Republic of Sudan

Federal **M**inistry **o**f **H**ealth

General Department of Primary HealthCare

National **N**utrition **P**rogram

Outpatient Program for Management of

Severe **A**cute **M**alnutrition without Medical Complication

Primary **H**ealth **C**are **L**evel (PHC)

Operational Guide for Health Workers (Providing basic health care)

February 2020

Acronym

GMP	Growth Monitoring and Promotion
MCH	Maternal and Child Health
MUAC	Mid Upper Arm Circumference
SDG	Sustainable Development Goals
NNP	National Nutrition Program
OTP	Out Patient Therapeutic Program
PHC	Primary Health Care
RUTF	Ready -To -Use-Therapeutic Food
SAM	Severe Acute Malnutrition
SC	Stabilization Center
TFC	Therapeutic Feeding Center
TSFP	Targeted Supplementary Food Program
TWG	Technical working group

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Introduction

The Health Sector Strategic Plan lays out very good directions towards scaling up Primary Health Care (PHC). In this line MOH developed MCH acceleration plan to scale up the implementation of key interventions to improve child health for achieving the SDG 2 and 3 (2.Hunger is on the rise again globally and under nutrition continues to affect millions of children. Public investment in agriculture globally is declining, small-scale food producers and family farmers require much greater support and increased investment in infrastructure and technology for sustainable agriculture is urgently needed .3. Major progress has been made in improving the health of millions of people, increasing life expectancy, reducing maternal and child mortality and fighting against leading communicable diseases. However, progress has stalled or is not happening fast enough with regard to addressing major diseases, such as malaria and tuberculosis, while at least half the global population does not have access to essential health services and many of those who do suffer undue financial hardship, potentially pushing them into extreme poverty)

Expansion of management of severe acute malnutrition is part of this MCH acceleration plan. Over 90% of CMAM caseload is expected to be treated at PHC level once good community facility linkage is established. With treatment options closest to families, it is relatively easy to treat most of the children with severe acute malnutrition in early phase of their condition.

A simple and user friendly quick reference material is needed to ensure action oriented reference material is in place to facilitate smooth and quality expansion of the outpatient component of SAM treatment. This document is intended to provide a quick reference material to health workers on how to do screening for malnutrition; how to identify SAM cases; and how to conduct Out Patient therapeutic Program for Severe Acute Malnutrition in order to maximize the coverage and improve the quality of services provided to SAM cases at the community level.

I. Preparation

The health workers need to undertake some planning for the OTP site establishment and avail the necessary equipment and supplies to deliver the services to the targeted children with severe acute malnutrition. Some of the activities to be conducted as a preparation for OTP include:

- Mobilization of the Community Health Workers to support in screening & referral, community mobilization and crowd control.
- The Community health workers (community volunteer, community health workers, hygiene promoters, mother support group) and /or integrated cadre will be provided on-job- training on screening & referral and provided with MUAC tape.
- Community mobilization to enable identification of all severely malnourished children in the community through active screening by the community Volunteers or other community cadres as MSGs, health promotors or Community health workers.
- Make sure the following equipment and supplies are available at the health facility. Fix one day in a week for OTP services at the health facility

  This is an example of needed items assuming about 30 children requiring treatment

Table 1: Example of needed supplies to treat 30 children in your facility

Item	Minimum stock/month
RUTF	4 cartoon/week or 16 cartoon/month
Amoxicillin 250mg tab	½ tin
Mebendazole 100mg	1tin
Folic Acid	15 tabs
Vitamin A capsule	30 capsule
Measles vaccine	
Cups	1 per child
Drinking water	1 Jerry can
Salter scale (25kg) plus pants or plastic basin OR mother/child electronic scale	1
MUAC tape	2
Height board	1
Thermometer	1
Soap for hand washing	1 available every day
OTP card	30
Registration book	1
Stock card/supply register	1
Sugar	½ kg
Water container	2

Table 3: Assessment and Classification of Children 6 to 59 months with Acute Malnutrition[1]

Assess	Classify	Action to take
• If age up to six months and ○ Visible severe wasting And/ Or Bilateral pitting edema +or ++ Or Edema +++ • If age six to 59 month and ○ MUAC <11.5 cm, And/ Or Bilateral pitting edema +or ++ Or ○ edema +++ ○ One of the following • Danger sign or • Fail appetite test • Intractable vomiting m convulsions, lethargy/not alert , unconsciousness • Hypoglycemia (low blood glucose) • pneumonia/severe pneumonia or • severe dehydration • blood in the stool or • fever/ hypothermia • severe anemia • Other sever infections (mengitis, Septicemia, Severe dermatosis	SAM with complications	Refer urgently to hospital (or health center with Stabilization Center) for an in-patient management
• If age six to fifty nine months and ○ MUAC <11.5 cm or bilateral pitting oedema(of both feet) +or ++ ○ None of the medical complications listed above, child is clinically well ○ And pass appetite test	SAM without complications	Manage in OTP as described in this document
• If MUAC 11.5 cm to <12.5 cm and no Oedema of both feet (no bilateral pitting Oedema). Clinically Well	Moderate Acute Malnutrition	Refer to supplementary feeding program if available Counsel on child feeding using mother card and refer to growth monitoring and promotion
• If MUAC $\geq$ 12.5 cm and no oedema of both feet	No acute malnutrition	Congratulate the mother and encourage her to continue growth monitoring and promotion

[1] If you received referral from another facility that uses weight for height Z score, or if you receive referrals from GMP or TSFP with weight for height Z score of <-3SD admit them in OTP and use the existing discharge criteria in this operational guide to discharge from the program

II. OTP Procedures

Outpatient Therapeutic Program for Severe Acute Malnutrition providing treatment for children aged 6-59 months who has SAM with no medical complications. In this program active case finding must be conducted for children who have malnutrition at community level by using community health workers and Volunteers and referral of SAM cases to the OTP or TSFP according to need and classifications.

1. Screening and Admission

Step1. Do the anthropometric measurements and check for bilateral pitting oedema. Give priority to severely ill patients and give sugar water for all children in waiting area.

- Reconfirm the age of the child using birth certificate, vaccination card or local calendar
- For children 6 months to 59 months, assess for bilateral pitting Oedema. See annex 2, Checking for Oedema for definition and procedures on checking for oedema. Measure MUAC and weight for Height.
- Calculate Weight for Height Z-score using child table (only for children.
- For children less than 6 months, assess for oedema and Visible severe wasting
- While children are in waiting area, you should provide sugar water so that they drink as they are waiting for their turn. All children come from far villages or far distances should receive sugar water at their arrival (approx.:10 gram sugar in 100 ml of water)

Step2. Decide the child has Acute Malnutrition or not.

- An infant aged less than 6 months has SAM (oedema of both-feet, and/or visible severe wasting. Refer the child for inpatient care without checking for complication and appetite test.
- For children between 6 months to 59 months:
    - If the MUAC is between 11.5 to 12.5cm and /or WFH between -2 & -3 Z-score and no oedema, the child has Moderate acute malnutrition.

- **Action:** Counsel the mother on child feeding and care, and refer to Targeted Supplementary Feeding program if available in the area or growth monitoring (GMP) or NIPP.

  - If the MUAC is <11.5 cm or there is oedema of both feet, and WFH Z-score < -3 the child has Severe Acute Malnutrition (SAM).

Category	Admission Criteria
Children 6-59 months	Mid Upper Arm Circumference less than 11.5 cm or nutritional Oedema present. Weight for Height Z-score less than -3 z-score
Children 6-59 months	All children referred from stabilization Centre (SC) and TSFP

Action: Follow step 3 for those with SAM.

Step 3. For children between 6 to 59 months with SAM, look for the following Complications (table 2). If one of the complications is present, refer the Child to inpatient care (SC)

Table 2: Checking for complications

Complication	Referral to in-patient care when:
General Danger sign	If one of the following is present: Vomiting everything, convulsion, lethargy, unconscious, or unable to feed,
Pneumonia/severe pneumonia	• Chest in-drawing • Fast breathing: ○ For child 6 month to 12 months ▪ 50 breaths per minute and above ○ For a child 12 months up to 5 years ▪ 40 breaths per minute and above ○ For a child older than 5 years ▪ 30 breaths per minute and above
Dysentery	• If blood in the stool
High grade fever or Low body temperature	• $T \geq 38.0^{0}c$ • $T \leq 35^{0}c$
Severe anemia	• Severe palmar pallor

Step 4: Do appetite test for those children aged 6 to 59 months who don't have one of the above complications. See Annex(3) for the appetite test steps and interpretation.

a. If fail the test, refer the patient to inpatient care

b. If pass the test, refer to step 5

Step 5: Decide to treat in OTP or refer for inpatient care

- Classify the child based on age, anthropometric criteria, complications, and appetite test using the assessment and classification table below.
- Decide whether the child needs to be admitted to the OTP or referred to the nearest health centre/hospital for inpatient care in (SC) Stabilization Centre (use the chart below).
- Refer all patients classified as Severe and complicated malnutrition to the nearest health centre/hospital for inpatient-care in TFC/SC. Give the referral slip. While admit children with SAM without complication in the OTP
- If the caretaker refuses to take a child who needs referral for inpatient care, take time and counsel to convince. If the caretaker still refuses, treat as outpatient with the OTP protocol. In this case write on the outcome section of the OTP card as "refuse transfer".
- Explain to the child mother/Care taker why the child need to be admitted in to this program

2. Management of SAM in OTP

Step 6: Register the Child on the registration book and fill out the OTP Card (see Annex 6).

Step 7: Explain to the mother/Caretaker the OTP treatment as follows:

- Give one week supply of RUTF based on the child weight (see Annex 4)
- Counsel the mother/carer on the following Key education messages:

  - Use soap and water for the caretaker to wash her/his hands before feeding
  - RUTF is a food and medicine for malnourished children only. It should not be shared.
  - For breast-fed children, always give breast milk before the RUTF and on demand
  - Give small regular meals of RUTF, every 3-4 hours
  - Always offer plenty of clean water to drink while eating RUTF
  - Keep therapeutic food clean and covered. Therapeutic food should only be kept for 24 hours after it opened
  - Sick children get cold quickly, always keep the child covered and warm

NB – Check the mothers understanding using appropriate checking questions.

- Give routine medication (see Annex 5 for the dosage)

Table 4: Drugs provided routinely to all children in OTP

Drug	Treatment (see annex 5 for dosage)
Amoxicillin	- 1 dose at admission + give treatment for 7 days to take home -The first dose should be given in the presence of the supervisor
Deworming	- 1 dose on the 2nd week (2nd visit)

Table 5: Drugs provided based on condition of a child

Drug	Treatment
Vitamin A	*- Give one treatment high dose if the child has vitamin A deficiency, HIV, persistent diarrhoea and measles*
Folic Acid	- 1 dose at admission if there are signs of anaemia
Anti-Malarial	- According to national protocol
Measles (from 9 months old)	- Ask if the child was vaccinated. - Give 1 vaccine on the 4th week (4th visit) if not given before. - If received before at age between 6 to 9 months, give repeat vaccination if now 12 months or older - *in case of measles outbreak, provide measles vaccination at admission and repeat upon discharge*

Step 8: Give the weekly appointment for follow up

3. Follow Up

All SAM children in outpatient care need to have a follow up visit weekly at the health facility or community in case of mobile OTP.. Where possible, she or he could conduct house-to-house visit for follow up of the severe cases. The health worker has to assess for the following conditions during every follow up visit:

Step 1: Ask about

- Diarrhoea, vomiting, fever or any other new complaint or problem
- If the child is finishing the weekly ration of RUTF

Step2: Assess for:

- Check for complications
- Temperature, Respiratory Rate
- Weight, MUAC and oedema
- Height to be taken every 4 weeks/visits
- Do appetite test

Step 3: Decide on action to take based on the above follow up assessment

Refer to SC/ In-patient care if there is any one of the following are present**:**

- Develop complication
- Failed appetite test
- Increase/development of oedema
- Weight loss for 2 consecutive visit
- Failure to gain weight for 3 consecutive visit
- Major illness or death of the main caretaker so that the child can't be managed at home.

If there is no need for referral, provide the weekly follow up

OTP services:

- Complete routine drugs
- Weekly ration of RUTF
- Appointment for next weekly follow up
- Record the information on the OTP card

If the child is absent for any follow up visit:

- Ask the community Volunteer, Mother Support Group, village mid-wife or other relevant cadre to do home visit and report back to the health worker

4. Discharge criteria

Discharge the Child from OTP if the following criteria are fulfilled:

1. **Discharge option one: where there is no TSFP**
   - **a.** For those who were admitted based on oedema: - discharge if there is no oedema and MUAC $\geq$ 12.5cm. Weight for height more than -2 Z-score for 2 consecutive visits (14 days). Refer the child to the growth monitoring center, Mother support groups in his area, Blanket supplementary program or nutrition improved positive practice (NIPP)
   - **b.** For those who were admitted without oedema: - discharge when the patient reaches MUAC $\geq$ 12.5 cm and weight for height more than -2 Z-score for 2 consecutive visits (14 days). Refer the child to the growth monitoring center, or nutrition improved postive practice (NIPP)**.**
   - **c.** If the child fails to reach the discharge criteria after 4 months of OTP treatment, he is non-responder. Refer for inpatient care for detailed investigation**.**
     <u>Note that weekly follow up should pick the need for referral for investigation as failure to respond in advance without waiting for 4 months</u>**.**

2. **Discharge option two: where there is TSFP**
   - **a.** For those who were admitted based on oedema or without Oedema: - discharge to TSFP if there is no oedema and MUAC reaches 11.5cm and WFH >-3 Z-score for 2 consecutive visits (14 days).
   - **b.** For those who were admitted without oedema: - discharge to TSFP when the Child reaches MUAC 11.5 cm and WFH >-3 Z-score for 2 consecutive visits (14 days).
   - **c.** If the child fails to reach the discharge criteria after 4 months of OTP treatment, he is non-responder. Refer for inpatient care for detailed investigation**.** <u>Note that weekly follow up should pick the need for referral for investigation as failure to respond in advance without waiting for 4 months</u>**.**

Group	Discharge Criteria1
Children 6-59 months in areas where **No** TSFPs	▪ No Oedema ▪ MUAC >= 12.5 cm ▪ WFH >-3 Z-score For 2 consecutive visits (14 days) Refer the child to the growth monitoring center, Mother support groups in his area, Blanket supplementary programmes or nutrition improved postive practice (NIPP)
Children 6-59 months in areas **With** TSFPs	▪ No Oedema ▪ MUAC >= 11.5 cm ▪ WFH >-3 Z-score For 2 consecutive visits (14 days)

Reminder: on discharge make sure:

- Counseling on child feeding and care is given to the mother/caretaker
- Write the discharge card and make sure the child is linked back with growth monitoring ,Mother support groups in his area, blanket supplementary feeding programme, nutrition improved postive practice (NIPP) and micronutrient program (MNP).
- Give referral to Supplementary Feeding Program for those children discharged to TSFP
- A child is registered appropriately on the registration book on date of discharge

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1 Discharge criteria includes: Defaulter for 3 consecutive visits, Non-respondent (a child did not reaches discharge criteria for 4 months in treatment and Death during treatment.

Performance indicators/ Discharge categories

Cured: The child is fully recovered if the following discharge criteria are met:

• 15% weight gain for two consecutive visits
• Sustained weight gain; child has been gaining weight during the last three visits
• No bilateral pitting oedema for two consecutive visits
• Child is clinically well and alert

Death: Child died while in treatment either at OTP or at home. Death should be confirmed by conducting home visit or from recognized source.

Defaulter: Child absent from OTP for 3 consecutive visits (21 days) before that consider as absent.

Non-respondent: (not recover), or did not meet the discharge criteria after four months in treatment; these children should be referred for medical investigation

Transfer to inpatient care: Condition has deteriorated and requires Stabilization Center/inpatient care Or referral from OTP to an other if the child family moved to an other place.

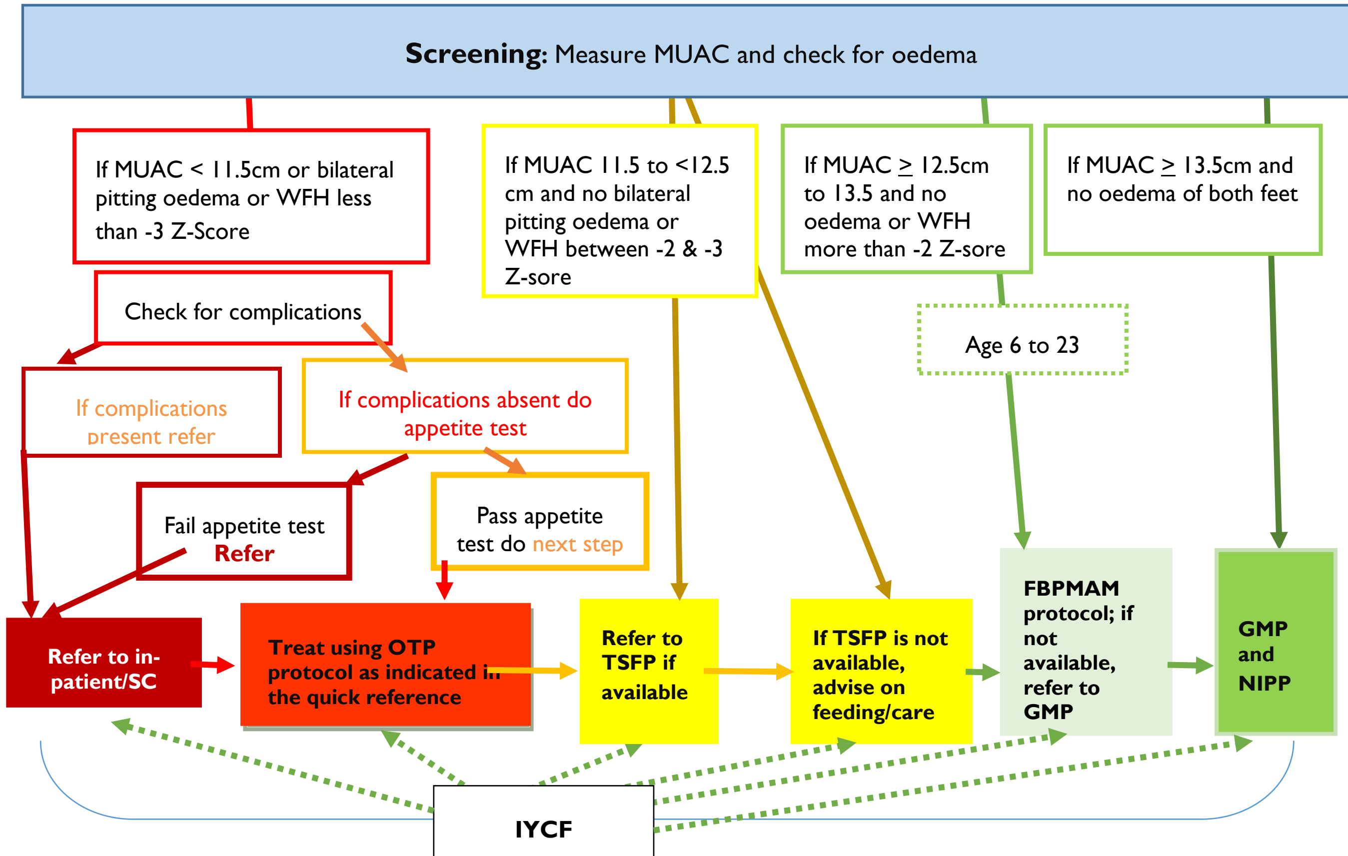
NB: When discharge child from treatment ensure that:

- Provide Counseling for mother/care taker according to her situation on child feeing practices
- Fill-in the discharge card and ensure that the child continue follow-up in nutrition improved positive practice (NIPP) or micronutrient program (MNP)
- Refer to TSFP if available
- Child has been registered properly in the registration book, discharge date noted and all information complete in the card.

Linkage with community component

Active case finding through Community volunteers & Mother support groups to be conducted regularly, health education & IYCF messages to be provided. These allow early detection & referral for malnourished children. Follow up the referred children is important to ensure that they have been admitted to OTPs and receive the required care. After discharged form OTP need to be linked with community volunteers & Mother support groups for better follow up, and early refer the child to health facility when his health or nutritional condition deteriorated.

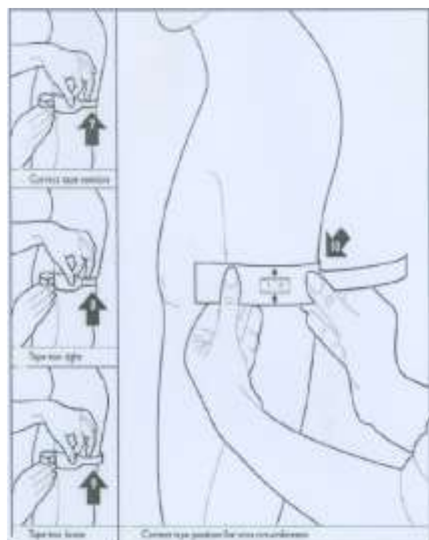
Fig 1: Flow up chart for Assessment and Action for children between 6 to 59 months



Annex 1 Techniques of Anthropometric Measurement

2.1 Steps to Measure MUAC

1. Ask the mother to remove clothing that may cover the child's left arm. If possible, the child should stand erect and sideways to the measurer.
2. Estimate the midpoint of the left upper arm (Refer the pictures below)
3. Straighten the child's arm and wrap the tape around the arm at the midpoint. Make sure the numbers are right side up. Make sure the tape is flat around the skin (arrow 7).
4. Inspect the tension of the tape on the child's arm. Make sure the tape has the proper tension (arrow 7) and is not too tight or too loose (arrows 8 and 9). Repeat any step as necessary.
5. When the tape is in the correct position on the arm with correct tension, read and call out the measurement to the nearest 0.1cm (arrow 10).
6. Immediately record the measurement.



2.2 Steps to measure weight

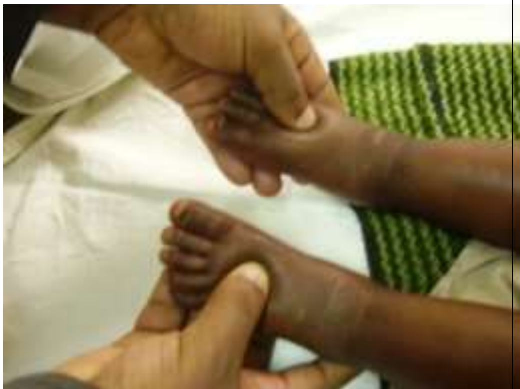
1. Explain the procedure to the child's mother or caregiver before starting.
2. Install a 25kg hanging spring scale (graduated by 100g). If mobile weighing is needed, the
   scale can be hooked on a tree or a stick held by two people.
3. Attach the washing basin / pants and recalibrate to zero.
4. Remove the child's clothes and any other (Gelada, tamima, etc) and consider privacy of children and then place him or her into the basin.
5. Ensure nothing is touching the child and the basin/pant (Cleanness of basin/pants should be check from time to time)
6. Read the scale at eye level (if the child is moving about and the needle does not stabilize, estimate weight by using the value situated at the midpoint of the range of oscillations).
7. When the child is steady record the measurement to the nearest 100gm. and record.
8. Calibrate the scale with a material with known weight every week

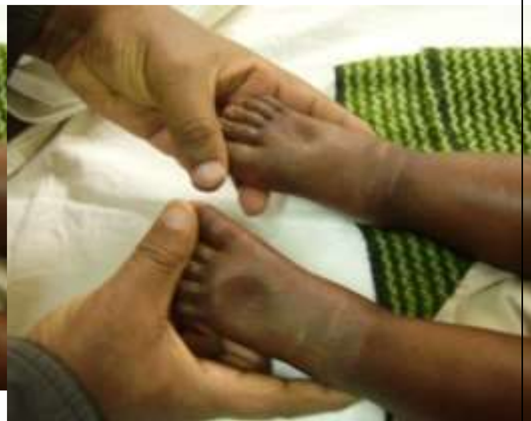
In case on using electronic mother- child scale

1. Check the accuracy of the scale regularly by using item with well-known weight Explain the procedure to the child's mother or caregiver before starting.
2. In case the child could stand by himself (1-year-old) take his measurement directly
3. In case the child is young and couldnot stand, first select the option of mother/child weight taking, take the mother weight, then let the mother carry the child. The scale will provide the weight for the child only

2.3 Checking for Oedema

1. Using your thumb gently apply pressure to BOTH feet for at least three seconds
2. If a shallow print persists on both feet, then the child has oedema





Oedema results from accumulation fluid in the body. The oedema caused by malnutrition is bilateral and pitting. After admission to the OTP, if the child is not responding, please refer for inpatient care as oedema can also be caused by other conditions like kidney or heart conditions. [2]

2.4 Steps to measure Height:

To increase accuracy and precision, two people are always needed to measure length and height.

Children 2 years or older are measured standing up, while those under 2 are measured lying down. If the age is difficult to assess, children with a height of 87 cm tall or above are measured standing and those below 87 cm are measured lying down. If children age 2 or older or with a height of 87 cm or above are measured lying down, 0.7 cm is subtracted from the measurement (WHO standards)

Steps to measure length for children 6 to 23 months

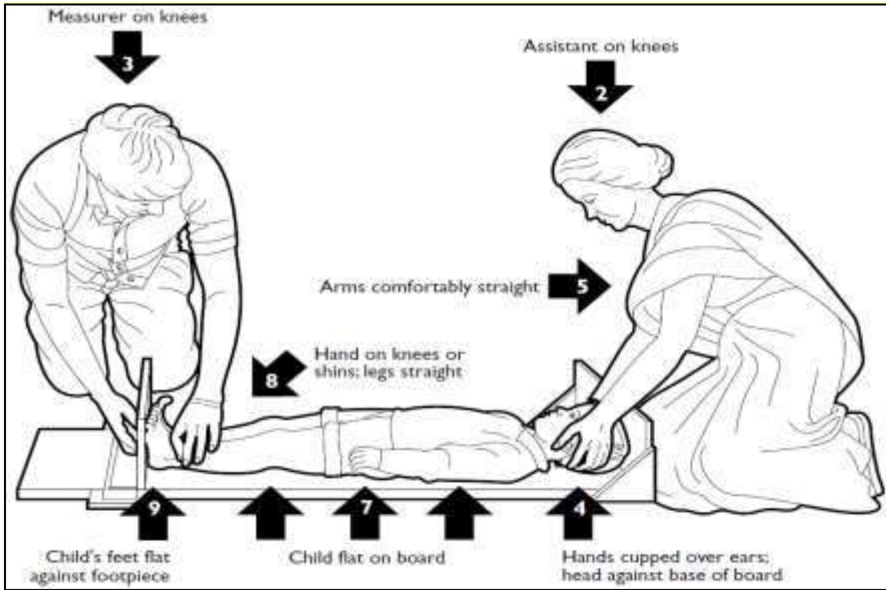
For Children under 2 or with a Height below 87 cm

Steps for and considerations in measuring LENGTH (Lying Down):

- The height board is placed on the ground.
- The child's shoes are removed.
- The child is gently placed on he or she back on the middle of the board, facing straight up with arms at his or her sides and feet at right angles.
- The assistant holds the sides of the child's head and positions it on the board.
- While holding down the child's ankles or knees, the measurer moves the sliding board up against the bottom of the child's feet and takes the measurement to the nearest 0.1 cm.

The measurer announces the measurement, and the assistant repeats it for verification and records it on the anthropometric form or treatment card

[2] Oedema is graded to three grades. One + if only on feet, ++ if it involves feet and pre-tibia, +++ if it is generalized.

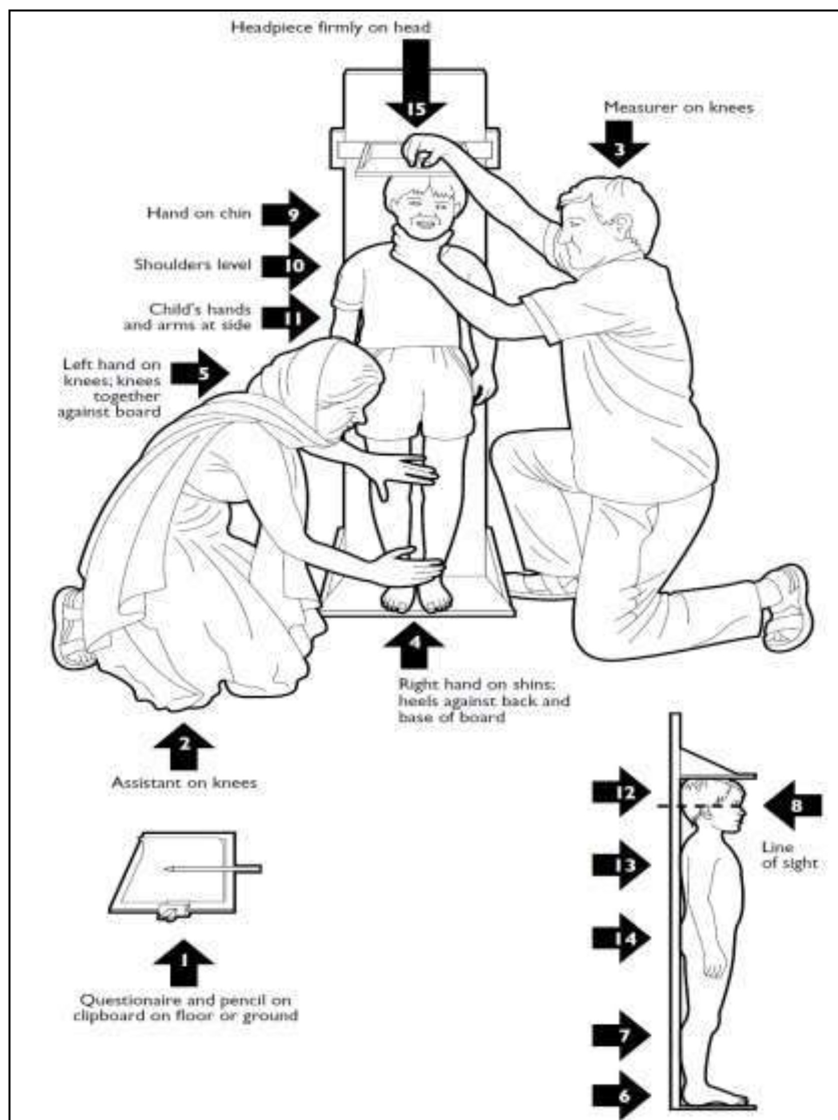


For Children 2 Years or Older or with a Height of 87 cm or above

Steps for and considerations in measuring HEIGHT (standing up):

- The child's shoes are removed.
- The child is placed on the height board, standing upright in the middle of the board with arms at his or her sides.
- The assistant firmly presses the child's ankles and knees against the board while the measurer holds the child's head straight.
- The child's heels, back legs, buttocks, shoulders and head should be touching the back of the board, and his or her feet should be close together.
- his or her back of the board.
- The child's head should be straight and looking ahead. A line between his or her ears and eyes should be parallel to the floor.
- The measurement is always made with two people: one assistant is holding the child's legs and feet, and the measurer the child's head. The person holding the head reads the measurement out loud to the nearest 0.1 cm. The assistant repeats it for verification and records it on the anthropometric form or treatment card.

Steps to measure height for children 24 to 59 months



2.5 Weight for Height Z-score table (boys and girls)

Weight-for-Length Look-Up Table, Children 6–23 Months, WHO 2006 Child Growth Standards

Boys' Weight (kg)				Length[a] (cm)	Girls' Weight (kg)			
−3 z-score	−2 z-score	−1 z-score	Median		Median	−1 z-score	−2 z-score	−3 z-score
1.9	2.0	2.2	2.4	45	2.5	2.3	2.1	1.9
2.0	2.2	2.4	2.6	46	2.6	2.4	2.2	2.0
2.1	2.3	2.5	2.8	47	2.8	2.6	2.4	2.2
2.3	2.5	2.7	2.9	48	3.0	2.7	2.5	2.3
2.4	2.6	2.9	3.1	49	3.2	2.9	2.6	2.4
2.6	2.8	3.0	3.3	50	3.4	3.1	2.8	2.6
2.7	3.0	3.2	3.5	51	3.6	3.3	3.0	2.8
2.9	3.2	3.5	3.8	52	3.8	3.5	3.2	2.9
3.1	3.4	3.7	4.0	53	4.0	3.7	3.4	3.1
3.3	3.6	3.9	4.3	54	4.3	3.9	3.6	3.3
3.6	3.8	4.2	4.5	55	4.5	4.2	3.8	3.5
3.8	4.1	4.4	4.8	56	4.8	4.4	4.0	3.7
4.0	4.3	4.7	5.1	57	5.1	4.6	4.3	3.9
4.3	4.6	5.0	5.4	58	5.4	4.9	4.5	4.1
4.5	4.8	5.3	5.7	59	5.6	5.1	4.7	4.3
4.7	5.1	5.5	6.0	60	5.9	5.4	4.9	4.5
4.9	5.3	5.8	6.3	61	6.1	5.6	5.1	4.7
5.1	5.6	6.0	6.5	62	6.4	5.8	5.3	4.9
5.3	5.8	6.2	6.8	63	6.6	6.0	5.5	5.1
5.5	6.0	6.5	7.0	64	6.9	6.3	5.7	5.3
5.7	6.2	6.7	7.3	65	7.1	6.5	5.9	5.5
5.9	6.4	6.9	7.5	66	7.3	6.7	6.1	5.6
6.1	6.6	7.1	7.7	67	7.5	6.9	6.3	5.8
6.3	6.8	7.3	8.0	68	7.7	7.1	6.5	6.0
6.5	7.0	7.6	8.2	69	8.0	7.3	6.7	6.1
6.6	7.2	7.8	8.4	70	8.2	7.5	6.9	6.3
6.8	7.4	8.0	8.6	71	8.4	7.7	7.0	6.5
7.0	7.6	8.2	8.9	72	8.6	7.8	7.2	6.6
7.2	7.7	8.4	9.1	73	8.8	8.0	7.4	6.8
7.3	7.9	8.6	9.3	74	9.0	8.2	7.5	6.9
7.5	8.1	8.8	9.5	75	9.1	8.4	7.7	7.1
7.6	8.3	8.9	9.7	76	9.3	8.5	7.8	7.2
7.8	8.4	9.1	9.9	77	9.5	8.7	8.0	7.4
7.9	8.6	9.3	10.1	78	9.7	8.9	8.2	7.5
8.1	8.7	9.5	10.3	79	9.9	9.1	8.3	7.7
8.2	8.9	9.6	10.4	80	10.1	9.2	8.5	7.8
8.4	9.1	9.8	10.6	81	10.3	9.4	8.7	8.0
8.5	9.2	10.0	10.8	82	10.5	9.6	8.8	8.1
8.7	9.4	10.2	11.0	83	10.7	9.8	9.0	8.3
8.9	9.6	10.4	11.3	84	11.0	10.1	9.2	8.5
9.1	9.8	10.6	11.5	85	11.2	10.3	9.4	8.7
9.3	10.0	10.8	11.7	86	11.5	10.5	9.7	8.9
9.5	10.2	11.1	12.0	87	11.7	10.7	9.9	9.1
9.7	10.5	11.3	12.2	88	12.0	11.0	10.1	9.3
9.9	10.7	11.5	12.5	89	12.2	11.2	10.3	9.5
10.1	10.9	11.8	12.7	90	12.5	11.4	10.5	9.7
10.3	11.1	12.0	13.0	91	12.7	11.7	10.7	9.9
10.5	11.3	12.2	13.2	92	13.0	11.9	10.9	10.1
10.7	11.5	12.4	13.4	93	13.2	12.1	11.1	10.2
10.8	11.7	12.6	13.7	94	13.5	12.3	11.3	10.4
11.0	11.9	12.8	13.9	95	13.7	12.6	11.5	10.6
11.2	12.1	13.1	14.1	96	14.0	12.8	11.7	10.8
11.4	12.3	13.3	14.4	97	14.2	13.0	12.0	11.0
11.6	12.5	13.5	14.6	98	14.5	13.3	12.2	11.2
11.8	12.7	13.7	14.9	99	14.8	13.5	12.4	11.4
12.0	12.9	14.0	15.2	100	15.0	13.7	12.6	11.6

Weight-for-Height Look-Up Table, Children 24–59 Months, WHO 2006 Child Growth Standards

Boys' Weight (kg)				Height[a] (cm)	Girls' Weight (kg)			
−3 z-score	−2 z-score	−1 z-score	Median		Median	−1 z-score	−2 z-score	−3 z-score
5.9	6.3	6.9	7.4	65	7.2	6.6	6.1	5.6
6.1	6.5	7.1	7.7	66	7.5	6.8	6.3	5.8
6.2	6.7	7.3	7.9	67	7.7	7.0	6.4	5.9
6.4	6.9	7.5	8.1	68	7.9	7.2	6.6	6.1
6.6	7.1	7.7	8.4	69	8.1	7.4	6.8	6.3
6.8	7.3	7.9	8.6	70	8.3	7.6	7.0	6.4
6.9	7.5	8.1	8.8	71	8.5	7.8	7.1	6.6
7.1	7.7	8.3	9.0	72	8.7	8.0	7.3	6.7
7.3	7.9	8.5	9.2	73	8.9	8.1	7.5	6.9
7.4	8.0	8.7	9.4	74	9.1	8.3	7.6	7.0
7.6	8.2	8.9	9.6	75	9.3	8.5	7.8	7.2
7.7	8.4	9.1	9.8	76	9.5	8.7	8.0	7.3
7.9	8.5	9.2	10.0	77	9.6	8.8	8.1	7.5
8.0	8.7	9.4	10.2	78	9.8	9.0	8.3	7.6
8.2	8.8	9.6	10.4	79	10.0	9.2	8.4	7.8
8.3	9.0	9.7	10.6	80	10.2	9.4	8.6	7.9
8.5	9.2	9.9	10.8	81	10.4	9.6	8.8	8.1
8.7	9.3	10.1	11.0	82	10.7	9.8	9.0	8.3
8.8	9.5	10.3	11.2	83	10.9	10.0	9.2	8.5
9.0	9.7	10.5	11.4	84	11.1	10.2	9.4	8.6
9.2	10.0	10.8	11.7	85	11.4	10.4	9.6	8.8
9.4	10.2	11.0	11.9	86	11.6	10.7	9.8	9.0
9.6	10.4	11.2	12.2	87	11.9	10.9	10.0	9.2
9.8	10.6	11.5	12.4	88	12.1	11.1	10.2	9.4
10.0	10.8	11.7	12.6	89	12.4	11.4	10.4	9.6
10.2	11.0	11.9	12.9	90	12.6	11.6	10.6	9.8
10.4	11.2	12.1	13.1	91	12.9	11.8	10.9	10.0
10.6	11.4	12.3	13.4	92	13.1	12.0	11.1	10.2
10.8	11.6	12.6	13.6	93	13.4	12.3	11.3	10.4
11.0	11.8	12.8	13.8	94	13.6	12.5	11.5	10.6
11.1	12.0	13.0	14.1	95	13.9	12.7	11.7	10.8
11.3	12.2	13.2	14.3	96	14.1	12.9	11.9	10.9
11.5	12.4	13.4	14.6	97	14.4	13.2	12.1	11.1
11.7	12.6	13.7	14.8	98	14.7	13.4	12.3	11.3
11.9	12.9	13.9	15.1	99	14.9	13.7	12.5	11.5
12.1	13.1	14.2	15.4	100	15.2	13.9	12.8	11.7
12.3	13.3	14.4	15.6	101	15.5	14.2	13.0	12.0
12.5	13.6	14.7	15.9	102	15.8	14.5	13.3	12.2
12.8	13.8	14.9	16.2	103	16.1	14.7	13.5	12.4
13.0	14.0	15.2	16.5	104	16.4	15.0	13.8	12.6
13.2	14.3	15.5	16.8	105	16.8	15.3	14.0	12.9
13.4	14.5	15.8	17.2	106	17.1	15.6	14.3	13.1
13.7	14.8	16.1	17.5	107	17.5	15.9	14.6	13.4
13.9	15.1	16.4	17.8	108	17.8	16.3	14.9	13.7
14.1	15.3	16.7	18.2	109	18.2	16.6	15.2	13.9
14.4	15.6	17.0	18.5	110	18.6	17.0	15.5	14.2
14.6	15.9	17.3	18.9	111	19.0	17.3	15.8	14.5
14.9	16.2	17.6	19.2	112	19.4	17.7	16.2	14.8
15.2	16.5	18.0	19.6	113	19.8	18.0	16.5	15.1
15.4	16.8	18.3	20.0	114	20.2	18.4	16.8	15.4
15.7	17.1	18.6	20.4	115	20.7	18.8	17.2	15.7
16.0	17.4	19.0	20.8	116	21.1	19.2	17.5	16.0
16.2	17.7	19.3	21.2	117	21.5	19.6	17.8	16.3
16.5	18.0	19.7	21.6	118	22.0	19.9	18.2	16.6
16.8	18.3	20.0	22.0	119	22.4	20.3	18.5	16.9
17.1	18.6	20.4	22.4	120	22.8	20.7	18.9	17.3

Annex 2: Key IYCF messages

Teaching aid 5.4 Key IYCF messages

- Key education messages for caretakers of children admitted in OTP:

  For pregnant women, or women with under-six months infant with older sibling in OTP,

  Pregnancy

  - During pregnancy, mothers should get at least one additional meal a day
  - During breastfeeding, eat two extra meals or snacks per day
  - You need to eat the best foods available, including milk, fresh fruits and vegetables, meat, fish, eggs, grains, peas and beans
  - Take plenty of water whenever you are thirsty
  - During pregnancy and breastfeeding special nutrients will help your body grow well and be healthy
  - Take iron and folic acid tablets to prevent anaemia during pregnancy and at least 3 months after birth
  - Use iodized salt to help your baby's brain and body develop well
  - Attend ANC at least four times during pregnancy

  Young infant

- Hold your new born skin to skin immediately after birth
- Begin breastfeeding within the first hour of birth
- Colostrum and thick yellow milk is good for your baby
- Colostrum helps protect your baby from illness and helps remove the first dark stool
- Breastfeed frequently to help your breast milk 'come in' and ensure plenty of breast milk
- Do not give water or other liquids/fluids to your baby during the first six months
- Breast milk provides all the food and water that your baby needs during the first six months of life
- Mixed feeding increases the chance that your baby will suffer from illnesses such as diarrhoea, pneumonia and malnutrition.
- Breastfeed on demand, both day and night 8 to 12 times a day to build up your breast milk supply

- Remember that good hygiene practices prevent disease
- Do not give RUTF to infant under-six months. The aim of treatment for severely malnourished children who are under six months is re-establishment of breast feeding.
- If you faced any challenges during breastfeeding please consult the specialized health worker or consult any mother support group in your community.

For young children 6 to 23 month olds that are on OTP follow up,

- For breast-fed children in OTP, always give breast milk before the RUTF and on demand.
- Give small regular meals of RUTF every 3-4 hours.
- Always offer plenty of clean water to drink while eating RUTF.
- Breast milk continues to be the most important part of your baby's diet until two years of age.
- When giving complementary feeds think:
  - Frequency,
  - Amount,
  - Thickness,
  - Variety,
  - Active/responsive feeding,
  - And hygiene.

NB – Ask the mother to repeat the messages to check her understanding.

Annex 3: Appetite Testing Techniques

Appetite is a very important indicator of the clinical situation of a patient. A poor appetite means that the child has a serious problem and need to be referred for inpatient care. For admitted children appetite test should be carried out at each visit for out-patients (particularly those who do not gain weight)

Steps to follow

1. The care taker should wash his/her hand as well as child's face & hand
2. The appetite test should be conducted in a separate quiet area.
3. Explain to the caretaker the purpose of the appetite test and how it will be carried out.
4. The caretaker should sit comfortably with the child on his lap and should either offer the RUTF from the packet or put a small amount on his finger and give it to the child.
5. The caretaker should offer the child the RUTF gently, encouraging the child all the time. If the child refuses then the caretaker should continue to quietly encourage the child and take time over the test usually takes a short time but may take up to thirty minutes. The child must not be forced to take the RUTF

N.B: Forcing children to eat can lead to serious complication e.g. inhalation of RUTF into lung lead to aspiration pneumonia and it is fatal

6. The child needs to be offered plenty of water to drink from a cup as he/she is taking the RUTF.

Interpreting the Result of the Appetite Test

See the appetite test table below to determine whether the child passes or fail the test.

Pass appetite test

1. A child that takes at least a third of one sachet (92 grams) of RUTF. OR, the child takes the volume of RUTF as per his weight as indicated in the table below.
2. Explain to the caretaker the treatment option is OTP.
3. Register the result on the OTP card.

Fail appetite test

1. A child that does not take at least a third of one sachet (100 grams) of RUTF fail the appetite test OR, the child takes less than the volume of RUTF as per his weight as indicated in the table above.
2. Explain to the caretaker the choice of treatment is inpatient care; and explain the reasons for recommending in-patient care.
3. Refer the patient to the nearest TFC/SC for in-patient management.

Annex 4: Amount of RUTF to be prescribed

RUTF is given to severely malnourished children based on their weight.

Class of weight (kg)	**RUTF**	
	Sachet per **day**	Sachet per **week**
4.0 - 4.9	2	14
5.0 – 6.9	2½	18
7.0 – 8.4	3	21
8.5 – 9.4	3½	25
9.5 – 10.4	4	28
10.5 - 11.9	4½	32
≥12	5	35

Annex 5: Routine Medicine Dosage

Amoxicillin:

Amoxicillin First Line Antibiotic Treatment: Amoxicillin, 3 Times a Day for 7 Days (50-100 mg/kg/day)

Age (or weight) of the child	Syrup 125 mg/5 ml 7 days	Syrup 250 mg/5 ml 7 days	Tablets 250 mg 7 days
< 12 months (or < 10 kg)	125 mg or 5 ml	125 mg or 2.5 ml	125 mg or ½ Tablet
1 - < 10 years (or 10-30 kg)	250 mg or 10 ml	250 mg or 5 ml	250 mg or 1 Tablet
10 years+(or > 30 kg)	Give tablets	Give tablets	500 mg or 2 Tablets

Vitamin A

Age in months	Vitamin A IU orally in day 1
6 to <12 months	One blue capsule (100.000 IU = 30 µg)
12 (or 8 Kg) and more	One Red capsule (200.000 IU = 60 µg)

Folic Acid

When	Amount
At admission	5 mg

De-worming

Age	Mebendazole 500 mg Dosage
12-23 months	½ tablet
>= 24 months	1 tablet

Annex 6: Registration Book

Federal Ministry of Health - National Nutrition program

Registration book for out-patient therpeutic feeding program (SAM

State :........ Locality : .... Name of sit : ....

No.	Regst. Number	child name	Address , telephone number	Shiekh name	Gender	age in months	child status	Source of admission:	type of admission				admission data						Discharg data					Result	Comments/Remarks
					1. Male 2. Female		Resident , IDP , Refugee, Returnee	Popular committee, tradional healer ,midwife , self referral , volunteer	new admission	re-adm. Defaulter	readm. Relapse	referral from inpatient care or from other	Date	Oedema	MUAC in cm	Weight in kgs	Height in cm	WFH Z-score	Date	MUAC in cm	Weight in Kgs	Height in cm	WFH Z-score	Cured, Death, Defaulter, Non-respondent, Referral to SC.	

Annex 7: OTP admission Cards

Front of the OTP card

						Federal Ministry of Health - National Nutrition Program								
						Outpatient Therapeutic Feeding Program (OTP) Card								
					Admission Details : (OTP)									
							Reg. No							Name
				Admission date	Type of child residence : Residence ,IDP , Refugee, Return					Gender: Female - Male				Age (months)
				Name of health Facility										Mother Name
						Village		Admin unit				Locality		State
	Yes No			Mother Alive	Yes No		Father Alive			No. of Family member				child full name
						Time of arrival to Center in minutes								Home location
	Other (Specify)						Midwife	Popular Committee		Volunteer			Caretaker - mother	admission source
	Care taker / Mother refused to take child to Inpatient -care						Referral from inpatient	Re-admission a) Return after Default b) Relapse after cured					New admission	Type of admission
	Danger sign													
	Yes No						severe vomitting			Yes NO				Convulsion
	Yes No						Un able to eat			Yes NO				Lethargy
	Anthropometrics measuremnt in admission													
		MUAC in cm			Nutrional Oedema		WFH (Z-score)			Height in cm				Weight in Kgs
	Medical history													
	Yes NO			Blood in stool						Yes No				Diahrroea
	Yes NO			Breast feeding						Yes No				Vomitting
	No appetite			Poor			Good		Appetite	Yes No				Cough
														Other problem
	Physical check													
	Normal		Fever		(c °)Temperature			Pulse rate		50 +	40- 49	30-39	<30	Fast breathing (in minutes)
	Yes No				dermatosis		corneal ulcer		corneal clouding		Corneal dryness		Pitot Spot	Eye sign
	Routine Drugs													
	Dosage			Date			Drug		Dosage			Date		Drugs
							Malaria drug							Amoxicillin
							Vit A							Measles
							Mebendazole							Folic Acid
	Other drugs													
	Dosage			Date			Drug		Dosage			Date		Drugs
	Transfer in and out during treatment of SAM (always use first SAM admission unique number)													
	Referral out								Referral in					
	Date			location			Reasons		Regist number from other site			Date		Location
	Home Visit													
	Visit result						Date of visit				Reason for visit			Date

Back of the OTP Card

			Follow-up of treatment													
																Name
16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	admission	Treatment weeks
																Date
			Anthropometry													
																Bilateral Oedema
																MUAC in cm
																Weight in kgs
																Weight change
																Height /Length in cm
																Weight for height (Z-score)
			check for failuer to respond (weight loss since admission for wasted children failure to start to loose oedema on day 14 , failure to gain any weight , Oedema still present on day 21 :													
			Medical history													
																Diarrhoea days
																blood in stool yes No
																vomitting # days
																Fever # days
																Cough # days
				Physical examination												
																Appetite test (pass/fail)
																Temperature ©
																Respirotary rate in min
																Dermatosis (yes , No)
																Action needed yes, No
				Routine Medication												
																Amoxicillin dosage
																Malaria dosage
																Vit A
																Deworming
																Measles Vacination
																Folic Acid
																other medication (see fro
																RUTF (# sachets)
																Name of examiner
																Outcome***
				Result: 1.Absent 2. Defaulter (child absent for 3 consucetive weeks) 3. Referral to SC 4. Death 5. Cured 6. Non-respondent												

Annex 8: OTP Monthly reporting Format

STASTICS REPORT - MANAGEMENT OF SEVERE ACUTE MALNUTRITION

Programme	OTP
Type of Program	
State	
Locality	
Agancy	

Report prepar	
MONTH / YEAR	
Site	

Data Consolidation | *Criteria Selection*

Age Group	Total beginning of month	New Admissions (B)			TOTAL NEW Admissions (B1+B2+B3)	Old Admissions (C)			TOTAL Entries (B+C)	Discharges (E)				TOTAL Discharges (E1+E2+E3+E4)	Referral (F)		TOTAL EXITS (E+F)	TOTAL end of the month (A+D)-(G)
		Bilateral Oedema	MUAC <11.5 cm	W/H <-3 z-score		Re-admission after defaulting	Re-admission after collapse	Transfer in from another therapeutic unit (OTP/SC)		CURED	DEATH	DEFAULTER	NON-RESPONDER		Transfer out to out-patient	Transfer out to in-patient		
	(A)	(B1)	(B2)	(B3)	(B)	(C1)	(C2)	(C3)	(D)	(E1)	(E2)	(E3)	(E4)	(E)	(F1)	(F2)	(G)	(H)
6-59 months	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
> 59 months	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
TOTAL	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Exit indicators:	CURED	DEATH	DEFAULTER	NON-RESPONDER
TOTAL	0%	0%	0%	0%
> 59 months	0%	0%	0%	0%
6-59 months	0%	0%	0%	0%
SPHERE minimum standards:	>75%	<5%	<15%	

Children 6-59 months screened				
TOTAL Screened	Normal	Refered for SC	Refered for OTP	Refered for SFP
0	0	0	0	0

Source of referrals						
Refered from TSFP	Popular committee	THs/TBAs	Self/mothers	CBVs/VMWS	Others	TOTAL Refferrals
0	0	0	0	0	0	0

New Admissions		
Child Status	Total Male	Total Female
Resident	0	0
IDP	0	0
Refugee	0	0
Returnee	0	0
Total	0	0

Type of Product	Balance start of the month	Received	Expired/ Damaged	Balance end of the month	Used during the month
RUTF	0	0	0	0	0
Amoxicillin	0	0	0	0	0
Albendazole/ Mebendazole	0	0	0	0	0

Quantities reported in cartons

Annex 9: Failure to respond

What to check when there is failure to respond

Refer for in-patient care if you see any of the below failure to respond. You may do home visit if you suspect they are showing early signs (like failure to gain weight for 14 days)

Criteria for failure to respond	Time after admission
Primary failure to respond	
Failure to gain any weight (non-oedematous children)	21 days
Failure to start to loose oedema	14 days
Oedema still present	21 days
Weight loss since admission (non-edematous child)	14 days
Secondary failure to respond	
Failure of Appetite test	At any visit
Weight loss	For 2 consecutive visits
Static weight	For 2 consecutive visits
Below admission weight	After 21 days in treatment

During home visit:

- Check for possible causes for early sign of failure to respond. For example: RUTF sharing, poorly conducted appetite test or missed complication (the child should have been referred), inadequate instructions given to the mother, care taker overwhelmed with other responsibilities, new infection, child receiving traditional medicine…

Other reasons for home visit (other than early signs of failure to respond)

- If a child misses weekly appointment; if the child is complicated SAM and admitted to OTP because of care taker's refusal to take to inpatient; for any other reason where the nutritionist/medical assistant decides home visit for.

Annex 10: Referral Slip

Reg. No._____________

Referred from: _______________ **Referred to**: _____________

Name: ____________________________

Age (in months):___________ **Sex**: M/F

Locality (Mahalia): ____________ **Village (Gariaah)** __________

Date: __________________

	Date	**Weight**	**MUAC**	**Oedema**	**Appetite test**
Admission					
Transfer					

Drugs given	**Dose**	**Date**
Measles Vac.		
Albendazole/Mebendazole		
Amoxicillin		
Malaria treatment		

REASON FOR REFERAL	**Put tick Mark(✓)**
Fail appetite Test	
General danger sign	
Fast breathing	
Blood in stool	
$T^0 \geq 38\ ^0C$	
$T^0 \leq 35\ ^0C$	
Increase/Development of oedema	
Failure to respond	
Request by care take	
Other reason specify: ______________________	

Referred by (Name and Signature) : _______________________________

Annex 11: Discharge Card

Reg. No.____________

Name: __________________________

Age (in months):__________ **Sex**: M/F_____

Locality: ___________ **Village (Gariaah)** _________

Date: ________________

Discharged from: ___________________________

Referred for continued follow up to: __________________________

Fill the Tables

	Date	**Weight**	**MUAC**	**Oedema**	**Appetite test**
Admission					
Discharge					

Annex 12: Needs and Requirement for OTP and TSFP children 6-59 month

NB: These requirement and needs recommended by CMAM technical working group and CMAM focal persons at state level as minimum requirement. This doesn't means restriction to this, in case of availability of resources might increase needs.

1. Places/spaces required

1. Separate space for waiting and distribution of sugar water and nutrition/health education
2. Separate space for medical check by doctor or medical assistant
3. Separate space for nursing and drugs prescription
4. Separate place for anthropometry measurement
5. Separate place with drinking water, hand washing facility for appetite test
6. Latrine/s
7. Store for therapeutic food

2. Staffing and care workers

Staffs provide health and nutritional care and must be trained on management of acute malnutrition in OTP and TSFPs;

1. All staff working in the centre (doctors, MAs, Nurses, Nutrition officers, nutrition educators and volunteers must be trained
2. Provide them with operational guideline, quick reference for SAM & MAM and community mobilization
3. Provision of refresher training from time to time

Responsibilities of staff:

Medical Doctor & medical Assist:

1. Do medical check and decision for admission
2. Fill-in admission card with medical check and history
3. Decide on weekly follow-up
4. Referral instruction

Nurse:

1. Give routine medication and fill-in the follow-up card
2. Observation of clinical signs and filling the card in the absence of doctor

Nutrition Officer, Nut. Educator & volunteer:

1. Take anthropometry measurement for children (Oedema, MUAC, Weight, Height and WFH Z-score calculation

2. Conduct appetite test

3. Interaction with mothers and children (involving mothers in treatment and follow-up)
4. Recording danger sign
5. Procedure of admission
6. Provision of health and nutrition education messages and ensure mothers has understand
7. Record any improvement or deterioration on child situation i.e. no weight gain , oedema decrease before classifying him/her as non-respondent
8. Make sure that mothers/caretakers has gave their children therapeutic food during the weekly visit
9. Fill the child card for follow-up
10. Register the child in the registration book
11. Preparation of the monthly report
12. Fill the referral card after consultation with medical person/s

Other workers:

1. Cleaners are very important to keep the surrounding environment clean and organized for children and mothers
2. Store keeper/s according to the need
3. Volunteer/s for every village, sector , block according to the population in the area

Supervisors:

- Each health facility/nutrition center need at least one supervisor to raise the monthly performance about the center

Staffing needed per site:

Sr.no	Type of staff	Number
1	Medical doctor , Medical assistant	1

	, community health worker	
2	Nurse	1
3	Nutrition officer	1
4	Nutrition assistant	4
5	Supervisor	1
6	Store Keeper	1
7	Cleaner	1
8	Community volunteers	One or more for each village according to the population

3. Equipment and other requirement:

1. Thermometers
2. Salter scale (25 kg) (plus pants or plastic basin) or mother & child Electronic scale
3. Height/Length board
4. MUAC tapes (child)
5. MUAC tapes (mother)
6. Plastic matts (# 3) or Benches (# 6) in mothers waiting area
7. Plastic matts in appetite test place
8. Water container (# 3)
9. Cups (# 15)
10. Sugar
11. Hand washing facility and water
12. Soap and detergents
13. Water system

4. Routine drugs

1. Amoxicillin
2. Folic acid
3. Vit A
4. Measles vaccine
5. Mebendazole

5. Lap requirement

1. Malaria diagnoses kit
2. Urine analysis tool
3. Stool analysis tool

6. Cleansing requirement (staff & mothers)

1. Water
2. Latrine
3. Soap
4. Detergents
5. Brooms
6. Garbage /trash basket
7. Incinerator

8. <u>Work Aids:</u>

1. Laminated sheet weight for height
2. RUTF ration sheet
3. Stationaries

<u>9. Registration books</u>

1. Child follow-up card (admission)
2. Child registration book for out patient
3. Health Education book
4. Monitoring & supervision book (field monitoring visit)
5. Referral card (child)
6. Discharge card (child)
7. Monthly report form

8. Supply form
9. Ration card (RUTF)
10. Home visit sheets

10. Posters

1. Map of catchment area
2. Chart with target and admission per month
3. Poster of Assessment and Classification of Children 6 to 59 months with Acute Malnutrition
4. Flow up chart for Assessment and Action for children between 6 to 59 months
5. Basic messages for management of acute malnutrition

Other Posters:

1. List of SCs, OTPs and TSFPs
2. Names and telephones of volunteers, team leaders
3. Term of reference for staff

References:

1. SAM with complication operational guideline
2. SAM without complication operational guideline
3. MAM operational guideline
4. Community involvement operational guideline
5. CMAM guideline

Supply:

1. Ready to use therapeutic food (RUTF)
2. Ready to use supplementary food (RUSF)

Annex 13: Calculation of burden and Coverage

Burden of Malnutrition

The burden of SAM is defined as an estimation of the total number of SAM cases in a population over a specific period (i.e., prevalent cases + incident cases in the year). The burden is estimated through calculation of SAM prevalence within the 6 - 59 month population (either nationally or within a defined geographic area) with incidence correction factor as follows:

Burden = Population 6-59 m X Prevalence X2.6

To clarify further, the above is the total of the below:

Prevalent cases = prevalence SAM x population 6-59m

Ex: 2% (prevalence SAM) and 7000 (population 6-59m)

Prevalent cases= 2%*7000= 140 X2.6 = 364

Incident cases = prevalence SAM x population 6-59m x 2.6 (where 2.6 is a correction factor which gives incidence as factor of prevalence)

Coverage of SAM program

There are two ways of coverage calculation, geographical and Treatment coverage;

Geographical coverage: means number of therapeutic feeding center /health facilities providing CMAM services in the locality or state divided by the total number of health facilities existing in the area.

Example:

Locality (A) has 12 CMAM sites

Number of health facilities in (A) = 30, there fore the geographic coverage (12/30*100%) equal to 40%

Treatment Coverage: means number of children (6-59) admitted and treated in CMAM program divided by the total burden of malnutrition in the locality/area multiplied by hundred

Example:

Number of children admitted in CMAM program = 3000

Malnutrition burden = 17,500

Coverage = 3000/17500*100= 17.1%

Annex 14: <u>Definition of Stock-out:</u>

Stock-out or out of stock (OOS) is event where the product /RUTF is exhausted at all levels. It generally refers to the stock-out experienced in the stores of the health facilities supply/ RUTF, which means that the upstream supply chain is generally not the reason for stock-outs but the replenishment efficiency of locality level OTPs.

Causes of stock-out:

- Faulty estimation of the need/ demand
- An inefficient supply chain
- Delay in Supply delivery from state to locality and or from locality to OTP level

Note: When you have zero balnce/sachet at **<u>All levels</u>** (from state to heath facility) this is **stockout** <u>BUT</u> when you experience shortage of supply in some OTPs and/or localities this is **shoratge** and you can do internal re-distribution, by taking supply from low consumption OTP sites to high consumption sites to prevent such situation.

Annex 15:Calculation of Length of Stay in CMAM sites/center:

Length of stay (LOS) is the period in number of days that a child spends in treatment for SAM from admission to discharge. LOS in outpatient care is normally long and can take up to 60 days.

Average LOS reflects effectiveness of the CMAM services

- A long average LOS might be the result of, not respond to treatment, frequent absence, default, sharing of RUTF.
- A short average LOS might indicate that children are discharged too soon. If there is a high relapse rate, this might be a possible cause.

Average LOS is calculated on a sample of cured discharges, as the sum of LOS divided by number of cards in the sample.

Calculation:

Average LOS = sum of LOS divided by number of cards in sample

Directions: Collect this information from OTP monitoring visits conducted during the month, from the OTP register book and discharge information. Fill in the number of days stayed on the program for 30 children who were discharged cured. The average length of stay will be calculated in the yellow box at the bottom.			
Child number	Number of days on program to reach 11.5cm (SAM)	Number of days on program to reach 12.5cm (MAM)	Total number of days until discharge
1	28		28
2	35		35
3	40		40
4	20		20
5	35		35
6	45		45
7	56		56
8	42		42
9	49		49
10	35		35
11	40		40

12	49		49
13	28		28
14	35		35
15	21		21
16	35		35
17	42		42
18	56		56
19	63		63
20	70		70
21	42		42
22	35		35
23	56		56
24	28		28
25	35		35
26	84		84
27	63		63
28	40		40
29	21		21
30	70		70
TOTAL number of days مجموع عدد الايام	1298	0	1298
Average LOS per child متوسط الاقامة لكل طفل	43.26666667	0	43.26666667