CLINICAL INSTRUCTOR GUIDE

REPUBLIC OF GHANA
MINISTRY OF HEALTH

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Training Course on Inpatient Management of Severe Acute Malnutrition

(Adapted from the 2002 WHO *Training course on the inpatient management of severe acute malnutrition*)

Children 6–59 Months with SAM and Medical Complications

March 2012

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 2010 MOH/GHS *Interim National Guidelines for Community-Based Management of Severe Acute Malnutrition in Ghana.* The training course was modified by the MOH/GHS SAM Support Unit in collaboration with the MOH/GHS Regional SAM Support Teams. USAID/Ghana, FANTA-2 Bridge project, UNICEF/Ghana and WHO/Ghana provided technical and financial support to review and modify the training course. This revised training course is made possible by the generous support of the American people through the support of USAID/Ghana 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.

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Acronyms and Abbreviations

ACT	Artemisinin-Based Combination Therapy
CCP	Critical Care Pathway
CMV	Combined Mineral and Vitamin Mix
F-75	Formula 75 Therapeutic Milk
F-100	Formula 100 Therapeutic Milk
g	Gram(s)
GHS	Ghana Health Service
IU	International Unit(s)
IV	Intravenous
L	Litre(s)
ml	Millilitre(s)
mmol	Millimole(s)
MUAC	Mid-Upper Arm Circumference
NG	Nasogastric
NGT	Nasogastric Tube
ORS	Oral Rehydration Solution
ReSoMal	Rehydration Solution for Malnutrition
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
° C	Degrees Celsius
<	Less Than
%	Percent

1. Purpose of Clinical Practice

Clinical practice is an essential part of the *Training Course on Inpatient Care Management of Severe Acute Malnutrition*. Clinical sessions are led by the clinical instructor in the severe acute malnutrition (SAM) ward each day of the case management training. The purpose of the clinical sessions are for participants to see and practise management of SAM in children following procedures described in the *Interim National Guidelines for CMAM in Ghana* and this training course[1].

Participants learn about the procedures for managing SAM in children by reading information in the modules or seeing demonstrations in the video sessions. They then use the information by doing written exercises or case studies. Finally and most importantly, in clinical sessions participants see the procedures carried out and practise some procedures in the SAM ward.

During clinical practice sessions, participants will:

- See and practise identifying clinical signs of SAM and related illness in real children
- Observe and practise procedures for the management of SAM in children
- Practise handling children gently and using a supportive and friendly manner with mothers
- 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 they are being learned in the modules. Each clinical session focuses on some new skills and reinforces the skills participants have learned about in previous modules. If any participant has difficulty with a particular skill, the clinical instructor gives the participant additional guidance. The purpose is to help every participant develop skill and confidence.

[1] If the hospital where the course is conducted does not manage children with SAM according to the Interim *National Guidelines for CMAM in Ghana*, it is imperative that procedures be made as consistent as possible prior to the training course. If the discrepancies are significant, the effectiveness of the training will be seriously compromised, as participants will see something different than what they are reading. If a facility wants to upgrade its procedures to be consistent with those in the Guidelines, this may require training of staff, changing ward procedures, and obtaining additional supplies; the facility may request technical assistance from the Ghana Health Services (GHS) Nutrition Department well in advance of a training course. If there are only a few discrepancies between current practices and that in the Guidelines, the clinical instructor should be prepared to support the Guidelines and explain the practice in the training site. Local adaption of some procedures is reasonable; the clinical instructor or course director should be prepared to explain how and why the current practice is consistent (or not consistent) with national guidelines.

2. Objectives of Clinical Practice 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 the 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 case management training course schedule was designed with this in mind.

Day 1: Tour of Inpatient Care

- 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).
- Look up target weight for discharge.
- Identify children with SAM, review admission criteria, and discuss treatment in Inpatient Care and referral to Outpatient Care.

Day 3: Initial Management

- Observe the initial management of SAM in children.
- Identify clinical signs of SAM and medical complications: hypoglycaemia, hypothermia, shock, dehydration, severe anaemia, and corneal ulceration.
- Practise using dextrostix.
- Practise filling out a Critical Care Pathway (CCP) during initial management.
- Assist in conducting initial management, if feasible.
    - Check for signs of shock: cold hands with slow capillary refill or weak or fast pulse.
    - Take rectal temperature.
    - Give a bolus of glucose for hypoglycaemia.
    - Warm the child.
    - Give the child's first feed.

Day 4: Initial Management and Feeding

- Observe and assist in conducting initial management, if feasible.
    - 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 doses.
- 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.
- Review 24-Hour Food Intake Charts and plan feeds for the next day.
- Determine if child is ready for RUTF or F-100. Practise testing the appetite with RUTF (continued).
- Prepare F-75, F-100, and ReSoMal, and learn the contents of RUTF.
- Practise measuring, giving, and recording feeds (continued).

Day 5: Daily Care and Monitoring Quality Care

- Keep CCPs on the children who are observed and cared for in Inpatient Care.
- Participate in daily care tasks, as feasible.
    - Measure pulse rate, respiratory rate, and temperature.
    - Administer eye drops, antibiotics, and other drugs and supplements.
    - Change eye bandages and other procedures related to the care of the eye.
    - Weigh the child and record weight (on the Daily Care and Weight Chart pages of the CCP).
    - Look up target weight for discharge and mark on it on the Weight Chart.
    - Observe and assist with bathing children.
- Assist with feeding (continued).
- Monitor the quality of care using the checklist for monitoring ward procedures found in **Annex C**.

Day 5: Referral between Inpatient Care and Outpatient Care

- Observe nurses conducting an Outpatient Care session.
- Review the criteria for managing SAM in Outpatient Care.
- Review referral from Outpatient Care to Inpatient Care using the Outpatient Care action protocol.
- Practise using the referral card/form from Inpatient Care to Outpatient Care.
- Practise measuring MUAC, weighing children, assessing bilateral pitting oedema, and conducting the appetite test.

Day 5: 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, two sessions each day with up to 10–14 participants each). During the actual practice of the various procedures, the session is further divided into smaller groups of about 2–3 participants.

Teaching a small number of participants in the ward at a 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 through the day, rather than by different facilitators 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 or she usually becomes very smooth and effective. The mothers and staff are also more comfortable seeing the same instructor with different groups of participants.[2]

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, he or she may locate several children in the ward who clearly demonstrate the signs. He or she plans how to show the signs on one or two children and then asks participants to point out signs on the other children. On a day when participants are learning about the stabilisation phase, he or she may select several children in the ward who are in that phase and prepare for the participants to see their 24-Hour Food Intake Charts, assess progress, and plan feeding for the next day. He or she may 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 planning how two or three groups of participants can accomplish their objectives. If the clinical instructor finds that the schedule planned for clinical sessions will not work that day, he or she must plan an alternative and adjust the schedule.

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

[2] The group's facilitators should attend and assist as you request, but they are not in charge of teaching the group while in the ward.

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. If possible, he or she should have a current position in the SAM ward of the facility where the training is being conducted. (If the clinical instructor is not on the staff of the 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 Interim *National Guidelines for CMAM in Ghana*** and have experience using them. It is best if he or she has **participated in the *Training Course on Inpatient Management of Severe Acute Malnutrition*** as a participant or facilitator. He or she should be familiar with and use the practices described in the Interim *National Guidelines for CMAM in Ghana*.

4. He or she should be **clinically confident** to sort through a ward of children quickly, identify clinical signs that participants need to observe, and determine the progress of different children. He or she should understand the daily procedures in the ward and quickly see where participants may assist with care, understand each child's clinical diagnosis and prognosis so as to not compromise the care of critically ill children, and be comfortable handling children with SAM and **convey a gentle, positive, hands-on approach**.

5. He or she must have **good organisational ability**. It is necessary to be efficient to accomplish all of the tasks in each clinical session. The individual must be able to stay on the subject, avoiding any extraneous instruction or discussion; 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 or she must be energetic.

6. The individual must be **outgoing and able to communicate** with ward staff, participants, and mothers. He or she should be a good role model in talking with mothers. (A translator may be provided if needed.)

7. If possible, in preparation for this role, the individual should work as an assistant to a clinical instructor at another case management training to see how to select cases, organise the clinical sessions, and interact with participants. Or another skilled clinical instructor can join him or her during the first few days of the facilitator training or case management training.

8. The clinical instructor must be available 1–2 days prior to facilitator training, during all of facilitator training, and during all of the case management training. He or 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 director of the SAM ward. Explain to the hospital and ward in-charge how clinical sessions work. Describe what the clinical instructor and participants would do. Ask permission to conduct sessions in the ward.

   If there are separate areas or wards where some children with SAM are kept, first meet with the hospital director to obtain permission, and then meet with the ward in-charge responsible for each of these wards.

   Meet with staff in the ward (or in each ward) to inform them about the course and to ask for their help. Make sure your arrangements include the nurse manager or nurse in-charge, not just the doctor in charge.

   If necessary, ask the ward in-charge for a clinical assistant, preferably someone who works in the ward full time. Ask the in-charge to assign the clinical assistant to come at the time of the early morning preparations (usually at 6:00 or 7:00 am, 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, bathing and weighing, feeds, nursing rounds, teaching sessions for mothers, etc. Find out times patients are available or not available.

3. Meet with the course director and hospital/ward in-charge to set the schedule for clinical sessions so each group will have a clinical session each day. Plan to have two groups of up to six participants each. A 1–2-hour session is required for each group each day. (If there are more participants attending the case management training, you will need to schedule accordingly.) See **Section 6** for more guidance on scheduling. When the schedule is written, ensure 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, the clinical instructor, and the assistant should have a copy of the following:

   - Objectives for clinical sessions (listed in **Module 1, Introduction**)
   - Set of laminated job aids

   } These are provided to participants and facilitators with the course materials.

For teaching, you will need a supply of:

- CCPs (100 copies of the Initial Management page plus 60 complete CCPs for a course with 15–20 participants)
- 24-Hour Food Intake Charts (100 copies for a course with 15–20 participants)
- Pens and pencils
- 6–8 clipboards and string or tape to fasten clipboards to the foot or head of the bed
- Thermometers
- A few watches (or participants may all have their own)
- Several weighing scales (preferably UNISCALE) and several MUAC tapes, if possible, since each participant will weigh and measure a number of children

For Day 3, you will also need:

- Glucometre/dextrostix blood samples
- Gloves for every participant

To ensure good hand washing, participants need access to:

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

6. Check that all clinical supplies for the care of children in a SAM ward are available (e.g., equipment/supplies for the ward, pharmacy, and kitchen; drugs). Supplement the ward's existing supplies if necessary. You should ensure that participants will observe the management of SAM in children according to the Interim *National Guidelines for CMAM in Ghana*. 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 (as done on Day 2)
   - Observing and helping with initial management (as done on Days 3 and 4)
   - Practising measuring and giving feeds (as done on Days 4)

9. Brief any staff that 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 suggested explanation in Day 1, Notes, page 17.) 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 case management training begins.

11. Before the case management training begins, study the **Tally Sheets for Clinical Sessions** in **Annex D** 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 two 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 (Tour of Inpatient Care) objectives 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 (Clinical Signs) objectives 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 (Initial Management) objectives 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 (Initial Management and Feeding) objectives include participants assisting with initial management again. The clinical sessions on this day should be scheduled at times when there are likely to be new admissions. Participants observe and help with feeding, therefore each session should include a scheduled feeding time.

Day 5 (Daily Care and Monitoring Quality Improvement) objectives include daily care tasks, such as weighing children; measuring respiratory rate, pulse, and temperature; giving antibiotics, and bathing. Determine the times that regular staff usually perform these tasks and whether the three clinical sessions can be scheduled to correspond with these times. It is possible that some groups will not be able to practise all of the daily care tasks.

As part of additional **Day 5 (Referral to/from Outpatient Care) objectives**, participants will visit a nearby health facility that provides Outpatient Care services. The sessions should be scheduled to take place in a facility that has been trained and is following procedures as per the *Interim National Guidelines for CMAM in Ghana*. Participants will observe an Outpatient Care session where they will practise reviewing children with SAM and using the referral forms, practise measuring MUAC and weight, assess for bilateral pitting oedema, and conduct appetite test. The participants will also become familiar with the Outpatient Care Action Protocol, which is used to refer children from Outpatient Care to Inpatient Care. **Additional objectives** include observing a health and nutrition education session, a cooking

session, and a play session with mothers. These teaching and play sessions may be observed during already-scheduled clinical sessions or may need to be scheduled at a separate time. 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. Though participants do not read in the modules about these activities until later in the case management training, it is acceptable to have participants observe them at any time. In the example schedule provided on the next page, all three groups will observe a play session at the same time on Day 4. This was possible because the play area has plenty of space for observers.

Scheduling may need to be creative to meet all objectives. A clinical session may need to be scheduled quite early or late on some days in order for each group to participate in a feeding time. Outpatient Care sessions will normally operate in the morning, so the Outpatient Care clinical sessions should therefore be scheduled during the morning hours. You may use a grid similar to the example on the next page to plan clinical sessions. The times shown are just an example. A blank grid is provided in **Annex A**.

Example Schedule for Clinical Sessions

Region: **Venue:** **Date:**

	Activity/Day:	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Group A	**Ward**	**11.00–12.00** Tour of Inpatient Care	**14.00–15.30** Clinical signs of SAM Measuring MUAC and weighing	**11.00–12.30** Initial management: CCP charts Feeding on F-75	**14.00–15.00** Initial management and feeding: F-75 and RUTF Use of F-100	**14.00–15.00** Daily care Monitoring using a checklist	**11.00–12.30**
	Feed preparation area/other		**16.30–17.15** Preparation of ReSoMal	**15.00–16.00** Preparation of F-75 and F-100 Show RUTF		**09.30–10.30** Visit Outpatient Care: linkage between Inpatient Care and Outpatient Care	
	Video	**14.00–14.30** Transformations	**11.00–11.30** Emergency Care				**12.00–13.00** Nutrition Counseling and Play
Group B	**Ward**	**12.00–13.00** Tour of Inpatient Care	**11.30–13.00** Clinical signs of SAM Measuring MUAC and weighing	**14.00–15.30** Initial management: CCP charts Feeding on F-75	**15.00–16.00** Initial management and feeding: F-75 and RUTF Use of F-100	**15.00–16.00** Daily care Monitoring using a checklist	
	Feed preparation area/other		**14.30–15.15** Preparation of ReSoMal	**11.30–12.30** Preparation of F-75 and F-100 Show RUTF		**09.30–10.30** Visit Outpatient Care: linkage between Inpatient Care and Outpatient Care	
	Video	**14.00–14.30** Transformations	**11.00–11.30** Emergency Care				**14.00–15.00** Nutrition Counseling and Play

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 who have certain characteristics.

   If the schedule requires adjustment in order to accomplish the session objectives, inform the course director and/or the group facilitators. If any special supplies are needed, be sure they will be available. Prepare or make copies of any forms needed, such as CCP pages or 24-Hour Food Intake Charts.

2. Each morning, review the children in the ward and select appropriate children to be managed by participants during the day's sessions. This must be done in the morning as 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 who 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 additional children with infrequently seen signs. Because some signs may be rarely seen in this hospital, show them to participants whenever there is an opportunity. These signs may include:
   - Severe dermatosis (+++)
   - Severe oedema (+++)
   - Signs of dehydration, especially skin pinch that goes back slowly
   - Signs of shock (cold hands with slow capillary refill of greater than 3 seconds or weak/fast pulse)
   - Corneal ulceration or Bitot's spots

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.

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 session today. Demonstrate any new clinical procedure that they have not seen (such as giving ReSoMal or measuring MUAC and weight) 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 forms or supplies needed.

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 the provision of treatment. Inform 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, chart, feeding record, etc.

    Keep these discussions brief and avoid making participants feel uncomfortable or intimidated. When you ask a participant about what he or she 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 the participants all 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 (tick) on the Tally Sheet (**Annex D**) 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 are 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 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 laminated 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 2, 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 Inpatient Care

To Prepare

Review these guidelines for Day 1.

Prepare to take each group for a tour of the ward and all areas where children with SAM are seen and managed. 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 ward, the emergency treatment area, admissions area, 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 or 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 and counselling, etc.

Instructor Procedures

1. Introduce yourself.

2. Explain to participants how clinical sessions will generally work (see the **Notes** that follow). 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 the children.)

4. Take participants to the admissions area and explain how children are admitted for management of SAM in Inpatient Care.

5. Visit the emergency treatment area and explain what treatments are given here.

6. Take participants for a tour of the ward, pointing out areas that participants will learn

about during the course, such as beds, areas for weighing and bathing, play area, and education area.

7. If possible, while touring the ward, show a 'success story', a child who was admitted in serious condition but is now gaining weight, cheerful, etc.

8. Visit the kitchen or area where food is prepared. Point out food scales, ingredients used, etc.

At the End of the Session

Answer any questions that participants may have.

Notes: Explanation to Participants 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. The SAM ward may not be like the setting where you usually work. However, seeing and working in the ward will help you understand the procedures and what is needed to carry them out. Then you will have ideas about putting 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 perform 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. 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 you to tasks and patients 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 or 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's condition suddenly worsens, be sure to alert me and/or the ward staff.

Day 2: Clinical Signs

To Prepare

Review the 'General Procedures' (pages 12–14 of this guide) and these guidelines for Day 2. Arrange for participants to weigh and measure MUAC of children. Ensure that scales are working and set up correctly and that MUAC tapes are available.

Select one or two children with a variety of clinical signs to show to participants. Try to find clear examples of signs. See **Notes Part A** below for a list of the signs to show today.

Look for children in the admissions area and/or ward who could be assessed for clinical signs of SAM, weighed, and have their MUAC measured. For each group, you will need one to two 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 who do not have SAM.

Participant Objectives

- Observe children with clinical signs of SAM.
- Look for signs of SAM.
- Weigh and measure the MUAC of children.
- Identify children who have SAM.

Instructor Procedures

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, and eye signs (see **Notes Part A** below). Point out these signs to participants.

3. Using these same children (unless they are too sick), demonstrate how to measure MUAC. Follow guidelines in the **Module 2, Principles of Care** on page 11.

4. Assign each participant to assess one or two children in the admissions area and/or ward. Include some children who do not have SAM. Ask participants to assess each child for clinical signs of SAM, weigh the child, and measure the child's MUAC. Then ask them to determine if the child should be classified as having SAM.

5. 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 the MUAC of children since a partner is needed for these tasks.

6. When a participant has finished assessing a child, ask the participant what he or she has found. Look at the child again with him or her, agreeing with the findings or asking him or her to look again if a sign was missed.

7. Towards the end of the session, conduct rounds (see **Notes Part B** below). 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 among them. The participant should point out the clinical signs, state the child's weight and MUAC measurement, and explain whether the child should be classified as having SAM. Ask the participant questions as needed to draw out a complete explanation.

At the End of the Session

Summarise the session with participants. Answer any questions.

Notes

A. 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 primarily on the signs taught in the case management training and become skilled at recognising them. Not all signs will be present in the ward every day. Whenever a child is admitted to Inpatient Care 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.

Signs to teach on Day 2:

- **Severe wasting**
- **Oedema**

+	Mild:	Oedema of both feet
++	Moderate:	Oedema of both feet, plus lower legs, hands, or lower arms
+++	Severe:	Generalised oedema, including both feet, legs, hands, arms, and face

- **Dermatosis**

+	Mild	Discoloration or a few rough patches of skin
++	Moderate	Multiple patches on arms and/or legs
+++	Severe	Flaking skin, raw skin, fissures (openings in the skin)

- **Eye signs**
  Bitot's spots
  Pus and inflammation (redness)
  Corneal clouding
  Corneal ulceration

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

B. 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 to weigh and measure the MUAC of the patients to determine whether they should be admitted. Assign each participant to a different patient (or if necessary, participants may pair up). Select patients with signs that should be learned 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 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 the MUAC measurement.

- 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 both feet.

- Ask whether the child should be classified as having SAM. If necessary, ask participants to write their individual decisions on slips of paper and hand or show them to you so you are sure they are giving their own decisions, not influenced by others or 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 of 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 did not identify a sign correctly, demonstrate or let participants try again. Find out **why** they decided differently, **where** they were looking, the definition they are using, or other relevant factors. Treat their opinions with respect, and say ‘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 will’. Give encouragement and thank the participant who presented the case.

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

Day 3: Initial Management

To Prepare

Arrange a place for participants to practise testing blood samples using glucometre/dextrostix. Plan how the blood will be obtained. Gather a supply of gloves, glucometre/dextrostix, and supplies for obtaining blood samples.

Obtain a supply of Initial Management pages of the CCP (2–3 copies per participant).

In the morning and throughout the day, look for newly admitted patients who have SAM. Brief the staff who do initial management of children with SAM 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.

Ask facilitators to remind participants to bring their set of laminated job aids and a pen or pencil to the session.

Participant Objectives

- Observe initial management of children with SAM.
- Identify clinical signs of SAM, such as hypoglycaemia, hypothermia, shock, and dehydration.
- Practise using glucometre/dextrostix.
- Practise filling a CCP during initial management.
- Assist in doing initial management, if feasible, such as:
  - Taking axillary temperature (rectal if available)
  - Giving a bolus of glucose for hypoglycaemia
  - Warming a child
  - Giving the first feed

Instructor Procedures

1. Review the objectives of this session with the participants.

2. As SAM patients 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 a CCP 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 **Notes Part A** 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 glucometre/dextrostix (or the brand used at the hospital) and read the package directions. Using available blood samples, (and wearing gloves), have participants test a few samples and read the results.

7. Without interfering with care, if feasible, assign participants to patients (see **Notes Part B** below). As feasible, with supervision, participants should practise the following:
   - Checking for signs of shock: lethargic/unconscious, plus cold hand, plus either slow capillary refill or weak/fast pulse
   - Giving a bolus of glucose
   - Taking axillary temperature (rectal if available)
   - Warming a child
   - Giving the 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 a CCP. Even if the child is not a new patient, participants should assess the child as though he or 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 from the hospital record.)

9. After all participants have finished, conduct rounds of the children assessed.

At the End of the Session

Summarise the session with participants. Answer any questions.

Notes

A. 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 < 35.0° C and rectal temperature < 35.5° C
- Hypoglycaemia: blood glucose < 3 mmol/L

- Shock: lethargic/unconscious, plus cold hand, plus either slow capillary refill (> 3 seconds) or weak/fast pulse
- Signs of dehydration:
    - Skin pinch goes back slowly
    - Sunken eyes
    - Restless/irritable
    - Dry mouth/tongue
    - Lethargic
    - No tears
    - Thirsty

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

B. 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 are doing, and what results are found. Participants should record on the CCP 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 axillary temperature (take rectal if available), 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 CCP.

- 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 (e.g., measure weight, measure MUAC, check for signs of shock, ask about diarrhoea, check for signs of dehydration). 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 glucometre/dextrostix to test for blood glucose level. Participants should record on the CCP.

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 intravenous (IV) fluids. If a participant discovers inappropriate treatment, discuss the correct treatment with participants. As soon as possible, discuss the situation privately with the appropriate hospital staff.

Day 4: Initial Management Continued and Feeding

To Prepare

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 severely malnourished patients who have diarrhoea. Select new or recent admissions to be seen by participants.

Obtain a supply of the Initial Management page of the CCP and 24-Hour Food Intake Charts (two each per participant).

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.

Ask facilitators to tell participants to bring the set of laminated job aids and a pencil or pen.

Participant Objectives

- Observe and assist in doing initial management, if feasible, including:
  - Identifying signs of possible dehydration in children with SAM
  - Measuring and giving ReSoMal
  - Monitoring a child on ReSoMal
  - Determining antibiotics and doses
- Observe nurses measuring and giving feeds
- Practise measuring, giving, and recording feeds

Instructor Procedures

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 management. Assign participants to patients as feasible. Supervise closely. Have participants complete an Initial Management page of the CCP on each case observed or managed. Without interfering with care, if feasible, ask different participants to practise the following:
   - Checking for signs of shock: cold hand with slow capillary refill or weak/fast pulse
   - Giving a bolus of glucose
   - Taking axillary temperature (take rectal if available)
   - Warming a child
   - Giving the first feed

For patients with diarrhoea, also ask participants to practise:

- Looking for signs of possible dehydration
- Measuring an appropriate amount of ReSoMal for a child
- Giving ReSoMal orally or through a nasogastric tube (NGT)
- Monitoring a child on ReSoMal and recording results

3. Ask participants to determine the appropriate antibiotics and doses for the patient and record them on the CCP. They should refer to the job aid **Medicine Protocols and Vaccines for Children under 5 with SAM in Inpatient Care** as needed. Discuss their answers.

4. When participants are ready, conduct rounds.

Feeding

5. Move to the feed preparation area and then the ward so that participants can observe nurses measuring and giving feeds to children at all stages of treatment. Explain (or have the nurse show and explain) how the correct amount of feed is measured for each child.

6. When it is feeding time, find a mother or nurse who is feeding a child correctly with a cup, and have participants observe how the child is held, how the cup 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.)

7. 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 the **Notes** below). Be sure that participants correctly measure and record leftovers.

At the End of the Session

Summarise the session with participants. Answer any questions.

Notes: 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, the participant must hold the child. Children may be distressed if taken from the 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 4: Feeding

To Prepare

For a day or 2 before this session, ensure that 24-Hour Food Intake Charts are correctly kept on children in the ward.

Brief staff in the 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. 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 ready-to-use therapeutic food (RUTF). Get a copy of yesterday's 24-Hour Food Intake Chart, or fill in a 24-Hour Food Intake Chart for each stage of feeding. Make copies of them to show participants (3–6 copies).

Obtain a supply of blank 24-Hour Food Intake Charts (3–4 per participant).

Participant Objectives

- Review 24-Hour Food Intake Charts and plan feeds for the next day.
- Determine if child is ready for RUTF.
- Continue to practise measuring, giving, and recording feeds.

Instructor Procedures

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. Participants will also continue to practise feeding tasks.

2. With the group, go to the bedside of one of the children whose feeding you will discuss. Give a brief history of the child (e.g., how many days he or she has been in the hospital, admission weight, clinical signs on admission). Distribute copies of the previous 1 or 2 days' 24-Hour Food Intake Charts for the child. (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 fed yesterday? How often was he fed? Did the amount increase during the day? Were there any problems?

   Tell the participants the child's weight today. (Weigh the child if necessary.) Ask participants what the child should be fed today (F-75, RUTF, or F-100), how many feeds, how much, and by what means (NGT or cup). Ask the participants to use their reference cards 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.

3. At relevant points in the discussions, review concepts from the **Module 4, Feeding** by asking questions such as: How long should a child stay on 2-hourly feeds of F-75? How about 3-hourly feeds of F-75? What are the signs that NG feeding is needed? When is a child ready for transition? What happens each day during transition?

4. 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). 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.

At the End of the Session

Summarise the session with participants. Answer any questions.

Day 5: Daily Care

To Prepare

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.

Select children for whom participants will help carry out daily care tasks during the day. Do not select children who 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 the hospital for at least 3 days and has complete records of care, daily weights, etc. Preferably, this information has been kept on a CCP. If not, you may transcribe the information onto a CCP.

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 **Module 6, Monitoring, Problem Solving, and Reporting** to the session. Monitoring checklists can also be found in **Annex C** of this guide.

Obtain a supply of CCPs (all pages) and 24-Hour Food Intake Charts (three sets or more per participant).

Participant Objectives

- Keep CCPs on children observed and cared for. (The focus in this session will be on the Daily Care page, the Monitoring Record, and the Weight Chart.)
- Participate in daily care tasks, as feasible:
  - Measure respiratory rate, pulse rate, and temperature
  - Administer eye drops, antibiotics, and multivitamins and change eye bandages.
  - Weigh the child and record weight (on the Daily Care and Weight Chart pages of the CCP)
  - Observe and assist with bathing children
- Assist with feeding (continued practice).
- Monitor the ward using the checklist for monitoring ward procedures found in **Module 6, Monitoring, Problem Solving, and Reporting** and in **Annex C** of this guide.

Instructor Procedures

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 a CCP. Present information on the child and demonstrate

monitoring the child while participants record on the CCP. (For details, see the **Notes** below.)

3. Discuss whether participants see any progress or problems with the child's care. Be sure that they look at the child (his appearance and attitude) and information that they have recorded. Discuss the child's feeding plan and any changes that may be needed in his or her care.

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.

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 a CCP and 24-Hour Food Intake Chart for each child. Nurses will be caring for these children too. Participants should observe the nurses and assist with care as much as possible. They should complete (or add to) a CCP on each child. Watch to see that each participant is assisting with care and completing CCPs correctly. Step in to give guidance and feedback whenever needed.

6. Each participant should take respiratory and pulse rates and temperatures for his or her 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 the child is quickly dried, recovered, and warmed.

9. If practical, attach the CCPs completed by the first group to the beds of the children. The later groups can then continue with the same CCP for each child. (This may not be practical if the forms are illegible. If not practical, later groups may start with new CCPs.)

10. If time allows, have participants monitor the ward using checklists from the **Module 6, Monitoring, Problem Solving, and Reporting**. (Checklists can also be found in **Annex C** of this guide.) 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.

At the 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.

Notes: Recording on the Daily Care Page, Weight Chart, and Monitoring Record

Participants need not complete the entire Initial Management page, but you should record the child's 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 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, the type of feed given, and the number of feeds. Participants may record their own initials to show when antibiotics and other treatments were given. (You do not have to start with Day 1. If you have information for Days 11 through 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 and 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. 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 or 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 CCP. Ask participants what danger signs they should look for related to pulse, respirations, and temperature. Refer to the job aid **Danger Signs for the Management of Severe Acute Malnutrition in Children under 5 in Inpatient Care**.

Day 5. Referral between Inpatient Care and Outpatient Care

To Prepare

Check the schedule to determine when each group will be able to visit the Outpatient Care session in progress. Two days prior to the clinical session find out the number of cases in Outpatient Care. If the caseload is low, plan to visit two different Outpatient Care sessions so that participants have an opportunity to observe and practice as many procedures as possible.

Obtain a supply of the referral forms from Inpatient Care to Outpatient Care (one for each participant), enlarged and laminated copies of the Admission and Discharge Criteria for the Management of SAM, and the Outpatient Care Action Protocol. Ensure that each participant has a MUAC tape and that there are adequate functional weighing scales (preferably UNISCALE) at the Outpatient Care facility.

A prior visit to Outpatient Care will be important to make sure that practices and procedures are in accordance with recommendations in the Interim *National Guidelines for CMAM in Ghana*. Prepare the Outpatient Care staff and ensure that they are confident to explain Outpatient Care procedures to participants.

Brief the Outpatient Care staff that participants will observe Outpatient Care in progress and practice certain procedures during the Outpatient Care session.

Ask facilitators to tell participants to bring with them their set of laminated job aids.

Participant Objectives

- Observe nurses conducting an Outpatient Care session.
- Review the criteria for managing SAM in Outpatient Care.
- Review referral from the Outpatient Care to Inpatient Care using the Outpatient Care Action Protocol.
- Practice using the referral form from Inpatient Care to Outpatient Care.
- Practice weighing, measuring MUAC, assessing for bilateral pitting oedema, and conducting an appetite test.
- Measure respiratory rate, pulse rate, and temperature.

Instructor Procedures

1. Review with the participants the objectives for the Outpatient Care session. Ask them to observe closely and take notes on what is done well and any ideas for improvement.

2. Ask participants to refer to the recommended criteria for the management of SAM in the set of laminated job aids. Point out the different criteria for Outpatient Care and that of Inpatient Care.

3. Assign participants to assess and review one or two patients in Outpatient Care. Participants will review the child's medical history, conduct the physical examination, conduct an RUTF appetite test, assess for bilateral pitting oedema, measure MUAC, and weigh the child.

4. Watch the participants as they examine each child. Ask participants to assist other participants with the examination, appetite test, weighing, and measuring MUAC.

5. When participants have finished, introduce the Outpatient Care Action Protocol to participants. If possible, the Outpatient Care staff should explain the action protocol. Highlight the key danger signs as per action protocol and when the child should be referred to Inpatient Care.

6. Based on the action protocol, ask participants to determine where the examined child should be managed: in Inpatient Care or Outpatient Care.

7. Show to the participant a completed referral card/form from Inpatient Care to Outpatient Care, and ask participants to review and practice completing the referral card. Highlight the key areas, specifically the child's weight, MUAC, and medical condition and medications and vaccinations given while in Inpatient Care.

At the End of the Session

Summarise the session with participants. Answer any questions.

Additional Objectives (Optional): Observation of a Teaching Session and a Play Session

To Prepare

Check the schedule to determine when each group will observe the teaching and play sessions. You will bring the group to the site of the teaching session or play session and introduce it to them. You or the small group's facilitator could lead discussions of the sessions afterward.

If the small group facilitators will lead the discussions afterwards, give them copies of the discussion questions in **Notes Parts A** and **B**, below.

Brief the staff that participants will observe some teaching sessions and play sessions, and provide the schedule for this.

Participant Objectives

- Observe a teaching session with mothers.
- Observe a play session.

Instructor Procedures

1. Review with the participants the objectives for the teaching or play session. Ask them to observe closely and take notes on what is done well and any ideas for improvement.

2. Watch the teaching session or play session with participants, if possible.

3. After the session, lead a discussion of what was accomplished in the session and how (see **Notes Parts A** and **B**, below).

At the End of the Session

Summarise the session with participants. Answer any questions.

Notes

A. Discussion of Teaching Session for Mothers

Below are questions to discuss with participants.

1. What were the main points that were 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 mothers encouraged to ask questions?
8. Were there opportunities for mothers to practise?
9. Do you think mothers learned 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?

B. Discussion of Play Session

Discuss the following questions.

1. What were the main purposes of the session?
2. What activities were carried out?
3. What materials or toys were used?
4. Were the materials and toys used appropriate for the age and development level of the children?
5. Could the materials and toys be made at home?
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 the ways they learned 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. Clinical Practice Schedule

Region: **Venue:** **Date:**

	Activity/Day:	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6
Group A	Ward						
	Feed preparation area/other						
	Video						
Group B	Ward						
	Feed preparation area/other						
	Video						

Annex B. Equipment and Supplies Needed for the Inpatient Management of SAM

Ward Equipment/Supplies

- ❑ Running water
- ❑ Thermometers (axillary or rectal)
- ❑ Child weighing scales (and an item of known weight for checking scales)
- ❑ Infant weighing scales with 10 g precision (and an item of known weight for checking scales)
- ❑ Mid-upper arm circumference (MUAC) tapes
- ❑ Adult beds with mattresses
- ❑ Bed sheets
- ❑ Insecticide-treated bed nets
- ❑ 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 and vitamin mix (CMV)
- ❑ Ready-to-use therapeutic food (RUTF)
- ❑ If available, pre-packaged F-75 and F-100
- ❑ Iron syrup (e.g., ferrous fumarate)
- ❑ Folic acid
- ❑ Vitamin A (Retinol 100,000 and 200,000 IU capsules)
- ❑ Glucose (or sucrose)
- ❑ Intravenous (IV) fluids: one of the following, listed in order of preference:
    - o Half-strength Darrow's solution with 5% glucose
    - o Ringer's lactate solution with 5% glucose*
    - o 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
- ❑ Glucometre/Dextrostix
- ❑ Haemoglobinometer
- ❑ Supplies for IV fluid administration:
    - o Scalp vein (butterfly) needles, gauge 21 or 23
    - o Heparin solution, 10–100 units/ml
    - o Poles or means of hanging bottles of IV fluid

  - Tubing
  - Bottles or bags
- ❑ Paediatric nasogastric tubes (NGTs)
- ❑ Sticky tape
- ❑ Syringes of multiple sizes: 50 ml for feeds, 10 ml, 5 ml for drawing blood, 2 ml for drugs
- ❑ Sterile needles
- ❑ Eye pads
- ❑ Bandages
- ❑ Gauze
- ❑ Supplies for blood transfusion:
  - Blood packs
  - Bottles
  - Syringes and needles
  - Other blood collecting materials

Drugs

- ❑ Amoxicillin
- ❑ Ampicillin
- ❑ Benzylpenicillin
- ❑ Gentamicin
- ❑ Chloramphenicol
- ❑ Ceftriaxone
- ❑ Cefotaxine
- ❑ Ciprofloxacin
- ❑ Cloxacillin
- ❑ Cotrimoxazole
- ❑ Mebendazole and/or albendazole
- ❑ Tetracycline eye ointment
- ❑ Chloramphenicol eye drops
- ❑ Atropine 1% eye drops
- ❑ Paracetamol
- ❑ Antimalarial: artemisinin-based combination therapy (ACT)
- ❑ Metronidazole
- ❑ Nalidixic acid

For Skin

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

Laboratory Resources

- ❑ Malaria diagnostic test
- ❑ HIV Tests
- ❑ Tuberculosis tests (x-ray, culture of sputum, Mantoux)
- ❑ Urinalysis
- ❑ Stool routine examination and culture
- ❑ Blood culture
- ❑ Cerebrospinal fluid culture
- ❑ Full blood count
- ❑ Sickling

Hygiene Equipment/Supplies for 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 food for the ward
- ❑ Cooking stove
- ❑ Feeding cups, saucers, and spoons
- ❑ Measuring cylinders (or suitable utensils for measuring ingredients and leftovers)
- ❑ Jugs (1 L and 2 L)
- ❑ Refrigeration (if possible)
- ❑ Ingredients to make F-75 and F-100:
    - o Dried skimmed milk, whole dried milk, fresh whole milk, or long-life milk
    - o Sugar
    - o Cereal flour
    - o Vegetable oil
    - o Clean water supply
- ❑ Food for mothers
- ❑ Foods similar to those used at home (for teaching transition to homemade complementary foods)

Reference

- ❑ Interim *National Guidelines for CMAM in Ghana*

Set of Laminated Job Aids

- ❑ Admission Criteria for the Management of Severe Acute Malnutrition in Children under 5
- ❑ Discharge Criteria for the Management of Severe Acute Malnutrition in Children under 5
- ❑ Weight-for-Height/Length Reference Tables

- ❑ Guidance Table to Identify Target Weight for Discharge from Management of Severe Acute Malnutrition for Children 6–59 Months
- ❑ Danger Signs for the Management of Severe Acute Malnutrition in Children under 5 in Inpatient Care
- ❑ Routine Medicine Protocols and Vaccines for Children under 5 with SAM in Inpatient Care
- ❑ Antibiotics for Children with SAM in the Inpatient Care
- ❑ Specific Formulation and Body Weight Ranges for Antibiotics for SAM in Inpatient Care
- ❑ Other Medicine Protocols and Vaccines for Children under 5 with SAM in Inpatient Care
- ❑ F-75 Reference Tables
- ❑ F-100 Reference Table
- ❑ F-100-Diluted Reference Tables
- ❑ RUTF Reference Table for Children 6–59 Months with SAM in Inpatient Care
- ❑ RUTF Appetite Test
- ❑ Entry and Exit Categories for Monitoring the Management of Severe Acute Malnutrition in Children 6–59 Months

Laminated Wall Charts

- ❑ 10 Steps for Management of SAM in Children 6–59 Months in Inpatient Care
- ❑ Admission and Discharge Criteria for the Management of Severe Acute Malnutrition in Children under 5
- ❑ Emergency Treatment for the Management of SAM in Inpatient Care
- ❑ F-75 Reference Tables
- ❑ F-100 Reference Table
- ❑ F-100-Diluted Reference Tables
- ❑ Guidance Table to Identify Target Weight for Discharge from Management of Severe Acute Malnutrition for Children 6–59 Months
- ❑ RUTF Reference Table for Children 6–59 Months with SAM in Inpatient Care

Forms and Checklists

- ❑ 24-Hour Food Intake Chart
- ❑ Checklist for Monitoring Food Preparation
- ❑ Checklist for Monitoring Hygiene
- ❑ Checklist for Monitoring Inpatient Care Procedures
- ❑ Critical Care Pathway (CCP) Chart
- ❑ Daily Inpatient Care Feeds Chart
- ❑ Health Facility Monthly Report Form for the Management of SAM
- ❑ Health Facility Tally Sheet for the Management of SAM
- ❑ Referral Form from Inpatient Care to Outpatient Care
- ❑ Weight Gain Tally Sheet

Other Documents

- ❑ List of Outpatient Care sites with catchment areas and names community outreach workers (developed per Inpatient Care site)

Annex C. Monitoring Checklists for Inpatient Care

Checklist for Monitoring Food Preparations

OBSERVE	YES	NO	COMMENTS
Are ingredients for the recipe available?			
Is the correct recipe used for the ingredients that are available?			
Are ingredients stored appropriately and discarded at appropriate times?			
Are containers and utensils kept clean?			
Do kitchen staff (and those preparing feeds) wash their hands with soap beforehand?			
Are the recipes for F-75 and F-100 followed exactly? (If changes are made due to lack of ingredients, are these changes appropriate?)			
Are measurements made exactly with proper measuring utensils (e.g., correct scoops)?			
Are ingredients thoroughly mixed (and cooked, if necessary)?			
Is the appropriate amount of oil remixed in (i.e., not left stuck in the measuring container)?			
Is CMV added correctly?			
Is correct amount of water added to make up a litre of formula with the recipe? (Staff should **not** add 1 L of water, but just enough to make 1 L of formula.) Is correct amount of water added to make formula with the commercial packages? (Staff should add the package to 1 or 2 L of cooled boiled water. Staff should verify the instructions on the package.)			
Is food served at an appropriate temperature?			
Is the food consistently mixed when served (i.e., oil is mixed in, not separated)?			
Are correct amounts put in the dish for each child?			
Is leftover prepared food discarded promptly?			
Other			

Checklist for Monitoring Ward Procedures

OBSERVE	YES	NO	COMMENTS
Feeding			
Are correct feeds served in correct amounts?			
Are feeds given at the prescribed times, even on nights and weekends?			
Are children held and encouraged to eat (never left alone to feed)?			
Are children fed with a cup and saucer (never a bottle)?			
Is food intake (and any vomiting/diarrhoea) recorded correctly after each feed?			
Are leftovers recorded accurately?			
Are amounts of F-75 kept the same throughout the initial phase, even if weight is lost?			
Is the RUTF appetite test conducted as soon as the children's appetite returns and medical complications are resolving?			
Is RUTF offered in the transition phase?			
Is RUTF administered correctly?			
Is drinking water provided with RUTF intake?			
Is the child consuming 75% or more of the required daily intake of RUTF before referral to Outpatient Care?			
For cases that remain in Inpatient Care on F-100 after transition, are amounts of F-100 given freely and increased as the child gains weight?			
Warming			
Is the room kept between 25° C and 30° C (to the extent possible)?			
Are blankets provided and children kept covered at night?			
Are safe measures used for re-warming children?			
Are temperatures taken and recorded correctly?			
Weighing			
Are scales functioning correctly?			
Are scales standardised weekly? (Check scales			

OBSERVE	YES	NO	COMMENTS
as described in **Module 5. Daily Care**.)			
Are children weighed at about the same time each day, 1 hour before or after a feed (to the extent possible)?			
For children that are on F-100 for 2 days, is the correct dose of iron given daily and recorded on the CCP?			
Do staff adjust the scale to zero before weighing?			
Are children consistently weighed without clothes?			
Do staff correctly read weight to the correct degree of precision?			
Do staff immediately record weights on the child's CCP?			
Are weights correctly plotted on the Weight Chart?			
Giving antibiotics and other medications and supplements			
Are antibiotics given as prescribed (correct dose[s] at correct time[s])?			
When antibiotics are given, do staff immediately make a notation on the CCP?			
Is folic acid given daily and recorded on the CCP?			
Is vitamin A given according to schedule?			
Ward environment			
Are surroundings welcoming and cheerful?			
Are mothers offered a place to sit and sleep?			
Are mothers taught and encouraged to be involved in care?			
Are staff consistently courteous?			
As children recover, are they stimulated and encouraged to move and play?			

Checklist for Monitoring Hygiene

OBSERVE	YES	NO	COMMENTS
Hand-washing			
Are there working hand-washing facilities in the ward?			
Do staff consistently wash their hands thoroughly with soap?			
Are their nails clean?			
Do they wash their hands before handling food?			
Do they wash their hands between patient visits?			
Mothers' cleanliness			
Do mothers have a place to bathe, and do they use it?			
Do mothers wash their hands with soap after using the toilet or changing nappies (diapers)?			
Do mothers wash their hands before feeding children?			
Bedding and laundry			
Is bedding changed every day or when soiled/wet?			
Are nappies, soiled towels and rags, etc. stored in bag, then washed or disposed of properly?			
Is there a place for mothers to do laundry?			
Is laundry done in hot water?			
General maintenance			
Are floors swept?			
Is trash disposed of properly?			
Is the ward kept as free as possible of insects and rodents?			
Food storage			
Are ingredients and food kept covered and stored at the proper temperature?			
Are leftovers discarded?			
Is all therapeutic food stored in a hygienic manner?			

OBSERVE	YES	NO	COMMENTS
Dishwashing			
Are dishes washed after each meal?			
Are they washed in hot water with soap?			
Toys			
Are toys washable?			
Are toys washed regularly, and after each child uses them?			

Annex D. Tally Sheets for Clinical Sessions

The tally sheet for each clinical session can help you to 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. Follow these steps to use the tally sheet, which is found on the next page.

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. Take 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 for whatever 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.

Day 1: Tour of the Ward

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

Day 2: Clinical Signs

Objectives	Group A	Group B
Observe children with clinical signs of SAM.		
Look for signs of SAM.		
Weigh and measure mid-upper arm circumference (MUAC) and height/length of children.		
Look up weight-for-height (WFH) z-scores.		
Identify children who have SAM.		

Day 3: Initial Management

Objectives	Group A	Group B
Observe initial management of children with SAM.		
Identify clinical signs of: ▸ SAM ▸ Hypoglycaemia ▸ Hypothermia ▸ Shock ▸ Dehydration		
Practise using dextrostix.		
Practise filling out a Critical Care Pathway (CCP) during initial management.		
Assist in initial management, such as: ▸ Taking rectal temperature ▸ Giving bolus of glucose for hypoglycaemia ▸ Warming child ▸ Giving first feed ▸ Other _____		

Day 4: Initial Management and Feeding

Objectives	Group A	Group B
Observe and assist in doing initial management, including: ▸ Identify signs of possible dehydration ▸ Measure and give Rehydration Solution for Malnutrition (ReSoMal) ▸ Monitor a child on ReSoMal ▸ Determine antibiotics and doses ▸ Other_____		
Observe nurses measuring and giving feeds.		
Practise measuring, giving, and recording feeds.		

Day 4: Feeding

Objectives	Group A	Group B
Review 24-Hour Food Intake Charts and plan feeds for the next day.		
Determine if child is ready for ready-to-use therapeutic food (RUTF).		
Determine if the child should transition on F-100 (only in special cases the majority of the children will transition on RUTF, therefore will not need F-100).		
Continue to practise measuring, giving, and recording feeds.		

Day 5: Daily Care and the Linkage between Inpatient Care and Outpatient Care

Objectives	Group A	Group B
Keep CCPs on the children who are observed and cared for.		
Participate in daily care tasks, as feasible. ▸ Measure respiratory rate, pulse rate, and temperature. ▸ Administer eye drops and antibiotics, change eye bandages, etc. ▸ Weigh the child and record weight. ▸ Observe/assist with bathing.		
Assist with feeding (continued practice).		
Monitor the ward using the checklist.		
Observe the nurse conducting Outpatient Care.		
Review criteria for managing SAM in Outpatient Care.		
Review referral procedure from Outpatient Care to Inpatient Care using the action protocol.		
Practice using the referral card from Inpatient Care to Outpatient Care.		
Practice measuring MUAC, assessing for bilateral pitting oedema, and conducting an appetite test.		

Additional Objectives

Objectives	Group A	Group B
Observe teaching session with mothers.		
Observe a play session.		