

## MODULE FIVE

### Inpatient Care for the Management of SAM with Medical Complications in the Context of CMAM

#### LEARNING OBJECTIVES

#### HANDOUTS AND EXERCISES

1. Outline the Management of SAM with Medical Complications in Inpatient Care	Handout 5.1 Essentials of the Management of SAM with Medical Complications in Inpatient Care
2. Describe Admission and Discharge for the Management of SAM with Medical Complications in Inpatient Care	Handout 5.2 Admission Procedures in Inpatient Care Handout 5.3 Admission Criteria and Entry Categories for CMAM Handout 5.4 Discharge Procedures in Inpatient Care Handout 5.5 Discharge Criteria and Exit Categories for CMAM
3. Review Medical Treatment and Nutrition Rehabilitation in Inpatient Care	Handout 5.6 Medical Treatment and Nutrition Rehabilitation of SAM with Medical Complications Handout 1.3 References and Further Reading
4. Practice Referral Process Between Inpatient Care and Outpatient Care	Handout 5.5 CMAM Discharge Criteria and Exit Categories Handout 5.7 Practical Implications in Discharges from Inpatient Care Exercise 5.1 Referral from Inpatient to Outpatient Care
Wrap-Up and Module Evaluation	

#### FIELD VISIT

#### LEARNING OBJECTIVES

#### HANDOUTS TO TAKE TO INPATIENT CARE FIELD VISIT

1. Review Admission, Treatment and Discharge Procedures for Inpatient Care	Handout 5.1 Essentials for the Management of SAM with Medical Complications in Inpatient Care Handout 5.8 Inpatient Care Field Visit Checklist Local Inpatient Care Treatment Card
2. Observe and Discuss Admission, Treatment and Discharge Procedures for Inpatient Care	

## HANDOUT 5.1

### ESSENTIALS FOR THE MANAGEMENT OF SAM WITH

#### GENERAL

1. Children with severe acute malnutrition (SAM) with medical complications face a high risk of mortality. They require 24-hour inpatient care until their condition stabilizes, over a period usually spanning four to seven days.
2. Inpatient care is the component of CMAM services that provides medical treatment and nutrition rehabilitation for **children with SAM with medical complications or no appetite** and **infants under 6 months old with bilateral pitting edema or visible wasting** (or insufficient breast milk in a vulnerable environment). **Once stabilized, the children continue treatment in outpatient care until they recover.**<sup>1</sup>
3. Inpatient care is provided in a hospital or health facility that offers 24-hour care.
4. Inpatient treatment for SAM with medical complications follows the initial steps listed in the World Health Organization (WHO) treatment protocol. CMAM inpatient care is equivalent to the initial treatment of the WHO treatment protocol for stabilizing the medical condition. (The term "stabilization center [SC]" is used in the Community-based Therapeutic Care [CTC] manual.)
5. In certain cases, CMAM inpatient care sites can provide inpatient care for the management of SAM until weight recovery.<sup>2</sup>

Note: Centre-based care for SAM is provided in hospitals, health facilities or specialized centers (e.g., therapeutic feeding center [TFC], nutrition rehabilitation center, nutrition rehabilitation unit [NRU]) with 24-hour care. Children with SAM receive inpatient care for the stabilization of the medical condition and for nutrition rehabilitation until weight recovery.

6. Medical complications for children age 6-59 months with SAM include: anorexia, intractable vomiting, convulsions, lethargy or not alert, unconsciousness, lower respiratory tract infections (LRTIs), high fever (> 39° C), severe dehydration, severe anemia, hypoglycaemia, hypothermia (< 35° C). Other conditions that require inpatient care include children with SAM in outpatient care who are losing weight or have static weight, following the outpatient care action protocol, and infants of 6 months or older and below 4 kg.
7. The **inpatient care component of CMAM is relatively small because most children with SAM are treated as outpatients.** Generally, fewer than 20 percent of children with SAM have medical complications that require inpatient care. This will vary according to location and context.

## MEDICAL COMPLICATIONS IN INPATIENT CARE

<sup>1</sup> Depending on national guidelines for discharge from outpatient care, recovery from SAM can include one or more of the following criteria: no bilateral pitting oedema for more than two consecutive sessions; a minimum of two months in treatment and mid-upper arm circumference (MUAC) ≥ 110 mm or 20 percent weight gain; weight-for-height (WFH) ≥ -2 z-score or WFH ≥ 80% of the median or WFH ≥ 85% of the median for more than two consecutive sessions; clinically well and alert.

<sup>2</sup> These cases include a lack of outpatient care in the area, safety concerns, no mother/caregiver at home, or a patient or mother/

8. Inpatient care as part of CMAM **should be provided within existing health facilities with 24hour care capacity wherever possible**, using Ministry of Health (MOH) staff. Inpatient care for children with SAM often already exists in the pediatric units of hospitals and sometimes at clinics or NRUs. Hospitals should have health care providers on duty who have been trained in the WHO treatment protocols, including the management of SAM with medical complications.
9. **Treatment in inpatient care is provided according to national protocols and/or the WHO guidelines for the stabilization of SAM.** Decisions about adapting medical treatment and nutrition
10. rehabilitation protocols to account for outpatient care and about the location of sites must be made jointly with the MOH and should take into account existing capacity (e.g., staff, space, beds, supplies, storage). The WHO guidelines (WHO 2003) provide detailed information on a 10-step treatment of children with SAM.
11. The number of admissions to inpatient care in CMAM services depends on the context:
  - During an **emergency**, there will likely be a high influx to inpatient care at first, but this will decrease quickly as children are stabilized and moved to outpatient care. A sudden population migration or an outbreak of diarrheal disease, acute respiratory infections (ARIs) or measles could also sharply increase the caseload.
  - The **inpatient care caseload will probably fluctuate according to the season.** During peak hunger seasons, the caseload might increase significantly. This usually follows a pattern; therefore, it is possible to plan for such periodic increases.
  - In contexts with high HIV prevalence, the inpatient caseload might be high because of increased incidence of **medical complications associated with HIV.**
12. **Medical officers and other health care providers at inpatient care sites should visit outpatient care sites and vice versa.** This will help ensure a smooth referral process between the two components.
13. **Treatment supplies required for inpatient care are based on the WHO guidelines.** The main required supplies are F75 and F100 therapeutic milks, essential medicines and medical equipment, ReSoMal, treatment protocols, and a reliable clean water source. Ready-to-use therapeutic food (RUTF) is also important, as it is used to help transition children to an RUTF diet before his/her referral to outpatient care and for children with SAM who are admitted to inpatient care and have appetite. F100 is used for the nutrition rehabilitation of infants under 6 months (F100 diluted) or of children over 6 months who remain in inpatient care and are unable to eat the RUTF for specific medical reasons (e.g., mouth rash, disability). In addition, if appropriate and possible, inpatient care should make food available for the child's mother/caregiver, as well as provide soap. Other requirements include equipment for food preparation and distribution and insecticide treated nets (ITNs) in malaria-endemic areas.
14. **Providing transportation to and from inpatient care should be considered.** Lack of transportation and high transportation costs prohibit some mothers/caregivers from taking their children to inpatient care. It might be possible to establish a small fund through community health committees for local or short-distance transportation. Other alternatives such as a bicycle ambulance or donkeys might be considered.

## HANDOUT 5.2

### ADMISSION PROCESS IN INPATIENT CARE

#### ADMISSION PROCESS

5.2

- Children admitted to inpatient care should be triaged, with the most urgent cases treated first. Sugar water (10 percent dilution) should be made available during transport and upon arrival to prevent hypoglycaemia.
- The child's medical condition is assessed and life-saving treatment is started as soon as possible, followed by the routine World Health Organization (WHO) treatment protocols for severe acute malnutrition (SAM) with medical complications.
- Health and nutrition information is recorded on the inpatient care treatment card: child information, medical history, physical examination, bilateral pitting edema, and anthropometry (mid-upper arm circumference [MUAC], weight, and height.)
- Admission registration is completed using the registration number assigned by the referring outpatient care site if the child was referred. If the inpatient care site has an existing system for registration numbers, arrangements should be made to also include the unique CMAM registration number obtained in outpatient care.
- The mother/caregiver will receive counselling, including on the treatment of the child, breastfeeding, good hygiene practices. The mother/caregiver should be given soap for hand-washing and general hygiene, and food during their stay in inpatient care.

#### CHILDREN 6-59 MONTHS

- **No appetite:** Lack of appetite is a key indicator of the need to refer a child to inpatient care. Poor appetite is demonstrated by continued refusal to eat ready-to-use therapeutic food (RUTF, appetite test) and might be the result of poor liver and/or gut function due to SAM. Occasionally, some mothers/caregivers might try to force-feed their children RUTF because they would rather stay in outpatient care than go to inpatient care. Observation is needed to make sure this is not the case.
- **Bilateral pitting edema:** Children with bilateral pitting edema +++ have an increased mortality risk and must be referred to inpatient care.
- **Marasmic kwashiorkor:** Children with bilateral pitting edema AND severe wasting (MUAC < 115 mm or weight-for-height [WFH] < -3 z-score or WFH < 70% of the median) must be referred to inpatient care. These children are at an increased risk of mortality and require careful treatment.
- **SAM with medical complications:** Anorexia, intractable vomiting, convulsions, lethargy or not alert, unconscious, lower respiratory tract infections (LRTIs), high fever (> 39° C), severe dehydration, severe anemia, hypoglycaemia, hypothermia (< 35° C).

- **Other medical conditions that require inpatient care include:** Infants 6 months or older with a weight below 4 kg, or children with SAM in outpatient care with weight loss (3 weeks) or static weight (5 weeks), following the outpatient care action protocol.
- **Other medical conditions that need referral to tertiary care:** Underlying acute medical complications might require specialized diagnosis and treatment. These cases should be referred to the appropriate service at the hospital. The children should be referred while continuing their treatment for SAM (including receiving the therapeutic food) and should return to inpatient care or outpatient care for continued SAM treatment as soon as their treatment for the other medical complications is completed.
- **Choice:** Some mothers/caregivers might prefer inpatient care to outpatient care. This choice is a right and should be respected. However, practice has shown that it is more common for mothers/caregivers to refuse referral from outpatient care to inpatient care.
- **HIV-positive children:** Evidence has shown that the standard admission criteria can be applied to children who are HIV-positive. A good proportion of HIV-positive children will have poor appetite and opportunistic infections (OIs) requiring inpatient care. Others meeting the criteria for outpatient care are treated in outpatient care and usually respond well to outpatient care management. Duration of treatment tends to be prolonged for children with HIV-positive with SAM.

## INFANTS UNDER 6 MONTHS

- Infants under 6 months of age who have bilateral pitting edema or are visibly wasted are admitted to inpatient care for specialized care. In vulnerable environments, infants that are losing weight and/ or are at high risk because of insufficient breastfeeding should also be admitted to inpatient care.
- **Note:** MUAC is NOT applicable for infants below 6 months of age.
- The number of infants requiring inpatient care will vary according to the context. Some experience in managing SAM in infants in emergencies exists. However, there are **knowledge gaps** when it comes to best practices. The Management of Acute Malnutrition in Infants (MAMI) project of the Institute of Child Health, the Emergency Nutrition Network (ENN) and Action Contra La Faim (ACF) have started to review experiences, current practices and knowledge gaps with funding from the Inter Agency Standing Committee (IASC) Global Nutrition Cluster (2008).

## OTHER TARGET GROUPS

- **Adults and adolescents:** Criteria for admission to inpatient care for adults and adolescents are based on WHO treatment protocols (WHO 1999) and national protocols. To date, outpatient care programmes have limited experience with adults or adolescents.
- **HIV-positive adults:** In several countries (e.g., Malawi, Zambia, Mozambique), HIV-positive adults with SAM have been treated as inpatients using F75/F100 and as outpatients using RUTF. There are protocols available for HIV-positive adults, but the evidence on best practices is pending.

## HANDOUT 5.3

### ADMISSION CRITERIA AND ENTRY CATEGORIES FOR CMAM

#### ADMISSION CRITERIA FOR CMAM

<b>INPATIENT CARE</b> for the Management of SAM with Medical Complications	<b>OUTPATIENT CARE</b> for the Management of SAM without Medical Complications	<b>SUPPLEMENTARY FEEDING</b> for the Management of MAM
<b>ADMISSION CRITERIA FOR CHILDREN 6 - 59 MONTHS</b>		
<p>Bilateral pitting edema +++</p> <p><b>OR</b> Marasmic kwashiorkor: Any grade of bilateral pitting edema with severe wasting (MUAC &lt; 115 mm or WFH &lt; -3 z-score [WHO] or &lt; 70% of median [NCHS])</p> <p><b>OR</b> Bilateral pitting edema + or ++ or MUAC &lt; 115 mm or WFH &lt; -3 z-score (WHO) or &lt; 70% of median (NCHS) <b>with</b> any of the following medical complications:</p> <ul style="list-style-type: none"> <li>▪ Anorexia, no appetite</li> <li>▪ Intractable vomiting</li> <li>▪ Convulsions</li> <li>▪ Lethargy, not alert</li> <li>▪ Unconsciousness</li> <li>▪ Lower respiratory tract infection (LRTI)</li> <li>▪ High fever</li> <li>▪ Severe dehydration</li> <li>▪ Severe anemia</li> <li>▪ Hypoglycaemia ▪ Hypothermia</li> </ul> <p><b>OR</b></p> <ul style="list-style-type: none"> <li>▪ Referred from outpatient care according to action protocol</li> <li>▪ Other: e.g., infant ≥ 6 months and &lt; 4 kg</li> </ul>	<p>Bilateral pitting edema + and ++</p> <p><b>OR</b> MUAC &lt; 115 mm</p> <p><b>OR</b> WFH &lt; -3 z-score (WHO) or &lt; 70% of median (NCHS)</p> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>▪ Appetite</li> <li>▪ Clinically well</li> <li>▪ Alert</li> </ul>	<p>MUAC ≥ 115 mm and &lt; 125 mm</p> <p><b>OR</b> WFH ≥ -3 z-score and &lt; -2 z-score (WHO) or ≥ 70% and &lt; 80% of median (NCHS)</p> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>▪ Appetite</li> <li>▪ Clinically well</li> <li>▪ Alert</li> </ul> <p><b>ALSO:</b> Children recovering from SAM, after discharge from outpatient care, regardless of their anthropometry</p> <p><i>Note: Children with MAM and medical complications are admitted to supplementary feeding (receive supplementary food ration) but are referred for medical treatment and return when medical complications are resolved.</i></p>

ADMISSION CRITERIA FOR INFANTS < 6 MONTHS		
Infants < 6 months with bilateral pitting edema or visible wasting (or e.g., insufficient breastfeeding in vulnerable environment)		
ADMISSION CRITERIA FOR PREGNANT AND LACTATING WOMEN		
		<p><b>Pregnant women</b> In second and third trimester with MUAC &lt; 210 mm</p> <p><b>Lactating Women</b> MUAC &lt; 210 mm with infants &lt; 6 months</p>

ENTRY CATEGORIES FOR CMAM

INPATIENT CARE for the Management of SAM with Medical Complications	OUTPATIENT CARE for the Management of SAM without Medical Complications	SUPPLEMENTARY FEEDING for the Management of MAM
ENTRY CATEGORY: NEW ADMISSIONS OF CHILDREN 6-59 MONTHS		
New SAM cases of children 6-59 months meet admission criteria - including <b>relapse</b> after cure	New SAM cases of children 6-59 months meet admission criteria - including <b>relapse</b> after cure	New MAM cases of children 6-59 months meet admission criteria - including <b>relapse</b> after cure and <b>referral</b> from outpatient care
ENTRY CATEGORY: OTHER NEW ADMISSIONS		
New SAM cases of infants, children, adolescents or adults (< 6 months or ≥ 5 years) need treatment of SAM in inpatient care	New SAM cases not meeting pre-set admission criteria need treatment of SAM in outpatient care	New MAM cases not meeting pre-set admission criteria need treatment of MAM
ENTRY CATEGORY: OLD CASES: REFERRAL FROM OUTPATIENT CARE AND INPATIENT CARE		
<p><b>Referral from outpatient care:</b> Child's health condition deteriorated in outpatient care (according to action protocol) and child needs inpatient care</p> <p><b>Returned after defaulting</b> <b>Moved in</b> from another outpatient care site</p>	<p><b>Referral from inpatient care:</b> Child's health condition improved in inpatient care and child continues treatment in outpatient care</p> <p><b>OR</b> <b>Returned</b> after defaulting, or <b>Moved in</b> from another outpatient care site</p>	<p><b>Referral from outpatient care:</b> <b>Returned</b> after defaulting, or <b>Moved in</b> from other supplementary feeding site</p>

Note: MUAC is the preferred indicator for admission to CMAM. MUAC is used for children age 6-59 months. MUAC cutoffs for SAM and MAM are being debated. The cutoff for SAM could increase to 115 mm, however, this had not been put in practice at the time these materials were published. In some countries, the MUAC cutoff for MAM has been set at < 120 mm.

Depending on national guidelines, weight-for-height (WFH) is expressed as standard deviations (SDs) below the median of the World Health Organization (WHO) child growth standards (WFH < - z-score) or as a percentage of the median of the National Centre for Health Statistics (NCHS) child growth references (WFH < % of median).

## HANDOUT 5.4

### DISCHARGE PROCEDURES IN INPATIENT CARE

#### DISCHARGE TO OUTPATIENT CARE

5.4

- When a child is ready for discharge from inpatient care to outpatient care, the clinical status, bilateral pitting edema, mid-upper arm circumference (MUAC), weight, and height are assessed, and appetite is tested with ready-to-use therapeutic food (RUTF). RUTF has been introduced gradually in the past days and the child is expected to eat more than 75% of its daily diet with RUTF.
- The referral slip to outpatient care is completed, including a summary section informing health care providers at the outpatient care site about the medical intervention and treatment (medicines are specified) given to the child.
- The mother/caregiver is informed where and on which day to go for outpatient care, at the health facility closest to her community, and is given sufficient RUTF to last until the next outpatient care follow-on session (usually one week's worth).
- Key messages about the use of RUTF and basic hygiene are discussed again with the mother/caregiver. The mother/caregiver is also given any remaining medications and instructions on how to use them. S/he should repeat these instructions to the health care provider to make sure they were clearly understood and will be followed correctly.
- Discharge from inpatient care can occur on any day. Staff in the inpatient care facility should not retain children that are ready for outpatient care.
- The mother/caregiver is informed on what to do if the child's condition deteriorates before the next outpatient care follow-on session.

#### CHILDREN 6-59 MONTHS

- Children who have been **referred to inpatient care because of medical complications** may be discharged to outpatient care if they pass the RUTF appetite test, their medical complication is resolving, bilateral pitting edema is decreasing, and they are clinically well and alert.
- Children who have been **referred to inpatient care because of Marasmic kwashiorkor** may be discharged to outpatient care when their bilateral pitting edema is resolved as long as they pass the RUTF appetite test, have no medical complications and are clinically well and alert.
- Children whose **mothers/caregivers chose inpatient care** over outpatient care, or whose medical condition required long hospitalisation, will stay in inpatient care until the mother/caregiver agrees to continue treatment in outpatient care or until the child has fully weight thus no longer suffering from severe acute malnutrition (SAM). The discharge criteria will be the same as those for outpatient care.



## INFANTS UNDER 6 MONTHS

- Infants under 6 months may be discharged from inpatient care when they are exclusively breastfed (successful re-lactation has occurred), appropriate weight has been gained, and they are clinically well and alert. Appropriate weight gain for an infant under 6 months means a minimum of 20 g per day gained due to breastfeeding alone over a period of five consecutive days. Infants recovering from SAM who have no access to breastfeeding by the mother or other caregiver require alternative methods of feeding based on national guidelines or remain in inpatient care until the age of 6 months.

**DISCHARGE CRITERIA FOR CMAM**

<b>INPATIENT CARE</b> for the Management of SAM with Medical Complications	<b>OUTPATIENT CARE</b> for the Management of SAM without Medical Complications	<b>SUPPLEMENTARY FEEDING</b> for the Management of MAM
<b>DISCHARGE CRITERIA* FOR CHILDREN 6 - 59 MONTHS</b>		
<p><b>DISCHARGED TO OUTPATIENT CARE:</b></p> <p>Appetite returned (passed appetite test)</p> <p><b>AND</b> medical complication resolving</p> <p><b>AND</b> bilateral pitting edema decreasing</p> <p><b>AND</b> clinically well and alert</p> <p>(If Marasmic kwashiorkor admission: bilateral pitting edema resolved)</p>	<p><b>DISCHARGED CURED:</b></p> <p><b>If bilateral pitting edema admission:</b></p> <ul style="list-style-type: none"> <li>▪ No bilateral pitting edema for 2 consecutive sessions</li> <li>▪ MUAC <math>\geq 115</math> mm</li> <li>▪ WFH <math>\geq -2</math> z-score (WHO) or <math>\geq 80</math> % of the median (NCHS)</li> <li>▪ Child clinically well and alert</li> </ul> <p><b>If MUAC admission:</b></p> <ul style="list-style-type: none"> <li>▪ Minimum 2 months in treatment</li> <li>▪ MUAC <math>\geq 110</math> mm</li> <li>▪ No bilateral pitting edema</li> <li>▪ Child clinically well and alert</li> </ul> <p><b>If WFH admission:</b></p> <ul style="list-style-type: none"> <li>▪ Minimum 2 months in treatment and WFH <math>\geq -2</math> z-score (WHO) or WFH <math>\geq 80</math> % of the median (NCHS) for 2 consecutive sessions**</li> <li>▪ No bilateral pitting edema</li> <li>▪ Child clinically well and alert</li> </ul> <p><b>If Marasmic kwashiorkor admission:</b></p> <ul style="list-style-type: none"> <li>▪ No bilateral pitting edema for 2 consecutive sessions</li> <li>▪ If MUAC admission: minimum 2 months in treatment and MUAC <math>\geq 110</math> mm</li> <li>▪ If WFH admission: WFH <math>\geq -2</math> z-score (WHO) or <math>\geq 80\%</math> of the median (NCHS) for 2 consecutive sessions</li> <li>▪ Child clinically well and alert</li> </ul> <p><b>Children are discharged to supplementary feeding if available</b></p>	<p><b>DISCHARGED CURED:</b></p> <p><b>If MuAC admission:</b></p> <ul style="list-style-type: none"> <li>▪ Minimum 2 months in treatment</li> <li>▪ MUAC <math>\geq 125</math> mm</li> </ul> <p><b>If WFH admission:</b></p> <ul style="list-style-type: none"> <li>▪ Minimum 2 months in treatment</li> <li>▪ WFH <math>\geq -2</math> z-score (WHO) or <math>\geq 85\%</math> of median (NCHS) for 2 consecutive sessions</li> </ul> <p><b>DISCHARGED AFTER RECOVERING FROM SAM:</b></p> <ul style="list-style-type: none"> <li>▪ Minimum 2 months in treatment</li> <li>▪ MUAC <math>\geq 125</math> mm</li> </ul>

\*Subject to adaptations according to national guidelines; mid-upper arm circumference (MUAC) cutoffs for severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) are being debated.

\*\* If there is no supplementary feeding, discharge criteria may be adjusted to weight-for-height (WFH)  $\geq 85\%$  of median (National Centre for Health Statistics [NCHS]).

**HANDOUT 5.5**

**DISCHARGE CRITERIA AND EXIT CATEGORIES FOR CMAM**

**DISCHARGE CRITERIA FOR INFANTS < 6 MONTHS**

Discharged cured if successful re-lactation and appropriate weight gain (minimum 20 grams weight gain per day on breastfeeding alone for 5 days) and clinically well and alert (if no access to breastfeeding, alternative method of replacement feeding based on national guidelines are required).		
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**DISCHARGE CRITERIA FOR PREGNANT AND LACTATING WOMEN**

		<b>Pregnant and lactating women</b> MUAC ≥ 210 mm or infant ≥ 6 months of age
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**EXIT CATEGORIES FOR CMAM**

<b>INPATIENT CARE for the Management of SAM with Medical Complications</b>	<b>OUTPATIENT CARE for the Management of SAM without Medical Complications</b>	<b>SUPPLEMENTARY FEEDING for the Management of MAM</b>
<b>EXIT CATEGORY: CURED</b>		
Child 6-59 months meets outpatient care discharge criteria Infant < 6 months meets inpatient care discharge criteria	Child 6-59 months meets discharge criteria	Child 6-59 months meets discharge criteria
<b>EXIT CATEGORY: DIED</b>		
Child dies while in inpatient care	Child dies while in outpatient care	Child dies while in supplementary feeding
<b>EXIT CATEGORY: DEFAULTED</b>		
Child is absent for 2 days	Child is absent for 3 consecutive sessions (e.g., 3 weeks)	Child is absent for 3 consecutive sessions (e.g., 6 weeks)
<b>EXIT CATEGORY: NON-RECOVERED</b>		
Child does not reach discharge criteria after 4 months in treatment (medical investigation previously done)	Child does not reach discharge criteria after 4 months in treatment (medical investigation previously done)	Child does not reach discharge criteria after 4 months in treatment (medical investigation previously done)
<b>EXIT CATEGORY: REFERRED TO OUTPATIENT OR INPATIENT CARE</b>		
<b>Referred to Outpatient Care</b> Child's health condition is improving and child is referred to outpatient care to continue treatment	<b>Referred to Inpatient Care</b> Child's health condition is deteriorating (action protocol)	<b>Referred to Outpatient or Inpatient Care</b> Child's health condition is deteriorated and child meets outpatient or inpatient care admission criteria (action protocol)

Note: MUAC is the preferred indicator for admission to CMAM. MUAC is used for children age 6-59 months. MUAC cutoffs for SAM and MAM are being debated. The cutoff for SAM could increase to 115 mm, however, this had not been put in practice at the time these materials were published. In some countries, the MUAC cutoff for MAM has been set at < 120 mm.

Depending on national guidelines, weight-for-height (WFH) is expressed as standard deviations (SDs) below the median of the World Health Organization (WHO) child growth standards (WFH < - z-score) or as a percentage of the median of the National Centre for Health Statistics (NCHS) child growth references (WFH < % of median).

## HANDOUT 5.6

### MEDICAL TREATMENT AND NUTRITION REHABILITATION OF SAM WITH MEDICAL COMPLICATIONS

Medical treatment and nutrition rehabilitation of children with severe acute malnutrition (SAM) and medical complications in inpatient care follow the World Health Organization (WHO) protocols for the treatment of SAM (WHO 1999). When the medical condition is stabilised and the medical complication is resolving, the child is referred to outpatient care to continue the nutrition rehabilitation.

#### TREATMENT

- The WHO manual (WHO 1999) and guidelines (WHO 2003) provide detailed information on the treatment of children with SAM and do not account for early discharge to outpatient care after the medical condition is stabilised and the medical complication is resolving.
- It usually takes four to seven days of treatment for the medical complication to start resolving.

#### FIGURE 1. WHO 10-STEP TREATMENT OF CHILDREN WITH SAM

*WHO Guidelines for the Inpatient Treatment of Severely Malnourished Children (2003)*

STEP	STABILISATION PHASE		REHABILITATION PHASE
	Days 1-2	Days 3-7	Weeks 2-6
1. Hypoglycaemia	→		
2. Hypothermia	→		
3. Dehydration	→		
4. Electrolytes			→
5. Infection	→	→	
6. Micronutrients		no iron	with iron
7. Cautious feeding		→	
8. Catch-up growth			→
9. Sensory stimulation			→
10. Prepare for follow-up			→

#### NUTRITION REHABILITATION

- Children receive F75 (100 kcal/kg/day) every two to three hours and are given routine or specific medication according to the medical complication and the WHO treatment protocol (Steps 1-7). When appetite has returned (child drinks F75 voluntarily), ready-to-use therapeutic food (RUTF) is gradually introduced (Step 8).
- Once the child can eat at least 75 percent of the RUTF ration at each meal (150 kcal/kg/day), nutrition support can continue with RUTF (200 kcal/kg/day, according to the RUTF protocol) and, if the medical complication is resolving, the child can be discharged to outpatient care.
- Children with SAM and medical complications in inpatient care can be given RUTF immediately if they have appetite and can eat the RUTF.

- Children who have been referred to inpatient care from outpatient care because of static weight for five consecutive weigh-ins or weight loss for more than three consecutive weeks also can be given RUTF if they have appetite.

## NUTRITION REHABILITATION OF INFANTS UNDER 6 MONTHS WITH SAM

Health care providers need special training in the management of SAM in infants under 6 months receiving inpatient care. Treatment can be very labour-intensive. Management of SAM in infants generally requires:

- If the mother is present:
  - Nutrition rehabilitation with intensive breastfeeding counselling and support to the mother, and the supplemental suckling technique (SST) with diluted F100, along with medical treatment according to the WHO protocol; the aim is to restore exclusive breastfeeding (EBF) with appropriate weight gain of 20g per day for 5 days on breast milk alone
  - Nutrition, medical and psychological care for breastfeeding mothers
  - Promotion and support for breastfeeding in all instances
- If the mother is not breastfeeding or is absent:
  - Nutrition rehabilitation with diluted F100, medical treatment according to the WHO protocol; alternatives for continued feeding with local available complementary foods should be considered

**Note:** Infants under 6 months are never given RUTF, as they have not sufficiently developed the swallowing reflex for solid foods.

See WHO's *Guidelines for the Inpatient Treatment of Severely Malnourished Children* (WHO 2003) for more information on inpatient care.

## HANDOUT 5.7

### PRACTICAL IMPLICATIONS IN DISCHARGES FROM INPATIENT CARE

#### A. DISCHARGES FROM INPATIENT CARE TO OUTPATIENT CARE

- Children with severe acute malnutrition (SAM) who are discharged from inpatient care are referred to the nearest outpatient care site to continue their treatment. The hospital or health facility with inpatient care should have a complete list of outpatient care sites in its catchment area, along with the sites' service days, so they can refer the child to the appropriate health facility closest to their community and on the right service day.
- If there is no outpatient care site, outpatient treatment should continue at the health facility's outpatient department (OPD). Arrangements should be made for the mother/caregiver and child to have a temporary and safe living space near the health facility.
- A referral slip to the outpatient care site should be provided, including a summary section listing any medical interventions and medicines given to the child.
- **Children discharged from inpatient care are considered a priority for follow-up home visits during their first week in outpatient care**, according to the action protocol. Outreach workers (e.g., community health workers [CHWs], volunteers) should visit the child at home to be sure there are no problems with feeding and to refer the child to the nearest health facility with outpatient care if his/her condition deteriorates.
- On discharge, the mother/caregiver is given sufficient ready-to-use therapeutic food (RUTF) to last until the next outpatient care follow-on session. Key messages about the use of RUTF and basic hygiene are discussed again with the mother/caregiver.
- **Note:**
  - Close collaboration and information sharing between inpatient and outpatient care are essential. Health care providers in health facilities with inpatient care should receive a full orientation at the outpatient care treatment site and vice versa.
  - It is important to have effective tracking and reporting systems so that children do not get lost and defaulters and deaths do not go unreported. Using the child's unique registration number on referral slips helps ensure smooth referrals among services. When inpatient care sites use an already existing system for registration numbers, efforts should be made to also use the child's CMAM registration number.

#### B. DISCHARGES FROM INPATIENT CARE THAT EXIT CMAM

- If a child is absent from inpatient care for two days, the case is **classified as a default**.
- If a child died while in inpatient care, the cause of death should be reported according to local regulations. If possible, transportation should be provided to take the mother/caregiver and the child's body home. The outpatient care treatment site where the child entered CMAM should be notified.

### C. REFERRAL FOR TERTIARY CARE

- A child in inpatient care might need to go to a higher-level referral hospital — or tertiary care – for underlying medical complications that cannot be treated at the inpatient care site. If the child has appetite, the child might be sent to the referral hospital with a supply of RUTF, or an arrangement might be made with the referral hospital to make sure it has RUTF for children with SAM who are referred. F75 and instructions should be made available.

## HANDOUT 5.8

### INPATIENT CARE FIELD VISIT CHECKLIST

<b>OBSERVE THE FOLLOWING:</b>	
	Registration
	Admission criteria
	Admission process
	Discharge criteria
	Discharge procedures
	Preparation of therapeutic foods (e.g., F75, F100, D-F100)
	Storage of therapeutic foods and drugs
	Feeding of children with severe acute malnutrition (SAM)
	Feeding routines
	Inpatient care treatment card
	Flow of activities within inpatient care
	Referral process
<b>ASK THE STAFF:</b>	
	How well inpatient care is working now that there is outpatient care
	How the numbers/types of children in inpatient care now compare with the numbers/types before outpatient care was available
	What the challenges to managing the workload are



# EXERCISE 5.1

## REFERRAL FROM INPATIENT TO OUTPATIENT CARE

Fill out this referral card completely and accurately with the information provided.

<b>Name of child:</b>		<b>Community:</b>
<b>Age:</b>		<b>Sex:</b>
<b>Date of Admission:</b>		<b>Site:</b>
<b>ADMISSION DATA</b>	<b>Weight:</b>	<b>MUAC:</b>
	<b>Height:</b>	<b>WFH:</b>
<b>Bilateral pitting edema (circle) None + ++ +++</b>		<b>Referral to:</b>
<b>Date of Referral:</b>		<b>Registration No:</b>
<b>Criteria for Referral:</b>		
<b>Treatment given:</b>	<b>Comments:</b>	

EXERCISE 5.1

Adapted from *Community-based Therapeutic Care (CTC): A Field Manual*