

CLINICAL INSTRUCTOR GUIDE



Government of Sudan

**Training Course on
Inpatient Management of
Severe Acute Malnutrition**

**Children 6–59 Months with SAM
and Medical Complications**

June 2011

This modified version of the 2002 World Health Organisation's *Training Course on Inpatient Management of Severe Acute Malnutrition (SAM)* is the practical application of the 2009 Government of Sudan (GOS) Federal Ministry of Health (FMOH) *Interim Manual Community-Based Management of Severe Acute Malnutrition (November 2009)*. The training course is made possible by the generous support of the American people through the support of the Office of U.S. Foreign Disaster Assistance, Bureau for Democracy, Conflict and Humanitarian Assistance, and the Office of Health, Infectious Diseases, and Nutrition, Bureau for Global Health, United States Agency for International Development (USAID), under terms of Cooperative Agreement No. AID-OAA-A-11-00014, through the FANTA-2 Bridge, managed by FHI 360. The contents are the responsibility of FHI 360 and do not necessarily reflect the views of USAID or the United States Government.

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Acronyms and Abbreviations

AIDS	acquired immune deficiency syndrome
ART	antiretroviral therapy
AWG	average daily weight gain
BMI	body mass index
cm	centimetre(s)
CMAM	Community-Based Management of Acute Malnutrition
CMV	combined mineral and vitamin mix
dl	decilitre(s)
ENA	Essential Nutrition Actions
FMOH	Federal Ministry of Health
g	gram(s)
GOS	Government of Sudan
Hb	haemoglobin
HFA	height-for-age
HIV	human immunodeficiency virus
IGF	insulin growth factor
IM	intramuscular
IMNCI	Integrated Management of Neonatal and Childhood Illness
IU	international unit(s)
IV	intravenous
IYCF	infant and young child feeding
kcal	kilocalorie(s)
kg	kilogram(s)
L	litre(s)
LOS	length of stay
M&R	monitoring and reporting
MAM	moderate acute malnutrition
ml	millilitre(s)
mm	millimetre(s)
MUAC	mid-upper arm circumference
µg	microgram(s)
NG	nasogastric
NGT	nasogastric tube
OPD	outpatient department
ORS	oral rehydration solution
PCV	packed cell volume
PLHIV	people living with HIV
PMTCT	prevention of mother-to-child transmission of HIV
QI	quality improvement
ReSoMal	Rehydration Solution for Malnutrition
RUTF	ready-to-use therapeutic food
SAM	severe acute malnutrition
SFP	supplementary feeding programme
TB	tuberculosis
UNSCN	United Nations Standing Committee on Nutrition
WFA	weight-for-age
WFH	weight-for-height
WFP	World Food Programme
WHO	World Health Organisation

1. Purpose of Clinical Sessions

The clinical session is an essential part of the *Training course on Inpatient Management of Severe Acute Malnutrition* training course. Clinical sessions are led by the clinical instructor in the severe acute malnutrition (SAM) ward each day of the course. The purpose of the clinical sessions is for participants to see and practise management of children with SAM, following procedures described in the Government of Sudan Interim Manual: Community-Based Management of Severe Acute Malnutrition, Version 1.0 (November 2009) (CMAM Manual)¹.

Participants learn about the procedures for management of SAM in children under 5 by reading information in training modules and seeing demonstrations on video. They then use the information to complete written and/or oral exercises. Finally, and most importantly, in clinical sessions participants see the procedures carried out and practise some procedures in Inpatient Care for the management of SAM with complications.

General Objectives. During clinical sessions, participants will:

- See and practise identifying clinical signs of SAM and medical complications in children
- Observe and practise procedures for management of SAM in children
- Practise handling children with SAM gently and using a supportive and friendly manner with mothers²
- Receive feedback about how well they have performed and guidance to help strengthen skills
- Gain experience and confidence in the procedures taught in the training course

Clinical sessions are organised to give participants an opportunity to observe and practise skills in the order that they are being learnt in the modules. Each clinical session focuses on some new skills and reinforces the skills participants have learnt in previous modules. If any participant has difficulty with a particular skill, the clinical instructor gives him/her additional guidance. The purpose is to help every participant develop skills and confidence.

¹ Case management practices in the ward should be consistent with those summarized in the job aids and described in the CMAM Manual. If there are discrepancies between current practices of the health facility where the clinical sessions of the training course occur, the clinical instructor should be prepared to support the training site to implement the best practices of the Federal Ministry of Health (FMOH). Local adaptation of some procedures is reasonable; the clinical instructor or Course Director should be prepared to explain how the current practice is consistent (or not consistent) with the best practices of the FMOH and the reasons for it. If a health facility wants to upgrade its procedures to be consistent with the best practices of the FMOH, staff may require training, ward procedures may need to be changed and additional supplies may need to be obtained. The health facility may request technical assistance from the FMOH (and the World Health Organisation [WHO] or other partners) well in advance of a training course.

² The term ‘mother’ is used throughout the modules and guides. However, it is understood that the person who is responsible for the care of the child might not always be that child’s mother, but rather some other caregiver. However, for the sake of readability, ‘mother’ means ‘mother/caregiver’ throughout the modules and guides, ‘she’ means ‘she or he’ and ‘her’ means ‘her or his’.

2. Objectives of Clinical Sessions

Each clinical session has specific objectives for observation and practice. These objectives are based on the expected progress of the participants working through the modules in their small groups, with the guidance of group facilitators. It is important that participants have read about the procedures (and done some related exercises) **before** the clinical session that focuses on them. The course schedule was designed with this in mind.

Day 1: Tour of Ward

- Observe the admissions area
- Observe the emergency treatment area
- Observe how the SAM ward or area is organised
- Observe the kitchen area
- Observe any special areas for play, health education, etc.

Day 2: Clinical Signs and Anthropometric Measurements

- Observe children with clinical signs of SAM
- Look for signs of SAM and medical complications
- Measure mid-upper arm circumference (MUAC)
- Measure weight and length/height
- Look up weight-for-height (WFH) z-scores
- Look up target weight for discharge
- Test appetite with RUTF
- Identify children with SAM, review admission criteria and discuss treatment in Inpatient Care and referral to Outpatient Care

Day 3: Initial Management

- Observe initial management of children with SAM
- Identify clinical signs of SAM and medical complications: hypoglycaemia, hypothermia, shock, dehydration, severe anaemia and corneal ulceration
- Practise using dextrostix
- Practise filling out an Inpatient Management Record during initial management
- Assist in conducting initial management, if feasible, such as:
 - Check for signs of shock: cold hands with slow capillary refill or weak or fast pulse
 - Take rectal temperature
 - Give bolus of glucose for hypoglycaemia
 - Warm child
 - Give first feed

Day 4: Flexible Half-Day, Optional Clinical Session

Any of the preceding activities may be repeated for extra practice. If case management in the hospital is good, participants may be assigned to ‘shadow’ and assist a health care provider in the hospital for part of the day. This day may also be a good opportunity to observe a teaching session with mothers or a play session.

Day 5: Initial Management and Feeding

- Observe and assist in conducting initial management, if feasible, including:
 - Identify signs of possible dehydration in a child with SAM
 - Measure and give Rehydration Solution for Malnutrition (ReSoMal)
 - Monitor a child on ReSoMal
 - Determine antibiotics and dosages
- Practise testing the appetite with ready-to-use therapeutic food (RUTF): appetite test, for a child who shows appetite and is clinically well and alert
- Practise conducting the supplemental suckling technique if possible
- Observe nurses (and nutritionists) measuring and giving feeds
- Practise measuring, giving and recording feeds

Day 6: Feeding

- Review 24-Hour Food Intake Charts and plan feeds for the next day
- Determine if child is ready for RUTF and/or F-100; practise testing the appetite with RUTF: appetite test (continued)
- Prepare F-75, F-100 and ReSoMal, and learn the contents of RUTF
- Practise measuring, giving and recording feeds (continued)

Day 7: Daily Care and Monitoring Quality Care

- Keep Inpatient Management Records on children observed and cared for
- Participate in daily care tasks, as feasible:
 - Measure pulse rate, respiratory rate and temperature
 - Administer eye drops, antibiotics, other drugs and supplements; change eye bandages; etc.
 - Weigh child and record weight (on Daily Care page and on weight chart of Inpatient Management Record)
 - Look up target weight for discharge and mark on weight chart
 - Observe and assist with bathing children
- Assist with feeding (continued practice)
- Discuss progress to referral and/or discharge and decide when the child is ready; practise referral to Outpatient Care when stabilised and discharge when fully recovered
- Monitor quality of care using checklist
- Practise filling out tally and reporting sheets, and assess performance

Additional Objectives

- Observe a health and nutrition education session (and a cooking session) with mothers
- Observe a play session

3. The Role of the Clinical Instructor

There is one clinical instructor who leads all the clinical sessions. The clinical instructor leads a session each day for each small group of participants (for example, three sessions each day with up to six participants each).

Teaching a small number of participants in the ward at any given time allows each person to have hands-on practice. The clinical instructor is able to watch carefully and give feedback to help each participant improve.

Experience has shown that this clinical teaching can best be done by someone who is present in the ward throughout the day, rather than by different instructors coming in for an hour or two. The clinical instructor becomes familiar with the children and staff procedures and is comfortable moving about the ward. As the clinical instructor repeats the same teaching for each group during the day, he/she usually becomes more effective at imparting his/her knowledge. The mothers and staff are also more comfortable seeing the same instructor with different groups of participants³.

Each morning, to prepare for the day, the clinical instructor reviews the teaching objectives for the day and plans how to accomplish them. For example, on the day when participants are to practise identifying clinical signs of SAM, the clinical instructor might locate several children in the ward who clearly demonstrate the signs, and then show the signs on one or two children and ask participants to point out signs on the other children. On a day when participants are learning about the stabilisation phase, the clinical instructor might select several children in the ward who are in that phase and have the participants look over their 24-Hour Food Intake Charts, assess progress and plan feeding for the next day. The clinical instructor might prepare a list of questions to ask or prepare tasks for participants to do with these children.

The clinical instructor needs to be skilled at anticipating what will occur on the ward and at planning how multiple groups of participants can accomplish their objectives. If the clinical instructor finds that the schedule planned for clinical sessions will not work on a given day, he/she must plan an alternative and adjust the schedule accordingly.

General procedures and specific guidelines for teaching each clinical session are provided later in this guide.

³ The group's facilitators should attend and assist as the clinical instructor requests, but they are not in charge of teaching the group while in the ward; that is the responsibility of the clinical instructor.

4. Qualifications and Preparation of the Clinical Instructor

The clinical instructor should have as many of the following qualifications as possible.

1. The clinical instructor should be **currently active in clinical care** of children with SAM with medical complications. If possible, he/she should have a current position in Inpatient Care of the health facility where the training is being conducted. (If the clinical instructor is not on the staff of the health facility, a staff assistant will be needed to help with arrangements and perhaps with translation.)
2. The clinical instructor should have proven **clinical teaching skills**.
3. The clinical instructor should be very **familiar with the Inpatient Care job aids and the CMAM Manual** and have experience using it. It is best if he/she has previously **participated in the Training course on Inpatient Management of Severe Acute Malnutrition** as a participant or facilitator. He/she should at least be familiar with and use the practices summarized in the job aids and described in the CMAM Manual.
4. He/she should be **clinically confident** to be able to sort through a ward of children quickly, identify clinical signs that participants need to observe and determine the progress of different children. He/she should understand the daily procedures in Inpatient Care and quickly see where participants could assist with care. He/she should understand each child's clinical diagnosis and prognosis so as to not compromise the care of critically ill children. He/she should be comfortable handling children with SAM and medical complications and **convey a gentle, positive, hands-on approach**.
5. The clinical instructor must have **good organisational skills**. To accomplish all of the tasks in each clinical session the clinical instructor must be efficient. The individual must be able to stay on the subject, avoiding any extraneous instruction or discussion. He/she must be able to keep a view of the ward and all the participants, and keep all participants involved and learning productively. Teaching three groups of participants requires 4½–6 hours, and these are very active periods. He/she must be energetic.
6. The clinical instructor must be **outgoing and able to communicate** with ward staff, participants and mothers. She should be a good role model in talking with mothers. A translator might be needed.
7. If possible, in preparation for this role, the individual should work as an assistant to a clinical instructor during another course to see how to select cases, organise the clinical sessions and interact with participants. Or another skilled clinical instructor could join him/her during the first few days of the Facilitator Training or the Case Management Training.
8. The clinical instructor must be available 1–2 days prior to Facilitator Training, during all of Facilitator Training and during the entire Case Management Training. He/she must be willing and motivated to get up early each morning to review cases in the SAM ward and prepare for the day's clinical sessions.

5. Before the Facilitator Training and Case Management Training Begin

1. With the Course Director, meet with the hospital director and the person responsible for Inpatient Care in the SAM ward (the ward head). Explain to the ward head how clinical sessions work. Describe what the clinical instructor and the participants would like to do. Ask permission to conduct sessions in the ward.

Meet with staff in the ward (or in each ward) to inform them about the training and to ask for their help. Make sure your arrangements include the senior responsible nurse, not just the physician in charge.

If necessary, ask the SAM ward head for a clinical assistant, preferably someone who works on the ward full-time. Ask the ward head to request that the clinical assistant come at the time of the early morning preparations (usually 6:00 or 7:00, depending on the schedule). Ask for a translator to help, if needed. (It will often be necessary to provide a stipend to this individual.)

2. If you are not familiar with the ward, visit it. See how the ward is laid out, the schedule of admissions, how bathing and weighing are conducted, how feeding is done, the schedule of nursing rounds, the teaching sessions for mothers, etc. Find out times patients are available or not available.
3. Meet with the Course Director and the SAM ward head to set the schedule for clinical sessions, so each group will have a clinical session each day. Plan for three groups of up to six participants each. A 1- to 2-hour session is required for each group each day. (If there are more participants attending the course, you will need to schedule accordingly.) See Section 6, ‘Scheduling Clinical Sessions’, for more guidance on scheduling. When the schedule is written, make sure that copies are made for each facilitator and participant.
4. Study this guide to learn what you should do to prepare for and conduct clinical sessions. Visit the ward to plan how and where you can carry out your tasks.
5. Obtain necessary supplies for instruction. All participants, facilitators, clinical instructors and assistants should have a copy of the following:
 - Objectives for Clinical Sessions (listed in Module 1: Introduction)
 - Schedule of Clinical Sessions
 - Reference
 - CMAM Manual
 - Operational Guide for Inpatient Care

Set of Job Aids

- Admission and Discharge Criteria for the Management of Severe Acute Malnutrition in Children under 5
- Routine and Other Medicine Protocols and Vaccines for Children under 5 with SAM in Inpatient Care
- Action Protocols in Inpatient Care
- Danger Signs for the Management of Severe Acute Malnutrition in Children under 5 in Inpatient Care

- Ten Steps for Management of SAM in Children 6–59 Months in Inpatient Care
- Pathophysiology Basis for the Treatment of Severe Acute Malnutrition
- Hypertonic Dehydration in Children under 5 in Inpatient Care
- Weight-for-Height/Length Look-Up Tables
- F-75 Look-Up Tables
- F-100 Look-Up Tables
- F-100-Diluted Look-Up Tables
- Use of RUTF in Children under 5 in Inpatient Care and RUTF Appetite Test
- Guidance Table to Identify Target Weight for Discharge from Management of Severe Acute Malnutrition for Children 6–59 Months
- Entry and Exit Categories for Monitoring the Management of Severe Acute Malnutrition in Children 6–59 Months

Forms and checklists

- Inpatient Management Record
- Daily Feeds Chart
- Referral Form
- Site Tally Sheet
- Monthly Site Report for CMAM
- Supervisor's Checklist

As clinical instructor, you will need a supply of:

- Inpatient Management Records (100 copies of the Initial Management page plus 60 complete Inpatient Management Records for a course with 15–20 participants)
- 24-Hour Food Intake Charts (100 copies for a course with 15–20 participants)
- Pens and pencils
- Thermometers
- A few watches (participants might have their own)
- MUAC tapes
- Weight scales and length/height board, for measuring infants and children (several scales and length boards will be needed if possible, since each participant will weigh and measure a number of children)
- 6–8 clipboards and string or tape to fasten clipboards to foot or head of bed (optional)

And, for day 3:

- Dextrostix, blood samples, gloves for every participant

To ensure good hand-washing, participants need access to:

- Running water
- Paper or cloth towels
- Soap
- Lab coats, aprons or towels to protect clothes when handling children (*Note:* These should not be shared by participants; each should have his/her own)

6. Check that all clinical supplies for care of children with SAM with medical complications in the SAM ward are available (e.g., equipment/supplies for the ward, pharmacy and kitchen; medicines). Supplement supplies of the ward if necessary. You should ensure that participants will observe management of children according to the protocols summarized

in the job aids and described in the CMAM Manual. See **Annex B** for a complete list of supplies.

7. Meet with the Course Director to review your responsibilities and your plans for conducting the clinical sessions.
8. With the Course Director, plan how you will teach a session during the Facilitator Training. This will give you practice and will familiarise the facilitators with how clinical sessions will work.

Select one session to practise during the Facilitator Training, just as written. Alternatively, you could select and practise some key activities from different sessions, such as:

- Identifying clinical signs of SAM with medical complications (as done on day 3)
- Observing and helping with initial management (as done on days 3 and 5)
- Practising measuring and giving feeds (as done on days 5 and 6).

9. Brief any staff who will be in the ward about what you will be doing and the training sessions that will take place there.
10. During the Facilitator Training, give each facilitator a copy of the schedule for clinical sessions and explain how the clinical sessions will work. (See on page 15, day 1, 'Explanation to participants of how clinical sessions will work'.) Practise this explanation first as if you are speaking to a group of participants. Then discuss the sessions from the facilitator's point of view.

Practise conducting a clinical session with facilitators in the role of participants. When the session is over, ask for feedback from the facilitators. This practice should help you obtain experience and work out any problems before the actual course begins.

11. Before the course begins, study the Tally Sheets for Clinical Sessions in **Annex C** and plan how you will use them. Make a copy to write on.

6. Scheduling Clinical Sessions

It can be a challenge to schedule clinical sessions in a way that allows all groups to accomplish each day's objectives. Study the objectives for each day and think about when the ward's routine will accommodate them. Plan to rotate the three groups through the schedule, so that each group experiences the ward at different times in the daily schedule, and no group sees the ward at the same time every day.

Though it would be easiest for the participants and facilitators if the schedule is the same, or nearly the same, each day, it is necessary to vary it somewhat. It is critical to provide everyone with a copy of the schedule to avoid confusion and tardy groups.

Day 1 objectives (Tour of Ward) can be achieved at any time after the first 2 hours of the opening day, in other words, after the groups have had time to read **Module 1, Introduction**.

Day 2 objectives (Clinical Signs and Anthropometric Measurements) can be achieved at any time when participants can observe children and their clinical signs in the ward, and when there are children waiting to be seen in the outpatient or inpatient queue. Participants should have finished **Module 2, Principles of Care**, before this session.

Day 3 objectives (Initial Management) can be achieved when the staff is carrying out initial management procedures for new patients. The clinical sessions on this day should be scheduled at times when there are usually new admissions.

Day 4 is a flexible half-day during which you may or may not schedule a clinical session. It may be a good day to achieve the additional objectives of observing a teaching session or play session. If so, schedule accordingly.

Day 5 objectives (Initial Management and Feeding) include participants again assisting with initial management. The clinical sessions on this day should be scheduled at times when there are likely to be new admissions. Participants may also observe and help with feeding. Therefore, each session should include a scheduled feeding time.

Day 6 objectives (Feeding) include more practice measuring and giving feeds. Practise the RUTF appetite test and the supplemental suckling technique. Each session should include a scheduled feeding time.

Day 7 objectives (Daily Care and Monitoring Quality Care) include daily care tasks, such as weighing children; measuring respiratory rate, pulse and temperature; giving antibiotics; and bathing. Determine at what times the regular staff usually perform these tasks and whether the three clinical sessions can be scheduled to correspond to those times. It is possible that some groups will not be able to practise all of the daily care tasks. Discuss quality of care and filling in tally and reporting sheets and analyse monthly reports or the previous months.

Additional objectives

- Observe a health and nutrition education session (and a cooking session) with mothers
- Observe a play session

These health and nutrition education, cooking and play sessions may be observed during already-scheduled clinical sessions or may need to be scheduled in addition. Determine when staff will conduct these sessions and schedule each small group to observe at one of those times. If necessary, you may just call each small group out of the classroom to observe a brief teaching session. Although participants do not read in the modules about these activities until later in the course, it is acceptable to have them observe at any time.

To meet all objectives you might need to be creative in your scheduling. A clinical session might need to be scheduled quite early or late on some days for each group to participate in a feeding time. You might use a grid similar to the one below to plan clinical sessions.

The times shown are just examples. A blank schedule is in **Annex A**. Take special care to plan and adapt for each group, taking into account things like tea and lunch breaks, and be sure to allow time for movement to and from and around the ward.

Sample Clinical Session Schedule

Clinical Session	Group A	Group B	Group C
Day 1 Tour of Ward 1 hour	11:00 – 12:00	13:00 – 14:00	14:15 – 15:15
Day 2 Clinical Signs and Anthropometric Measurements 1.5 hours	9:00 – 10:30	10:45 – 12:15	13:30 – 15:00
Day 3 Initial Management 1.5 hours	13:30 – 15:00	9:00 – 10:30	10:45 – 12:15
Day 4 Flexible half-day, optional clinical session	All groups will observe play session at 10:00		
Day 5 Initial Management and Feeding 2 hours	10:45 – 12:45 (11:00 feed)	13:30 – 15:30 (15:00 feed)	8:30 – 10:30 (9:00 feed)
Day 6 Feeding 1.5 hours	8:30 – 10:00 (9:00 feed)	10:15 – 11:45 (11:00 feed)	12:45 – 14:15 (13:00 feed)
Day 7 Daily Care and Monitoring Quality Care 2 hours	13:00 – 15:00	9:00 – 11:00	10:45 – 12:45
Observe health and nutrition education session (and cooking session) for mothers	Day 7 at 14:00	Day 5 at 14:00	Day 6 at 14:00
Observe play session	Day 4 at 10:00	Day 4 at 10:00	Day 4 at 10:00

7. General Procedures for Planning and Conducting Clinical Sessions

1. Each day, review the objectives for the next day and plan how to accomplish them with the groups in the time allowed.

Participants will practise some tasks (such as feeding children) by assisting the staff doing patient care on their regular schedule. Some tasks will need to be organised specially, by assigning participants to work with selected children that have certain characteristics.

If the schedule requires adjustment to accomplish the session objectives, inform the Course Director and/or the group facilitators. If any special supplies are needed, be sure that they will be available. Prepare or make copies of any forms needed, such as Inpatient Management Record pages or 24-Hour Food Intake Charts.

2. Each morning, review the children in the ward and select appropriate children to be observed by participants during the day's sessions. This must be done in the morning because the clinical condition of hospitalised children can change overnight.

Identify children appropriate for the objectives for that day. For example, on some days you will need children that exhibit certain clinical signs. On other days, you will need a number of new admissions. Try to select at least one patient per participant. It is desirable to have a separate patient for each participant to work with during the session.

Always be alert for children with medical complications. Because some signs may be rarely seen or understood in a child with SAM, show them to participants whenever there is an opportunity. These signs may include:

- severe dermatosis (+++)
- severe oedema (+++)
- signs of dehydration, especially a skin pinch that goes back slowly
- signs of shock (cold hands with slow capillary refill > 3 seconds, weak or fast pulse)
- corneal clouding, corneal ulceration

3. Keep a list with brief notes on each of the selected cases for your own reference during the day. Note the child's name, age, location in the ward if necessary and relevant signs. However, keep in mind that clinical signs can change rapidly in very ill children from one session to the next.

Mark the beds of the children that you plan to show to participants, for example, by posting a coloured card at the foot of the bed. This will help you locate these children easily. Explain the purpose of the visit of the participants and the training to the mothers of the children that are identified as learning cases.

4. Brief the ward staff on what the participants will do today. If participants will assist the regular staff with certain procedures, be sure that the staff know this and are willing. Remind the staff that they are setting the example, and that they should be ready to explain what they are doing and answer participants' questions, if possible.

5. Before each session, remind participants to wash their hands carefully. Ask them to be sure to wash again between patients and at the end of the session. This is for their own protection as well as the children's.
6. At the beginning of each session, tell the participants the objectives for the day. Demonstrate any clinical procedure that they might not have seen (such as giving ReSoMal, measuring height) before you ask them to do it.
7. Depending on the objectives for the session, assign each participant to a child to assess or care for, or to a staff member to work with. In some instances, you may assign a pair of participants to work together with a child. Be sure that participants have any needed forms or supplies.
8. Observe while participants carry out the assigned tasks. Watch for any participant who does not understand what to do. No participant should be standing around, chatting with other participants or staff. All the time during clinical sessions should be used productively. If a participant has completed a task and does not have another assignment, he can move to observe another participant or staff member at work.
9. Make sure that course work is not interfering too much with the ward routine, especially provision of treatment. Inform all families about the course. For potentially disturbing tasks, such as weighing, avoid handling the same children repeatedly during the day.
10. Give feedback to participants individually and in 'rounds', in which participants gather by a child's bed for a report on what another participant has seen or done. Ask questions to encourage the participant to elaborate as needed. Refer to the child's clinical signs, or chart, or feeding record, etc.

Keep these discussions brief and avoid making participants feel uncomfortable or intimidated. When you ask a participant about what he has done for a child and why, keep the tone positive. If a participant has overlooked something, you or another participant can suggest what could have been done better. Emphasise that the participants are all here to learn.
11. At the end of the session, gather all the participants together and summarise the session. Mention the important signs and procedures covered in the session and refer to common problems that participants encountered (for example, difficulties counting respiratory rate, errors recording initial treatment or intake). Reinforce participants for doing tasks correctly, and give them suggestions and encouragement to help them improve.
12. Record (check) on the Tally Sheet for Clinical Sessions (**Annex C**) the objectives accomplished by the group during the clinical session. Make notes on any problems.
13. Repeat steps 5–12 with each small group.
14. Participate in the daily facilitators' meeting. Report to the facilitators and the Course Director on the performance of each group at the clinical session that day and whether the objectives were achieved. Discuss whether participants were able to perform procedures correctly with patients. If certain tasks or concepts were difficult for participants, ask facilitators to review them in the classroom the next day. Identify any procedures that you

were unable to demonstrate or that the participants could not practise. Discuss plans to try again in the next day's session.

Also inform the facilitators about the next day's clinical sessions. Review any important points about the schedule, the objectives, help that you need, etc. Remind facilitators of anything that participants should bring to the sessions, such as their package of job aids.

8. Specific Instructions for Each Day's Clinical Session

On the following pages are specific instructions for each day's clinical session. Guidelines for each day include how to prepare, the participants' objectives, the instructor's procedures and what to do to conclude the session.

For some days, there are additional notes about preparing for or conducting that particular session.

When preparing for the first day or two, you may also find it helpful to refer to the general procedures just described. After you are familiar with the general procedures, simply refer to the appropriate summary for each day.

Day 1: Tour of ward

To Prepare Review these guidelines for day 1.

Prepare to take each group for a tour of the SAM ward and all areas where children with SAM are seen and treated. Identify areas that you will show and prepare your comments. If possible, obtain data on the number of children with SAM seen each month or each year, and how long these children typically stay in the hospital.

Plan to tour the SAM ward; the emergency treatment area; the admissions area; the kitchen area; and any special areas used for play, health education, etc.

If possible, find one child on the ward who has made a good recovery (a 'success story') and prepare to describe the child's condition on admission and how he/she has improved, emphasising the successes.

- Participant Objectives**
- Observe the admissions area
 - Observe the emergency treatment area
 - Observe how the SAM ward or area is organised
 - Observe the kitchen area
 - Observe any special areas for play, health education, etc.

- Instructor Procedures**
1. Introduce yourself.
 2. Explain to participants how clinical sessions will generally work. See 'Explanation to participants on how clinical sessions will work' below. Explain that today the group will not work with patients but will tour the ward and other areas where children with SAM are seen or treated.
 3. Explain hygiene procedures to be followed. Participants should wash hands with soap before and after each session and between patients. Explain where hand-washing facilities are located. (Even though participants will not be asked to handle patients today, they should wash anyway in case they touch any children.)
 4. Take participants to the admissions area and explain how children are admitted for SAM to Inpatient Care or referred to Outpatient Care.
 5. Visit the emergency treatment area and explain what treatments are given here.

6. Take participants for a tour of the SAM ward, pointing out areas that participants will learn about during the course: beds, areas for weighing and bathing, play area, education area, etc.
7. If possible, while touring the SAM ward, show a ‘success story’, a child who was admitted in serious condition but is now gaining weight, starting to become cheerful and about to be ready for referral to Outpatient Care.
8. Visit the kitchen or area where food is prepared. Point out food scales, ingredients used, etc.
9. Discuss the food for the mother.

At end of the session Summarise the session with participants. Answer any questions that participants might have.

Explanation to participants on how clinical sessions will work

You may wish to use the following explanation:

The purpose of clinical sessions is to give you opportunities to see and practise procedures for the management of SAM with medical complications. Inpatient Care (the SAM ward) may not be like the setting where you usually work. However, seeing and working in the SAM ward will help you understand the procedures and what is needed to carry them out. Then you will have ideas on how to put the recommended procedures into practice at your hospital.

You will learn from both what you *see* and what you *do* in the clinical sessions. You will observe while the staff performs some procedures, for example, giving initial treatment to a critically ill child. You may assist the staff and participate in some procedures, such as monitoring a child on ReSoMal or intravenous (IV) fluids. You will be assigned some tasks to perform on your own, such as feeding children and recording amounts taken. Sometimes you will work in pairs, particularly if there are not many patients. I (the clinical instructor) will assign tasks and patients to you, and will watch and give guidance and feedback on your work. I may ask you to show the other participants your case. You should not feel shy. We are all learning.

Your interactions with a child and his/her mother should always be gentle and patient. Children with SAM must be handled very gently and kindly. Interactions with the mothers of the patients should be encouraging and supportive. When you speak to a mother here, you should be kind to her and listen carefully.

If a child suddenly becomes much sicker, be sure to alert me and/or the ward staff.

Day 2: Clinical signs and anthropometric measurements

To Prepare	<p>Review Section 7, General Procedures for Planning and Conducting Clinical Sessions (pages 11–13), and these guidelines for day 2.</p> <p>Arrange for participants to weigh and measure children. Ensure that scales are working and measuring boards are set up correctly.</p> <p>Select one or two children with a variety of clinical signs to show to participants. Try to find clear examples of signs. See '<i>Clinical signs to demonstrate on day 2</i>' below (page 17) for a list of the signs to show today.</p> <p>Look for children in the admissions area and/or SAM ward who could be assessed for clinical signs of SAM; who could have his/her weight, MUAC and length/height measured; and who could be checked for the presence of bilateral pitting oedema. For each group, you will need 1–2 children per participant. It is best if the same children are not used repeatedly during the day. For the sake of comparison, include a few children that do not have SAM with medical complications.</p> <p>Ask facilitators to have their participants bring their job aids, specifically the WFH look-up table and the discharge weight look-up table, and a pen or pencil to the clinical session.</p>
Participant Objectives	<ul style="list-style-type: none">• Observe children with clinical signs of SAM• Look for signs of SAM and medical complications• Measure MUAC• Measure weight and length/height• Look up WFH z-scores• Look up target weight for discharge• Test the appetite with RUTF: appetite test• Identify children with SAM, review admission criteria and discuss treatment in Inpatient Care or Outpatient Care
Instructor Procedures	<ol style="list-style-type: none">1. Review the objectives for today's clinical session.2. Show one or two children with various clinical signs, which may include wasting, oedema, dermatosis, eye signs. See '<i>Clinical signs to demonstrate on day 2</i>' below. Point out these signs to participants.3. Using these same children (unless they are too sick), demonstrate how to measure MUAC, weight and height/length. Follow guidance on pages 10–17 of Module 2, Principles of Care. Demonstrate measuring both standing height and recumbent length.4. Ask participants to look up the WFH z-score of these children.5. Practise the RUTF appetite test for children that are stabilised and clinically well and alert6. Determine if they meet criteria for admission (given on page 21 of Module 2, Principles of Care).7. Assign each participant to assess one or two children in the admissions area and/or ward. Include some children that do not have SAM. Ask participants to assess each child for clinical signs of SAM, and then to weigh and measure the child's length/height and MUAC. Ask them to then determine if the child has SAM, appetite and/or medical complications and should be admitted.

8. Watch as participants examine each child for clinical signs, such as wasting, oedema and dermatosis. Ask the facilitators to assist participants as they weigh and measure children since a partner is needed for these tasks.
9. When a participant has finished assessing a child, ask the participant what he/she has found. Look at the child again with him/her, agreeing with the findings or asking the participant to look again if he/she missed a sign.
10. Toward the end of the session, conduct rounds. See [page 18](#), ‘Individual practice identifying clinical signs, followed by rounds to give feedback’. Ask each participant to present one of the cases assessed for the benefit of the other participants. Select cases that are most interesting and have a variety of clinical signs. The participant should point out the clinical signs; state the child’s MUAC, weight, height and WFH z-score; discuss whether the child should be admitted or referred to Outpatient Care; and state what the target weight for discharge at the end of the SAM treatment would be. Ask the participant questions as needed to draw out a complete explanation.

At end of the session Summarise the session with participants. Answer any questions that participants might have.

Clinical signs to demonstrate on day 2

Try to locate and show as many clear examples of the signs as possible. Avoid discussion of additional clinical signs so that the participants can focus on the signs taught in the course and become skilled at recognising them. Not all signs will be present in the ward every day. Whenever a child is admitted with an infrequently seen sign, be sure to show it to the participants, even if it is not listed in the objectives for that day.

Severe wasting	Based on MUAC and WFH
Bilateral Pitting Oedema	<ul style="list-style-type: none"> + Mild: Both feet/ankles ++ Moderate: Both feet, plus lower legs, hands or lower arms +++ Severe: Generalised including both feet, legs, hands, arms and face
Dermatosis	<ul style="list-style-type: none"> + Mild: Discolouration or a few rough patches of skin ++ Moderate: Multiple patches on arms and/or legs +++ Severe: Flaking skin, raw skin, fissures
Appetite	RUTF appetite test
Eye signs	<ul style="list-style-type: none"> Pus and inflammation (redness) Bitot’s spots Corneal clouding Corneal ulceration
Other medical complications	<ul style="list-style-type: none"> High fever Lethargy Lower respiratory tract infection Severe anaemia

All of the above signs are explained in **Module 2, Principles of Care**, and photographs of these signs are provided in the *Photographs* booklet.

It is helpful to show children with different degrees of severity of oedema and dermatosis. Look for as many children as possible with these signs and with different degrees of severity. Showing several children side by side who have, for example, no, mild (+), moderate (++) and severe (+++) oedema can be very helpful.

It is important that participants avoid overcalling signs. Participants need to become confident in saying a sign is NOT there, not just in recognising the abnormal signs.

Individual practice identifying clinical signs, followed by rounds to give feedback

The technique of ‘rounds’ will be used frequently in clinical sessions. On different days, participants may be asked to assess patients for certain signs, record information on various forms or decide on appropriate feeding plans or treatments. The general process is to have each participant do some individual (but supervised) practice with a patient and then present the case or decisions to the group.

On day 2, participants will be assigned to assess patients for certain clinical signs (wasting, oedema, dermatosis and eye signs), and also to weigh and measure the patients and conduct the RUTF appetite test to determine whether they should be admitted in Inpatient Care or referred to Outpatient Care. Assign each participant to a different patient (or, if necessary, pair participants up). Select patients with signs that should be learnt or reinforced in the session. Also select a few patients without these signs. Thus, by the end of the session, participants see children with and without the signs, so that the distinction is clear.

Ask participants to go to the patient, check that patient and record findings. The participants should all check their patients and then signal to you when they are finished. Then conduct rounds as follows:

- Gather the participants and take the group to the bed of the first case. Ask the assigned participant to describe the signs found, the weight and height and the WFH z-score.
- Ask questions to encourage the participant to elaborate as needed. For example, if oedema is present, you may need to ask, ‘What degree of oedema?’ If necessary, give participants a chance to examine for the sign, for example, to stand near the child to check for oedema by pressing the foot.
- Ask whether the child should be admitted. If necessary, ask participants to write their individual decisions on slips of paper and hand or show them to you, so that you are sure they are giving their own decisions, not influenced by others or by fear of embarrassment. These problems will vary by group. Be aware that some people are quite shy and do not like to have a joke made if they have made an error. With slips of paper, it is possible to talk about agreement within the group without singling out the wrong answer of any one participant. You will know which participants are assessing correctly and which need more practice.
- If some participants do not identify a sign correctly, demonstrate or let participants try again. Find out why they decide differently: where they were looking, the definition they are using or other relevant factors. Treat their opinions with respect. ‘Let’s look again’.
- Make sure the atmosphere is supportive, so participants do not feel bad if they miss a sign. You may say, ‘It takes a while to learn these signs. Do not feel bad if you make a

mistake; we all do'. Give encouragement and thank the participant who presented the case.

These procedures should be adapted for rounds on other days to be suitable for the tasks being practised.

Day 3: Initial Management

To Prepare	<p>Arrange a place for participants to practise testing blood samples using dextrostix. Plan how the blood will be obtained. Gather a supply of gloves, dextrostix and supplies for obtaining blood samples.</p> <p>Obtain a supply of Initial Management pages of the Inpatient Management Record (2–3 copies per participant).</p> <p>In the morning and throughout the day, look for newly admitted patients with SAM.</p> <p>Brief the staff who do initial management of SAM in children about the objectives and plans for the clinical session. Get their ideas and cooperation for participants to observe and, if feasible, participate in giving care.</p> <p>Ask facilitators to remind participants to bring their package of job aids and a pen or pencil to the session.</p>
Participant Objectives	<ul style="list-style-type: none">• Observe initial management of children with SAM.• Identify clinical signs of SAM and medical complications: hypoglycaemia, hypothermia, shock, dehydration, severe anaemia, corneal ulceration.• Practise using dextrostix.• Practise filling out an Inpatient Management Record during initial management.• Assist in conducting initial management, if feasible, such as:<ul style="list-style-type: none">○ Take rectal temperature○ Give bolus of glucose for hypoglycaemia○ Warm child○ Give first feed
Instructor Procedures	<ol style="list-style-type: none">1. Review with the participants the objectives of this session.2. As children with SAM are admitted, place participants so that they may closely observe initial management without getting in the way. Describe to them what is being done. Brief them on any emergency care that has already occurred. If there are several patients, spread out the participants so that they can be more involved.3. Ask participants to complete the Initial Management page of an Inpatient Management Record as the case is managed. Provide any needed information about the child that participants cannot directly observe.4. Keep the focus on initial management, but point out certain things whenever they are observed (e.g., a child with dermatosis, oedema of both feet, corneal ulceration).5. Teach the additional clinical signs listed (see ‘Clinical signs to teach on day 3’ below) by pointing them out, asking participants questions about the signs and asking participants to identify the signs in new patients.6. During a slow moment or when there is no new case, ask participants to examine dextrostix (or brand used at the hospital) and read the package directions. Using available blood samples (and wearing gloves), have participants test a few samples to watch the colours change and read the

results.

7. Assign participants to patients if it is feasible to do so without interfering with care. (See ‘Assigning cases for initial management’ below.) As feasible, with supervision, participants should practise the following:
 - Checking for signs of shock: lethargic/unconscious, plus cold hands, plus either slow capillary refill or weak or fast pulse
 - Giving bolus of glucose
 - Taking rectal temperature
 - Warming a child
 - Giving first feed
- Watch participants carefully and give feedback. Let other participants observe the practice.
8. Assign each participant to identify the clinical signs of a particular child on the ward and record information on the patient on the Initial Management page of an Inpatient Management Record. Even if the child is not a new patient, participants should assess the child as though he/she is a new patient. Participants should complete as much of the Initial Management page as possible. Unless the child is too ill, this will involve weighing and measuring the child. (If the child is too ill, use a weight/height from the hospital record.)
9. After all participants have finished, conduct rounds of the children assessed.

At end of the session Summarise the session with participants. Answer any questions that participants might have.

Clinical signs to teach on day 3

Show these signs/problems when present. Also ask participants questions to review the definitions of these signs and how to check for them:

- Hypothermia: axillary temperature $< 35^{\circ}\text{ C}$ or rectal temperature $< 35.5^{\circ}\text{ C}$
- Hypoglycaemia: blood glucose $< 3 \text{ mmol/L}$
- Shock: lethargic/unconscious, plus cold hands, plus either slow capillary refill (> 3 seconds) or weak or fast pulse
- Signs of dehydration (recent history [within the last 24 hours] of significant fluid loss and recent change in the child’s appearance):
 - Sunken eyes
 - Skin pinch goes back slowly
 - Restless/irritable
 - Lethargic
 - Thirsty
 - Dry mouth/tongue
 - No tears

Also review the clinical signs from day 2 (severe wasting, oedema, dermatosis, eye signs, and appetite).

Assigning cases for initial management

There may not be enough new admissions for each participant to be assigned to a new patient. There are several alternatives, which can be used in combination.

- Participants may group together to watch an especially interesting case being examined by hospital staff. Explain what is happening, what the staff member is doing and what results are found. Participants should record on the Inpatient Management Record while they observe. They should participate in the examination if it will not interfere with care of the child. For example, one participant could be asked to check for signs of shock, another to take the rectal temperature, another to give the initial bolus of glucose (if needed), etc.
- Two or three participants may work together to examine a patient. Each participant records on a separate Inpatient Management Record.
- Each participant may examine a child already on the ward as if the patient were a new admission. Participants should ask the questions and do the tasks that would be necessary for initial management (weigh, measure, check for signs of shock, ask about diarrhoea, check and ask for signs of dehydration, etc.). If blood work has already been done on the child, participants should look at the child's record for the results. If blood work has not yet been done and is needed, with permission and supervision of hospital staff, participants may take a blood sample and use dextrostix to test for blood glucose level. Participants should record on the Inpatient Management Record.

It is important that participants actually do as many tasks as possible, not just observe. You will have to work out the best way for participants to practise the tasks given the patients available.

It is possible that participants may discover that a child is being treated inappropriately. For example, they may find a child who is unnecessarily receiving IV fluids. If a participant informs you about inappropriate treatment, discuss the correct treatment with participants. As soon as possible, discuss the situation privately with the appropriate hospital staff.

Day 4: Flexible Half-Day, Optional Clinical Session

Any of the preceding activities may be repeated for extra practice. If you feel that extra practice is needed, discuss this with the Course Director. If case management in the hospital is very good, participants may be assigned to ‘shadow’ and assist a health care provider in the hospital for part of the day. This day may also be a good opportunity to achieve the additional objectives of observing a health and nutrition education session and cooking session with mothers or observing a play session.

Day 5: Initial Management and Feeding

To Prepare	<p>Brief staff that participants will again observe and participate, as possible, in initial management. Tell staff that you are especially interested in seeing new patients and SAM patients who have diarrhoea. Select new or recent admissions to be seen by participants.</p> <p>Obtain a supply of the Initial Management page of the Inpatient Management Record (2 per participant) and 24-Hour Food Intake Charts (2 per participant).</p> <p>Brief staff in the ward about when participants may observe and possibly assist with measuring and giving feeds. Confirm the feeding schedule so that you will know how to pace the activities during the session.</p> <p>Ask facilitators to tell participants to bring the complete set of job aids and a pencil or pen.</p>
Participant Objectives	<ul style="list-style-type: none">• Observe and assist in conducting initial management, if feasible, including:<ul style="list-style-type: none">○ Identify signs of possible dehydration in a child with SAM○ Measure and give ReSoMal○ Monitor a child on ReSoMal○ Determine antibiotics and dosages• Practise conducting the RUTF appetite test for a child who shows appetite and is clinically well and alert.• Observe nurses (and nutritionists) measuring and giving feeds.• Practise measuring, giving and recording feeds.
Instructor Procedures	<ol style="list-style-type: none">1. Review with participants the objectives for today's session. Explain that they will continue to practise initial management tasks practised on day 3. In addition, they will practise the tasks listed in the objectives for today.

Initial Management

2. Continue having participants observe and participate in initial care. Assign participants to patients as feasible. See [page 22](#), 'Assigning cases for initial management'. Supervise closely. Have participants complete an Initial Management page of the Inpatient Management Record on each case observed or managed. If the following activities can be done without interfering with care, ask different participants to practise the following:
 - Check for signs of shock: cold hands with slow capillary refill or weak or fast pulse
 - Give bolus of glucose
 - Take rectal temperature
 - Warm a child
 - Give first feed

For patients with diarrhoea, also ask participants to practise:

- Looking for signs of possible dehydration
 - Measuring an appropriate amount of ReSoMal for child
 - Giving ReSoMal orally or through nasogastric tube (NGT)
 - Monitoring child on ReSoMal and recording results
3. Ask participants to determine the appropriate antibiotics and dosages for the patient and record them on the Inpatient Management Record. They should refer to the Routine Medicine Protocols and Vaccines for Children under 5 with SAM in Inpatient Care Job Aid as needed. Discuss their answers.
 4. Find a mother with a child on whom the appetite can be tested with RUTF. Follow the instructions as on the RUTF Appetite Test Job Aid. Observe how the child gets accustomed to eating small bits of semi-solid food, and whether the child will pass or fail the test.
 5. When participants are ready, conduct rounds.

Feeding

6. Move to the kitchen area and then the ward so that participants can observe nurses (or nutritionists) measuring and giving feeds to children at all stages of treatment.
7. Explain (or have the nurse or nutritionist show and explain) how the correct amount of feed is measured for each child in the stabilisation and transition phases.
8. When it is feeding time, find a mother or nurse (or nutritionist) who is feeding a child correctly with a cup and saucer, and have participants observe how the child is held, how the cup and saucer is held and how long to pause between sips. Find a child who is being fed by NGT and show how the feed slowly drips in. (It should not be plunged.) Find a child in the transition phase who is feeding with RUTF and/or on mixed feeding of RUTF and F-100.
9. Without interfering with usual feeding procedures, give each participant an opportunity to measure the correct amount of feed for a particular child, feed that child and record intake on the 24-Hour Food Intake Chart. Watch and give feedback to participants on how they feed the child (holding the child closely and gently, encouraging the child to eat). See ‘Holding and feeding children’ below. Be sure that participants correctly measure and record leftovers.
10. Discuss and if possible show the feeding of a breastfed infant with SAM with the supplementary suckling technique.

At end of the session Summarise the session with participants. Answer any questions that participants might have.

Holding and feeding children

Participants can help with nasogastric (NG) feeding while a child is lying down or held by the mother. However, to feed a child properly with a cup and saucer, the participant must hold the child. Be aware that children may be distressed if taken from their mother. Participants

should not cause the child distress. If the child clings to the mother, the participant may sit with the mother, observe and offer assistance or guidance as the mother feeds the child. For example, if a mother tries to pour the feed quickly into a child who is lying flat, the participant might show the mother how to prop the child more upright in her arms and feed more slowly.

When holding children, participants must be careful of hygiene. They should wear a lab coat or place a towel in the lap if possible. They should wash their hands carefully before the clinical session, between children and after the clinical session.

Day 6: Feeding

To Prepare	<p>On day 6, you will need correctly completed 24-Hour Food Intake Charts for a number of children for one or more days. For a day or two before this session, ensure that 24-Hour Food Intake Charts are correctly kept on children in the SAM ward. You may need to help or provide some instruction. If staff members keep different records of feeding, you may be able to transcribe these records onto the 24-Hour Food Intake Charts. Otherwise, you may need to ‘make up’ realistic charts based on the staff’s description of how the child is feeding.</p> <p>Brief staff in the SAM ward that participants will assist with measuring and giving feeds. Confirm the feeding schedule so that you will know how to schedule the activities during the session.</p>
Participant Objectives	<p>Identify several children at different stages of feeding: feeding with an NGT, ready to decrease frequency of feeds of F-75, not ready to decrease frequency, ready for RUTF appetite test, ready for RUTF and/or F-100. Get a copy of yesterday’s 24-Hour Food Intake Charts, or fill in a 24-Hour Food Intake Chart for each. Make copies of them to show participants (3–6 copies).</p>
	<p>Obtain a supply of blank 24-Hour Food Intake Charts (3–4 per participant).</p>
Instructor Procedures	<ul style="list-style-type: none">• Review 24-Hour Food Intake Charts and plan feeds for the next day.• Determine if child is ready for RUTF and/or F-100; practise testing the appetite with RUTF: appetite test (continued).• Prepare F-75, F-100 and ReSoMal, and learn the contents of RUTF.• Practise measuring, giving and recording feeds (continued). <ol style="list-style-type: none">1. Review the objectives for the clinical session. Explain that the focus today will be about making decisions on the feeding plan for a child and preparations of the feeds. Participants will also continue to practise feeding tasks.2. In the kitchen, with the support of the nutrition assistant(s), demonstrate the preparation of F-75, F-100 and ReSoMal using the commercial packages and/or the most appropriately adapted recipe to your context. Discuss the milk preparation procedure for a 24-hour schedule, use and storage and the local policy for discarding leftover milk.3. With the group, go to the bedside of one of the children whose feeding you will discuss. Give a brief history of the child (how many days he/she has been in hospital, admission weight, clinical signs on admission, etc.). Distribute copies of the previous 1–2 days of the child’s 24-Hour Food Intake Charts. (Participants can share copies of the intake charts and then return them to you.) Ask participants questions about the child’s feeding, for example: What was he/she fed yesterday? How often was he/she fed? Did the amount increase during the day? Were there any problems? <p>Tell the participants the child’s weight today. (Weigh the child if necessary.) Ask participants what the child should be fed today (F-75 or RUTF and/or F-100), how many feeds, how much and by what means</p>

(NGT or cup). Ask the participants to use their job aids and then write down their answers at the top of a blank 24-Hour Food Intake Chart. Discuss what participants decided and why.

Go to the bed of the next child selected and repeat this process.

4. At relevant points in the discussions, review concepts from **Module 4, Feeding** by asking such questions as: ‘How long should a child stay on 2-hourly feeds of F-75?’ ‘3-hourly feeds of F-75?’ ‘What are the signs that NGT feeding is needed?’ ‘When is a child ready for transition?’ ‘What happens each day during transition?’
5. When it is feeding time, assign a participant to each child discussed. You may assign participants to other children as well. Without interfering with usual procedures, give participants an opportunity to measure the correct amount of feed for a particular child and feed the child. Watch and give feedback to participants on how they feed the child (holding the child closely and gently, encouraging the child to eat). See pages 25–26, ‘Holding and feeding children’. Be sure that participants correctly measure leftovers and record intake on the 24-Hour Food Intake Chart.

If possible, attach the 24-Hour Food Intake Charts to the beds and have participants from the next group record later feeds on the same charts. If possible, also have staff record other feeds during the day. Thus, participants can see how the child is doing throughout the day. The day after, participants can decide what the appropriate feeding plan should be for these same children.

6. If on the previous day there was no opportunity to test the appetite with RUTF, find a mother with a child for who the appetite can be tested. . Follow the instructions in the RUTF Appetite Test Job Aid. Observe how the child gets accustomed to eating small bits of semi-solid food, and whether the child will pass or fail the test.

At the end of the session Summarise the session with participants. Answer any questions that participants might have.

Day 7: Daily Care and Monitoring Quality Care

To Prepare	<p>On day 7, you will need detailed information on a child who has been in hospital for at least 3 days. Preferably, staff are routinely keeping Inpatient Management Records on children in the ward. If they are not, request that staff keep some type of careful records on daily care, daily weight, monitoring data, etc. for several children over the next few days. Select children that are likely to still be in hospital on day 7 of the course. You may then transcribe this information onto an Inpatient Management Record.</p> <p>Brief the staff on the objectives for the day. Get their ideas and cooperation for participants to work alongside them to carry out daily care tasks (listed below) for several children.</p> <p>Select children for whom participants will help carry out daily care tasks during the day. Do not select children that are so critically ill that their care will be compromised by interactions with participants. For continuity, include some of the children fed yesterday if possible. Include at least one child who has been in hospital for at least 3 days and has complete records of care, daily weights, etc.</p> <p>If you think that participants will have time to complete a monitoring checklist during the session, brief the staff. Explain that participants will be observing the ward and may ask some questions, all for the purpose of completing a monitoring checklist and becoming familiar with the ward procedures. Ask facilitators to be sure that participants bring their copy of Module 6, Monitoring, Problem Solving and Reporting to the session.</p> <p>Obtain a supply of Inpatient Management Records (all pages) and 24-Hour Food Intake Charts (three sets or more per participant).</p>
Participant Objectives	<ul style="list-style-type: none"> • Keep Inpatient Management Records on children observed and cared for. (<i>The focus in this session will be on the Daily Care, Monitoring Record and Weight Chart pages.</i>) • Participate in daily care tasks, as feasible: <ul style="list-style-type: none"> ○ Measure pulse rate, respiratory rate and temperature ○ Administer eye drops, antibiotics, other drugs and supplements; change eye bandages; etc. ○ Weigh child and record weight (on Daily Care page and on weight chart of Inpatient Management Record) ○ Observe and assist with bathing children • Assist with feeding (continued practice). • Discuss progress to referral and/or discharge and decide when the child is ready; practise referral to Outpatient Care when stabilised and discharge when fully recovered. • Monitor quality of care using checklist. • Practise filling out tally and reporting sheets, and assess performance.
Instructor Procedures	<ol style="list-style-type: none"> 1. Review the objectives for the clinical session. 2. Go to the bedside of a child for whom you have fairly complete information for at least 3 days. Give each participant an Inpatient Management Record. Present information on the child and demonstrate monitoring the child while participants record on the Inpatient

Management Record. For details, see [page 31](#), ‘Recording on Daily Care, Weight Chart and Monitoring Record pages’.

3. Discuss whether participants see any progress or problems with the child’s care. Be sure that they look at the child (appearance, attitude) as well as information that they have recorded. Discuss the child’s feeding plan and any changes that may be needed in his or her care. Discuss if a child in transition is ready for referral to Outpatient Care or remains in Inpatient Care as an exceptional case.
4. Go together to the beds of children fed by participants yesterday. Describe the feedings that occurred since the participants last saw the child. Discuss what the feeding plan for the child should be today. Discuss if the RUTF appetite test should have been performed or not.
5. Assign each participant two children to monitor, care for and feed when it is time today. Some of the children may be those who were fed by participants yesterday, and others may be new. Give the participant an Inpatient Management Record and a 24-Hour Food Intake Chart for each child.

Nurses (and nutritionists) will be caring for these children too. Participants should observe the nurses (and nutritionists) and assist with care as much as possible. They should complete (or add to) an Inpatient Management Record on each child. Watch to see that each participant is assisting with care and completing Inpatient Management Records correctly. Step in to give guidance and feedback whenever needed.
6. Each participant should take respiration and pulse rates and temperatures for his assigned children. Observe carefully. Compare with your own measurements, or have another participant take rates on the same child and compare the results. If the results differ significantly, more practice is needed.
7. If any child is identified with danger signs (increases in pulse and respiratory rate, increase/decrease in temperature), show the entire group. Ensure that the physician responsible for the child is alerted.
8. If children are being bathed, participants should observe and possibly assist. Emphasise that bathing is done gently and that the child is quickly dried, re-covered and warmed.
9. If practical, attach the Inpatient Management Records completed by the first group to the beds of the children. The later groups can then continue with the same Inpatient Management Record for each child. (*This may not be practical if the forms are illegible. If not practical, later groups may start with new Inpatient Management Records.*)
10. Discuss children that are approaching or are ready for referral and/or discharge and what steps should be considered for referral and/or discharge and what messages should be given to the mother.
11. Have participants monitor the quality care using checklists from **Module 6, Monitoring, Problem Solving and Reporting**. Assign portions of the checklists to pairs of participants. The participants may already know how to mark some items, based on their observations during the week, or they may need to observe or ask the staff some

questions now. Ask them to be quiet when observing and non-offensive when asking questions of staff. Participants will discuss the results of monitoring when they return to the classroom.

12. Have participants practise filling out a tally and reporting sheet. If this is difficult to do during the clinical session, ask the participants to assess performance based on reviewing a tally sheet and monthly report from a previous month. Participants will discuss the results of performance when they return to the classroom.

At end of the session Summarise the session with participants. Since this is the last day, review any points that need to be stressed with this group. Answer any questions. Commend participants for their hard work during the course.

Recording on Daily Care, Weight Chart and Monitoring Record pages

Participants do not need to complete the entire Initial Management page, but you should record the child's MUAC reading, length and weight, and briefly describe clinical signs and initial management of the child. Also state what antibiotics were prescribed. (If any care given was contrary to course guidelines, discuss this.)

Ask participants to record on the Daily Care page as you describe what has happened each day of the child's treatment. For example, state the date, the child's weight, the extent of oedema, whether there was diarrhoea or vomiting, medical complication, the type of feed given, the number of feeds, etc. Participants may record their own initials to show when antibiotics and other medications were given. (*You do not have to start with day 1; if you have information for days 11–13, for example, participants may record in those columns.*)

Complete recording for 1 day before going to the next. When you have completed the columns for 3 days, ask participants to graph the weights on the weight chart. Include the admission weight as well as the weights for the days just recorded. (If you know weights from any intervening days, you may ask participants to record those as well.)

Staying by this same child, have participants turn to the Monitoring Record. *Note:* If there is previous monitoring data on the child, dictate several recent pulse rates, respiratory rates and temperatures to participants so that they will be able to record and observe any trend.

Demonstrate how to monitor the child's pulse and respirations. If the child remains calm, have a participant try and see if he/she obtains the same rates. Ask another participant to take the child's rectal temperature. Have all participants record these on the Monitoring Record of the Inpatient Management Record. Ask participants what danger signs they should look for related to pulse, respirations and temperature. See the Danger Signs for the Management of Severe Acute Malnutrition in Children under 5 in Inpatient Care Job Aid.

Additional Objectives – Observation of a Health and Nutrition Education Session, a Cooking Session and a Play Session

To Prepare	<p>Check the schedule to determine when each group will observe the health and nutrition education, cooking and play sessions. You will bring the group to the site of the sessions and provide an introduction to them. You or the small group's facilitator could lead discussions of the sessions afterward.</p> <p>If the small group facilitators will lead the discussions afterward, give copies of the discussion questions below.</p> <p>Brief the staff that participants will observe the health and nutrition education, cooking and play sessions, and provide the schedule for this.</p> <p>If it is not possible to observe these sessions organised for the SAM ward, similar sessions are recorded in the video provided in the training materials.</p>
Participant Objectives	<ul style="list-style-type: none">• Observe a health and nutrition education session (and a cooking session) with mothers.• Observe a play session.
Instructor Procedures	<ol style="list-style-type: none">1. Review with the participants the objectives for the sessions. Ask them to observe closely and make notes on what is done well and any ideas for improvement.2. Watch the education, cooking and play sessions with participants, if possible.3. After the session, lead a discussion of what was accomplished in the session and how. (See ‘Discussion of health and nutrition education session for mothers’, ‘Discussion of cooking session’ and ‘Discussion of play session’ below.)
At end of the session	Summarise the sessions with participants. Answer any questions that participants might have.

Discussion of health and nutrition education session for mothers

Below are some sample questions to discuss with participants:

1. What were the main points being taught?
2. What teaching methods were used?
3. How did they give demonstrations/examples?
4. What materials were used?
5. Did the session hold the mothers' attention?
6. Were mothers asked to contribute ideas?
7. Were they encouraged to ask questions?
8. Were there opportunities for mothers to practise?
9. Do you think they learnt and will remember what was taught?
10. Describe the manner/attitude of the staff toward the mothers.
11. What was done well in this teaching session?
12. What could be improved?

Discussion of cooking session

If the cooking session is done, add questions to discuss with participants as appropriate.

Below are some sample questions:

1. What were the main points being taught?
2. What teaching methods were used?
3. Did the session hold the mothers' attention?
4. Were mothers asked to contribute ideas?
5. What ingredients were used for cooking, and were they appropriate to the mothers' household context and budget?
6. Was the cooking method used appropriate to the mothers' household context?
7. Were there opportunities for mothers to practise?
8. Do you think mothers learnt new things and will remember what was taught?
9. Describe the manner/attitude of the staff toward the mothers.
10. What was done well in this teaching session?
11. What could be improved?

Discussion of play session

Below are some sample questions to discuss with participants:

1. What were the main purposes of the session?
2. What activities were carried out?
3. What materials/toys were used?
4. Were they appropriate for age/development of children?
5. Could they be made in homes?
6. Describe the manner of the staff toward the children.
7. Describe the manner of the staff toward the mothers.
8. Did the mothers learn and practise how to play with their children?
9. Do you think the mothers will play with their children in this way at home? Why or why not?
10. What was done well during the session?
11. What could be improved in the play session?
12. What could be improved in the ward related to stimulation and play?

Annex A. Chart for Scheduling Clinical Sessions

Clinical Session	Group A	Group B	Group C
Day 1 Tour of Ward 1 hour			
Day 2 Clinical Signs and Anthropometric Measurements 1.5 hours			
Day 3 Initial Management 1.5 hours			
Day 4 Flexible half-day, optional clinical session	All groups will observe play session at 10:00		
Day 5 Initial Management and Feeding 2 hours			
Day 6 Feeding 1.5 hours			
Day 7 Daily Care and Monitoring Quality Care 2 hours			
Observe health and nutrition education session and cooking session for mothers			
Observe play session			

Annex B. Equipment and Supplies for Inpatient Care

Ward Equipment/Supplies

- Running water
- Thermometers (preferably low-reading)
- Child weighing scales (and item of known weight for checking scales)
- Infant weighing scales with 10 g precision (and item of known weight for checking scales)
- MUAC tapes
- Height board for measuring height and length (and pole of known length for checking accuracy)
- Adult beds with mattress
- Bed sheets
- Insecticide treated bednets
- Blankets or wraps for warming children
- Incandescent lamp or heater
- Wash basin for bathing children
- Potties
- Safe, homemade toys
- Clock
- Calculator

Pharmacy Equipment/Supplies

- Oral rehydration solution (ORS) for use in making Rehydration Solution for Malnutrition (ReSoMal) (or commercial ReSoMal)
- Combined mineral vitamin mix (CMV)
- Iron syrup (e.g., ferrous fumarate)
- Folic acid
- Vitamin A (Retinol 100,000 and 200,000 IU capsules)
- Glucose (or sucrose)
- IV fluids – one of the following, listed in order of preference:
 - Half-strength Darrow's solution with 5% glucose
 - Ringer's lactate solution with 5% glucose*
 - Half-normal (0.45%) saline with 5% glucose*
- * If either of these is used, add sterile potassium chloride (20 mmol/L) if possible.
- Normal (0.90%) saline (for soaking eye pads)
- Sterile water for diluting
- Vaccines as per the national expanded programme of immunisation
- Dextrostix
- Haemoglobinometer
- Supplies for intravenous (IV) fluid administration :
 - Scalp vein (butterfly) needles, gauge 21 or 23
 - Heparin solution, 10–100 units/ml
 - Poles or means of hanging bottles of IV fluid
 - Tubing
 - Bottles or bags
- Paediatric nasogastric tubes (NGTs)
- Sticky tape
- Syringes (50 ml for feeds)
- Syringes (2 ml for drugs, 5 ml for drawing blood, 10 ml)

- Sterile needles
- Eye pads
- Bandages
- Gauze
- Supplies for blood transfusion:
 - Blood packs
 - Bottles
 - Syringes and needles
 - Other blood collecting materials

Drugs

- Amoxicillin
- Amoxicillin-clavulanic acid
- Gentamicin
- Chloramphenicol
- Ceftriaxone
- Cotrimoxazole
- Mebendazole and/or albendazole
- Tetracycline eye ointment or chloramphenicol eye drops
- Atropine 1% eye drops
- Paracetamol
- Antimalarial: Artemisinin Combination Therapy (ACT)
- Metronidazole

For Skin

- Nystatin
- Benzyl benzoate
- Whitfield's ointment
- Gentian violet
- Paraffin gauze
- Potassium permanganate
- Zinc oxide ointment

Laboratory Resources

- Malaria diagnostic test
- TB tests (x-ray, culture of sputum, Mantoux)
- Urinalysis
- Stool culture
- Blood culture
- Cerebrospinal fluid culture

Hygiene Equipment/Supplies of Mothers and Staff

- Toilet, hand-washing and bathing facilities
- Soap for hand-washing
- Place for washing bedding and clothes
- Method for trash disposal

Kitchen Equipment/Supplies

- Dietary scales able to weigh to 5 g
- Electric blender or manual whisks
- Large containers and spoons for mixing/cooking feed for the ward

- Cooking stove
- Feeding cups, saucers, spoons
- Measuring cylinders (or suitable utensils for measuring ingredients and leftovers)
- Jugs (1-litre and 2-litre)
- Refrigeration (if possible)
- For making F-75 and F-100:
 - Dried skimmed milk, whole dried milk, fresh whole milk or long-life milk
 - Sugar
 - Cereal flour
 - Vegetable oil
 - Clean water supply
- Food for mothers
- Foods similar to those used in homes (for teaching transition to homemade complementary foods)

Reference

- CMAM Manual
- Operational Guide for Inpatient Care

Job Aids

Laminated Set

- Admission and Discharge Criteria for the Management of Severe Acute Malnutrition in Children under 5
- Routine and Other Medicine Protocols and Vaccines for Children under 5 with SAM in Inpatient Care
- Action Protocols in Inpatient Care
- Danger Signs for the Management of Severe Acute Malnutrition in Children under 5 in Inpatient Care
- 10 Steps for the Management of SAM in Children 6–59 Months in Inpatient Care
- Pathophysiology Basis for the Treatment of Severe Acute Malnutrition
- Hypernatraemic Dehydration in Children under 5 in Inpatient Care
- Weight-for-Height/Length Look-Up Tables
- F-75 Look-Up Tables
- F-100 Look-Up Tables
- F-100-Diluted Look-Up Tables
- Use of RUTF in Children 6–59 months with SAM in Inpatient Care and RUTF Appetite Test
- Guidance Table to Identify Target Weight for Discharge from Management of Severe Acute Malnutrition for Children 6–59 Months
- Entry and Exit Categories for Monitoring the Management of Severe Acute Malnutrition in Children 6–59 Months

Wall Charts

- Admission and Discharge Criteria for the Management of Severe Acute Malnutrition in Children under 5
- Action Protocols in Inpatient Care
- Danger Signs for the Management of Severe Acute Malnutrition in Children under 5 in Inpatient Care
- 10 Steps for Management of SAM in Children 6–59 Months in Inpatient Care

Forms and Checklists

- Inpatient Management Record
- Daily Feeds Chart
- Referral Form
- Site Tally Sheet
- Monthly Site Report for CMAM
- Supervisor's Checklist

Other Documents

- List of outpatient care sites with catchment area, and names community outreach workers (developed per Inpatient Care site) (if available)
- Job descriptions

Staff

Clinical Care Staff

This includes physicians, senior nurses and junior nurses. A physician is recommended but is not always necessary. Only clinicians who are specifically trained in the management of SAM should treat these patients, because treatment for the non-malnourished child could be dangerous for the malnourished child.

A ratio of 1 clinician per 10 patients is considered appropriate in Inpatient Care.

Feeding Assistants

Feeding assistants are in charge of weighing the child, supervising meals, interacting with mothers, monitoring clinical warning signs and filling in most of the information on the patient's Inpatient Management Record. Other staff in this category could be in charge of the emotional and physical stimulation programme.

A ratio of 1 assistant per 10 patients is considered appropriate in Inpatient Care.

Support Staff

Cleaners and kitchen staff are vital to maintaining a tidy environment and preparing therapeutic milks and food for mothers. In large centres, a person in charge of the logistics and transport will be necessary. Guardians, storekeepers and other ancillary staff might be needed depending on the context and size of the facility.

Supervisors

One supervisor is needed for each ward with Inpatient Care (usually, but not necessarily, a clinician).

Annex C. Tally Sheet for Clinical Sessions

The tally sheet for each clinical session can help you keep track of the objectives accomplished with each group. It will also help you report to the Course Director and facilitators at the end of each day about what was accomplished in the clinical sessions.

Complete the tally during or immediately after your work with each group in the ward. To use the tally:

1. Record any identifying information about the group at the top of the column. You may want to record the time of the session, the number of participants in the group or other identifying information.
2. Mark on the tally sheet for each objective accomplished by the group. Make notes to indicate how many participants practised the task (perhaps by putting a tally mark or initial for each). Also note if the participants had problems accomplishing the task.

You can use letters or numbers to annotate the problems and write notes on the bottom or back of the sheet. The problems noted will help you when you discuss participants' performance at the facilitator meeting. (Problems in understanding could be addressed by the facilitator the next day in the classroom.) These notes will also help you keep track of the skills that need further practice.

3. Some objectives may not be feasible because of lack of patients, or time or other reason. Discuss these with the Course Director. Perhaps they can be accomplished on another day, or if you have assistance. Some may just not be practical to achieve.

Clinical Sessions Tally Sheet

Day 1: Tour of Ward

Objectives	Group A	Group B	Group C
Observe the admissions area			
Observe emergency treatment area			
Observe how the SAM ward or area is organised			
Observe kitchen area			
Observe any special areas for play, health education, etc.			

Day 2: Clinical Signs and Anthropometric Measurements

Objectives	Group A	Group B	Group C
Observe children with clinical signs of SAM			
Look for signs of SAM and medical complications			
Measure MUAC			
Measure weight and length/height			
Look up WFH z-scores			
Look up target weight for discharge			
Test the appetite with RUTF			
Identify children with SAM, review admission criteria and discuss treatment in Inpatient Care or Outpatient Care			

Day 3: Initial Management

Objectives	Group A	Group B	Group C
Observe initial management of children with SAM			
Identify clinical signs of SAM			
Identify medical complications:			
▶ hypoglycaemia			
▶ hypothermia			
▶ shock			
▶ dehydration			
▶ severe anaemia			
▶ corneal ulceration			
Practise using dextrostix			
Practise filling out an Inpatient Management Record during initial management			
Assist in initial management, if feasible, such as:			
▶ Check for signs of shock: cold hands with slow capillary refill or weak or fast pulse			
▶ Take rectal temperature			
▶ Give bolus of glucose for hypoglycaemia			
▶ Warm child			
▶ Give first feed			

Day 4: Flexible half-day, optional clinical session

This time could be used to provide extra practice or to observe a teaching or play session. (See additional objectives listed at end.)

Day 5: Initial Management and Feeding

Objectives	Group A	Group B	Group C
Observe and assist in conducting initial management, if feasible, including: ▶ Identify signs of possible dehydration in a child with SAM			
▶ Measure and give ReSoMal			
▶ Monitor a child on ReSoMal			
▶ Determine antibiotics and dosages			
Practise testing the appetite with RUTF, for a child who shows appetite and is clinically well and alert			
Practise conducting the supplemental suckling technique if possible			
Observe nurses (and nutritionists) measuring and giving feeds			
Practise measuring, giving and recording feeds			

Day 6: Feeding

Objectives	Group A	Group B	Group C
Review 24-Hour Food Intake Charts and plan feeds for the next day			
Determine if child is ready for RUTF and/or F-100; practise conducting the RUTF appetite test (continued)			
Prepare F-75, F-100 and ReSoMal, and learn the contents of RUTF			
Practise measuring, giving and recording feeds (continued)			

Day 7: Daily Care and Monitoring Quality Care

Objectives	Group A	Group B	Group C
Keep Inpatient Management Records on children observed and cared for			
Participate in daily care tasks, as feasible:			
▸ Measure pulse rate, respiratory rate and temperature			
▸ Administer eye drops, antibiotics, other drugs and supplements; change eye bandages; etc			
▸ Weigh child and record weight (on Daily Care page and on Weight Chart of Inpatient Management Record)			
▸ Observe and assist with bathing children			
Assist with feeding (continued practice)			
Discuss progress to referral and/or discharge and decide when the child is ready; practise referral to Outpatient Care when stabilised and discharge when fully recovered			
Monitor quality of care using checklist			
Practise filling out tally and reporting sheets, and assess performance			

Additional Objectives

Objectives	Group A	Group B	Group C
Observe a health and nutrition education session (and a cooking session) with mothers			
Observe a play session			