ/ टोल		
भर्नाको आधार	एम.यु.ए.सी. १				

भेट मिति			दुवै खुट्टा सुन्निएको	एम.यु.ए.सी. (मि.मि.)	उचाइ/लम्बाइ (से.मी.)	तौल (के.जी.)	उ.अ.तौ. (z-score)	आज दिएको RUSF पाकेट
			दादुरा खोपको लागि प्रेषणः		गरेको	नगरेको	खोप दिएको	दिएको मिति ग म सा

BACK

मिति (ग.म.सा.)			दुवै खुट्टा सुन्निएको	एम.यु.ए.सी. (मि.मि.)	उचाइ/लम्बाइ (से.मी.)	तौल (के.जी.)	उ.अ.तौ. (z-score)	आज दिएको RUSF पाकेट

डिस्चार्ज परिणाम	निको भएको	निको नभएको	त्रुटि वा डिफल्टर	प्रेषण (अस्पताल)	अन्य (गल्ति भर्ना)	मृत्यू भएको
	१	२	३	४	५	६
डिस्चार्ज मिति	ग म सा					

Annex 37. Calculation of monitoring indicators

Treatment performance

Discharges	= Total clients leaving the programme; whether discharged cured, or due to death, defaulting, non-recovery
Recover rate[23]	= no. of children successfully discharged (recovered) / No of discharges
Death rate	= no. of deaths during registration in the programme / No of discharges
Defaulter rate	= no. of defaulters / No of discharges
Non-recovery rate	= no. of non-recovered cases after 4 months of treatment / no. of discharges

Definitions	
Defaulters	Absent from the programme for 3 consecutive visits (or days in inpatient care)
Non-Recovered	clients who have not been cured after 4 months in the programme 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 facilities[24] in a program area that deliver IMAM services to the total number of health facilities in the program area:

Geographical coverage = Health facilities delivering IMAM 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.

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.

[23] In case of MAM, the term "cure rate" is used.

[24] 'Health facilities' refers to primary health care facilities as well as secondary and tertiary facilities offering either outpatient or inpatient care for the treatment of SAM

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 1 & 2 show typical CSAS outputs from a coverage assessment using CSAS of an NGO-delivered CMAM program undertaken in two neighbouring health districts in Niger.

Figure 1: *Map showing the spatial distribution of point and period coverage in a CMAM program produced using the CSAS method*

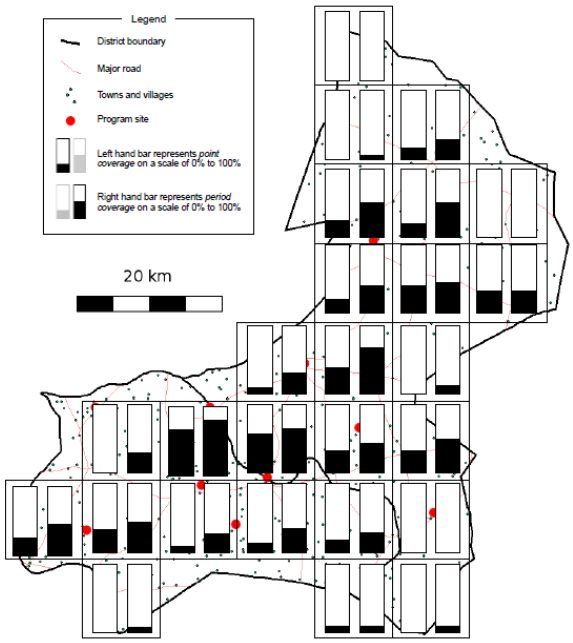
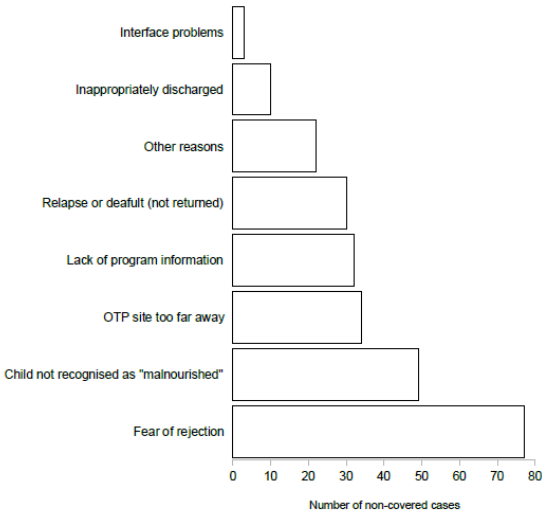


Figure 2: *Barriers to service access and uptake in a CMAM program reported by carers of non-covered cases produced using the CSAS method*



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 utilises 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 3 shows the relations between factors influencing coverage and effectiveness in a MoH-delivered CMAM program in Sierra Leone. *Figure 4* shows coverage mapping through a risk mapping approach.

Figure 3: *Relations between factors influencing coverage and effectiveness produced by a* ***SQUEAC*** *assessment*

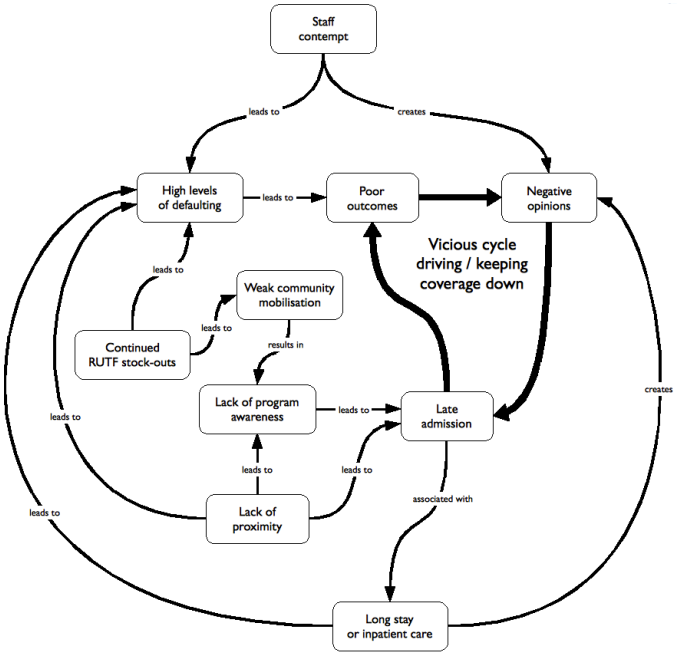
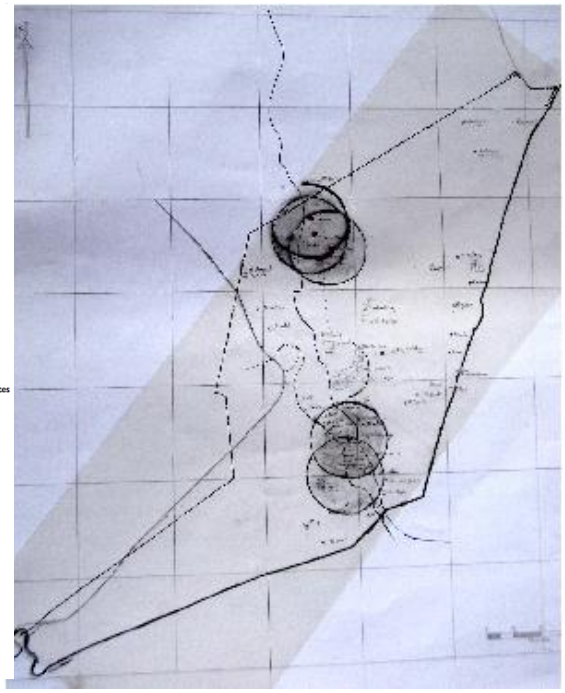


Figure 4: *Coverage mapping by risk mapping*



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 5 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 2*. It is typical to use ***SLEAC*** to identify areas for further investigation using the ***SQUEAC*** method (*Figure 6a & 6b*)

Figure 5: *Map of per-district coverage produced by the* ***SLEAC*** *method*

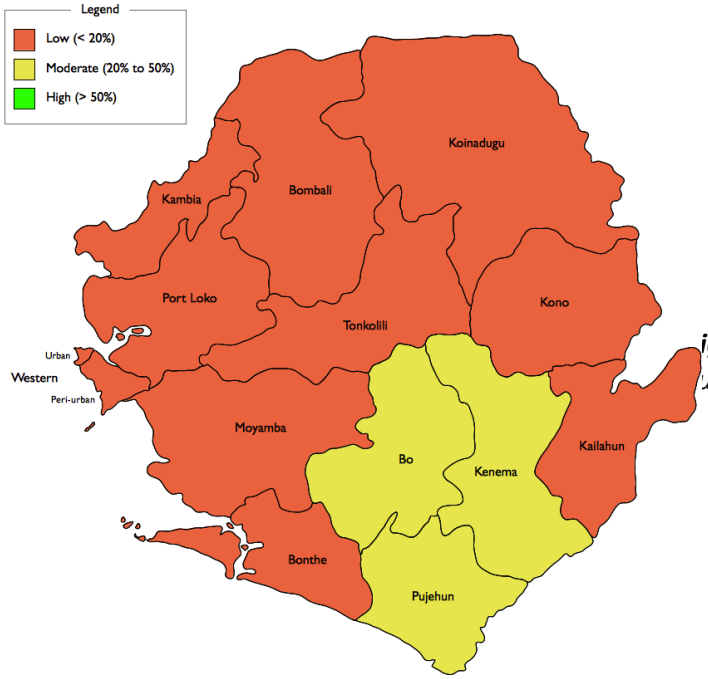
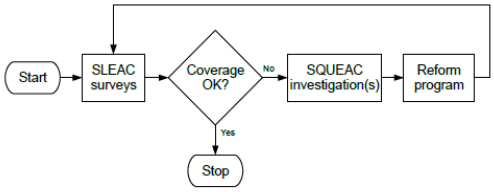
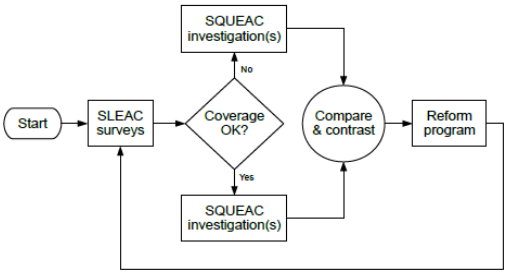


Figure 6a: *Using* ***SLEAC*** *and* ***SQUEAC*** *in failing service delivery units*



igure 6b: *Using* ***SLEAC*** *and* ***SQUEAC*** *in ucceeding and failing service delivery units*



Annex 38. Facility level reporting formats

MONTHLY REPORT FORMAT MANAGEMENT OF SAM - HEALTH FACILITY

SITE		MONTH / YEAR			
REGION		TYPE OF MANAGEMENT (CIRCLE)	*Inpatient*	*Outpatient*	
DISTRICT					

Total beginning of the month (A)	New Cases (B)		Old Cases (C)	TOTAL ADMISSION (D) (B+C=D)	Discharges (E)				Transfer (F)	TOTAL EXITS (G) (E+F=G)	Total end of the month (H) (A+D-G=H)
	6-59m (According to admission criteria)(B1)	Other (adults, infants, adolescents)(B2)	From Outpatient or Inpatient Care, or Returned Defaulters		CURED (E1)	DEATH (E2)	DEFAULTER (E3)	NON-RECOVERED (E4)	To Inpatient or Outpatient Care		
				% of Discharges	%	%	%	%			
				TARGET	>75%	<10%	<15%			male	female
										Gender of admissions	
E1: Cured = reaches discharge criteria									*Readmissions*		
E3: Defaulter = absent for 3 consecutive visits											
E4: Non recovered = does not reach the discharge criteria after 4 months in OTC											
H: Total end of the month (H) = Total beginning of the month (A) + Total admissions (D) - Total Exits (G)											

नेपाल सरकार

स्वास्थ्य मन्त्रालय

स्वास्थय सेवा विभाग

जिल्ला जन/स्वास्थ्य कार्यालय,.....

स्वास्थ्य संस्था

प्रतिवेदन महिना:

मध्यम शिघ्र कुपोषण व्यवस्थापनको मासिक समायोजन फाराम

मध्यम शिघ्र कुपोषणको व्यवस्थापन कार्यक्रम															
उमेर (महिना)	लिंग	**गत महिनाको अन्तमा जम्मा बच्चा संख्या (A)**	**नयाँ भर्ना (B)**	**पुन भर्ना (C)**			**जम्मा भर्ना D**	**डिस्चार्ज (E)**				**जम्मा (F)**	**प्रेषण गरिएको (G)**	**जम्मा डिस्चार्ज**	**यो महिनाको अन्तमा जम्मा बच्चा संख्या (I) = (A+D-H)**
			यम.यु.ए.सी. वा बहिरंगवाट निको भई डिस्चार्ज भएको (B1)	पुनरोगी (२ महिना मित्र) (C1)	स्थान्तरण गरिएका (C2)]	डिफल्टर पछि (C3)	**D=B+C**	निको भएको (E1)	मृत्यु (E2)	त्रुटि वा डिफल्टर (E3)	निको नभएको (E4)	**डिस्चार्ज (F=E1+E2+ E3+E4)**	**बहिरंग वा अन्तरग प्रेषण गरिएको**	**(H=F+ G)**	
१	२	३	४	६	७	८	९	१०	११	१२	१३	१४	१५	१६	१७
६-२३	पु														
	म														
२४-५९	पु														
	म														
जम्मा															
						उपलब्धि					कैफियत:				
						स्फेयर मापदण्ड		>75%	<3%	<15%					

गत महिनाको अन्तमा जम्मा	गत महिनाको अन्तमा उपचारमा रहेको जम्मा बच्चा संख्या उल्लेख गर्ने यो सुचना गत महिनाको प्रतिवेदनको महल नं. १७ वटा लिन सकिन्छ। विचार गर्ने पर्ने कुरा यो संख्या र महल नं.१७ एउटै हुन पर्छ
नयाँ भर्ना	यस महिनामा मुआकको आधारमा कति बच्चा भर्ना भए र कडा शिघ्र कुपोषित निको भएर बहिरंगवाट कति डिस्चार्ज भएर यस सेवामा भर्ना भए भन्ने हो।
पुन भर्ना	मध्यम शिघ्र कुपोषण व्यवस्थापन केन्द्रमा यस महिना कति जना पुन रोगी भएर, डिफल्टर र स्थानान्तरण गरिएका बच्चा कति जना फेरी सेवाका लागि आएर भर्ना
जम्मा भर्ना	नयाँ भर्ना र पुन भर्नाको जोड
डिस्चार्ज	यस महिनामा निको भए, मृत्यु भएर, डिफल्टर भएर अनि ३ महिनासम्म उपचार लिएर पनि निको हुन नसकेको बच्चाहरुको संख्या सबै महलमा महल अनुसार अभिलेख राख्ने
जम्मा	यसरी यस महिनामा जम्मा डिस्चार्ज कति भनेर जोडेर लेख्न पर्दछ।
बहिरंग वा अन्तरग प्रेषण गरिएको	यस महिना अन्य बहिरंगमा कति जना बालबालिकाहरु अन्यमा स्थानान्तरण गरियो सो संख्या यस महलमा उल्लेख गर्ने
जम्मा डिस्चार्ज	यस महलमा निको भए, मृत्यु भएर, डिफल्टर भएर अनि ३ महिनासम्म उपचार लिएर पनि निको हुन नसकेको बच्चाहरुको संख्या र अन्य बहिरंगमा कति जना बालबालिकाहरु अन्यमा स्थानान्तरण
यो महिनाको अन्तमा जम्मा	गत महिनाको अन्तमा जम्मा बच्चा र यस महिनाको जम्मा भर्ना जोडेर यस महिनामा भएको जम्मा डिस्चार्ज घटाएर यस महिनाको अन्तमा जम्मा बच्चा संख्या निकालिन्छ

RUSF को अभिलेख (अभिलेख सबै पाकेटमा राख्ने (एक कार्टुनमा १५० पाकेट हुन्छ)

शुरुको मौज्दात ....., यस महिना प्राप्त भएको ....., यस महिना वितरण गरिएको....., यस महिना फिर्ता गरिएको ....., पाकेट फुटेको वा खराब भएको....., महिनाको अन्तिम मौज्दात .....

Annex 39. Supply monitoring formats

नेपाल सरकार
स्वास्थ्य मन्त्रालय
स्वास्थय सेवा विभाग
जिल्ला जन/स्वास्थ्य कार्यालय,.....
स्वास्थ्य संस्था

प्रतिवेदन महिना:

मध्यम शिघ्र कुपोषण व्यवस्थापनको मासिक समायोजन फाराम

RUSF को अभिलेख (अभिलेख सबै पाकेटमा राख्ने (एक कार्टुनमा १५० पाकेट हुन्छ)

शुरुको मौज्दात ....., यस महिना प्राप्त भएको ....., यस महिना वितरण गरिएको....., यस महिना फिर्ता गरिएको ....., पाकेट फुटेको वा खराब भएको....., महिनाको अन्तिम मौज्दात .....

Annex 40: Global Criteria of BFHI (Baby-Friendly Hospital Initiative)[25]

STEP 1. Have a written breastfeeding policy that is routinely communicated to all health care staff.

STEP 2. Train all health care staff in skills necessary to implement the policy.

STEP 3. Inform all pregnant women about the benefits and management of breastfeeding.

STEP 4. Help mothers initiate breastfeeding within a half-hour of birth.

STEP 5. Show mothers how to breastfeed and how to maintain lactation, even if they should be separated from their infants.

STEP 6. Give newborn infants no food or drink other than breastmilk, unless medically indicated.

STEP 7. Practice rooming-in - allow mothers and infants to remain together – 24 hours a day.

STEP 8. Encourage breastfeeding on demand.

STEP 9. Give no artificial teats or pacifiers (also called dummies or soothers) to breastfeeding infants.

STEP 10. Foster the establishment of breastfeeding support groups and refer mothers to them on discharge from the hospital or clinic.

[25] Baby-Friendly Hospital Initiative: Revised, Updated and Expanded for Integrated Care. Geneva: World Health Organization; 2009.