Government of Malawi
Ministry of Health

Training Course on

INPATIENT MANAGEMENT OF SEVERE ACUTE MALNUTRITION

Clinical Instructor Guide

SEPTEMBER 2017

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Preface

The ***Malawi Inpatient Management of Severe Acute Malnutrition Training Package*** includes training modules, training guides, training aids, training planning tools, and job aids. The training package is based on the 2002 WHO Training Course on the Management of Severe Malnutrition (SAM) and has been updated to include the 2013 WHO update on management of SAM in infants and children. The training package guides participants in applying the National Guidelines for the Community-based Management of Acute Malnutrition (CMAM), 2016.

This *Guide* is one of a set of training guides and modules for conducting the *Training Course on Inpatient Management of Severe Acute Malnutrition:*

Guides
Facilitator Guide
Clinical Instructor Guide
Course Director Guide

Modules
Module 1—Introduction
Module 2—Principles of Care
Module 3—Initial Management
Module 4—Feeding
Module 5—Daily Care
Module 6—Monitoring, Problem Solving and Reporting
Module 7—Involving Mothers in Care

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Acronyms and Abbreviations

AWG	Average Daily Weight Gain
cm	Centimetre(s)
CMAM	Community-Based Management of Acute Malnutrition
CMV	Combined Mineral and Vitamin Mix
dl	Decilitre(s)
ETAT	Emergency Triage Assessment and Treatment
g	Gram(s)
Hb	Haemoglobin
HFA	Height-for-Age
HIV	Human Immunodeficiency Virus
IGF	Insulin Growth Factor
IM	Intramuscular
IMCI	Integrated Management of 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
mg	Milligram(s)
ml	Millilitre(s)
mm	Millimetre(s)
MOH	Ministry of Health
MUAC	Mid-Upper Arm Circumference
NG	Nasogastric
OPD	Outpatient Department
ORS	Oral Rehydration Solution
OTP	Outpatient Therapeutic Programme
PCR	Polymerase Chain Reaction
PCV	Packed Cell Volume
QI	Quality Improvement
RDT	Rapid Diagnostic Test
ReSoMal	Rehydration Solution for Malnutrition

RUTF	Ready-to-Use Therapeutic Food
SAM	Severe Acute Malnutrition
SD	Standard Deviation
SFP	Supplementary Feeding Programme
TB	Tuberculosis
UTI	Urinary Tract Infection
WFH	Weight-for-Height
WFL	Weight-for-Length
WFP	World Food Programme
WHO	World Health Organisation
µg	Microgram(s)

1. Purpose of Clinical Sessions

The clinical session is an essential part of the *Training Course on Inpatient Management of Severe Acute Malnutrition*. The clinical instructor leads the clinical sessions 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 the clinical management of SAM in children, following procedures described in Ministry of Health (MOH) *National Guidelines on the Community-based Management of Acute Malnutrition 2016*[1].

Participants learn first about the procedures for management of SAM in children under 5 by reading information in training modules and seeing demonstrations in the classroom and 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 of inpatient management of SAM.

General Objectives

During clinical sessions, participants will:

- Become familiar with the hospital. 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 mothers[2].
- 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 learned in the modules. Each clinical session focuses on some new skills and reinforces the skills participants have learned 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 summarised in the job aids and described in the CMAM Guidelines. If there are discrepancies between current practices of the hospital where the clinical sessions of the training course occur, the clinical instructor should be prepared to assist the training site to implement best practices. 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 best practices and the reasons for it. If a health facility wants to upgrade its procedures to be consistent with the best practices, 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 MOH and the World Health Organisation (WHO), UNICEF or other partners well in advance of a training course.

[2] The term ‘mother’ is used throughout the modules and guides. 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. For the sake of readability, however, ‘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 and Outpatient Department (OPD)
- Observe the emergency room
- Observe how the Nutrition Rehabilitation Unit (NRU) or area is organised
- Observe the kitchen area
- Observe any special areas for play, health and nutrition counselling and so on

Day 2: Clinical Signs

- Observe children with clinical signs of SAM
- Look for signs of severe malnutrition
- Weigh and measure children (length, height and mid-upper arm circumference [MUAC])
- Look up weigh-for-height standard deviation (SD) scores
- Identify children who are severely malnourished

Day 3: Initial Management

- Observe initial management of severely malnourished children
- Identify clinical signs of severe malnutrition, hypoglycaemia, hypothermia, shock, dehydration
- Practise using dextrostix (if there is a child who needs to have this done at the time of the visit to the ward)
- Practise filling CCP (Inpatient Care Assessment and Treatment Card) during initial management
- Assist doing initial management, if feasible, such as
    - Taking temperature, respiratory rate, pulse rate
    - Giving a bolus of glucose for hypoglycaemia
    - Warming the child
    - Giving the first feed
- Observe and/or assist in treatment of shock
    - Identifying signs of dehydration and shock in a child with SAM
    - Measuring and giving rehydration solution for malnutrition (ReSoMal)
    - Monitoring a child on ReSoMal
    - Measuring and giving IV fluids
    - Monitoring a child on IV fluids
- Determine antibiotics and dosages

Day 4: Feeding

- Observe nutrition staff measuring, giving feeds and charting feeds
- Counsel mothers about importance of giving feeds to children with SAM
- Observe and practice feeding by nasogastric (NG) tube, by cup and spoon
- Observe and assist feeding by supplemental suckling technique
- Review 24-Hour Food Intake Charts and plan feeds for the next day
- Determine readiness for transition in a child > 6 months old
- Determine whether the child and/or non-breastfed infant less than 6 months has regained appetite and is ready for transition
- Do appetite test with RUTF

Day 5: Daily Care and Monitoring Quality Care

- Keep Inpatient Care Treatment Cards on children observed and cared for, and complete recording during practice
- Participate in daily care tasks, as feasible:
  - Measuring pulse rate, respiratory rate and temperature
  - Administering eye drops, antibiotics, other drugs and supplements, changing eye bandages and so on
  - Weighing the child
  - Observing and assisting with bathing children
- Assist with feeding (continued practice)
- Discuss progress and response, or failure to respond, to treatment
- Determine whether child and infant less than 6 months are ready for discharge to continue treatment in outpatient care or at end of treatment
- Practise preparing for discharge from hospital and transfer to outpatient care to continue treatment until fully recovered, or for discharge from hospital at the end of treatment when fully recovered
- Monitor quality of care using checklists, and discuss steps for quality improvement (QI)
- Practise filling monthly reporting sheets, and assess performance
- Observe a clinic session for the Outpatient Therapeutic Programme (OTP)

Day 6: Observation and Discussion of a Teaching Session and Play Session

- Observe a health and nutrition counselling session
- Observe a cooking session
- Observe a play session

3. The Role of the Clinical Instructor

One clinical instructor 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 NRU 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 participants[3].

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 feeding during stabilisation, 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.

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[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 the NRU 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 Management of SAM job aids and the CMAM Guidelines** and have experience using them. 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 summarised in the job aids and described in the CMAM Guidelines.

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 the NRU 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 NRU staff, participants and mothers. She/he should be a good role model in talking with mothers. A translator might be needed.

7. If possible, in preparing 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 the Facilitator Training, during all of the 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 NRU 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 the NRU (the in-charge of the ward or ward head). Explain to the NRU in-charge 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 NRU to inform them about the training and to ask for their help. Make sure your arrangements include the senior nurse responsible, not just the clinician in charge.

   If necessary, ask the NRU in-charge for a reliable home-craft worker who works on the ward full-time. Ask the NRU in-charge to request that the home-craft workers 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.

2. If you are not familiar with the NRU, visit it. See how the NRU 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 and so on. Find out times patients are available or not available.

3. Meet with the Course Director and the NRU in-charge 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 NRU 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 (see specifications in Module 1):

   - Objectives for Clinical Sessions
   - Schedule of Clinical Sessions
   - Modules 1 to 7 and *Photographs* booklet
   - Set of job aids
   - Set of forms and checklists

   As clinical instructor, you will need a supply of:

   - Inpatient Care Treatment cards (WHO) (100 copies for a course session with 25–30 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)
- Gloves for every participant
- Dextrostix

To ensure good handwashing, 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 NRU 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 observe management of children according to the protocols summarised in the job aids and described in the CMAM Guidelines. 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 practise and will familiarise the facilitator trainees 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 assisting with initial management (as done on days 3 and 4)
   - Practising measuring and giving feeds (as done on day 5).

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 14, *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 facilitator trainees in the role of participants. When the session is over, ask for feedback from the facilitator trainees. 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

Scheduling clinical sessions to allow all groups to accomplish each day's objectives is challenging. Study the objectives for each day and think about when the NRU's routine will accommodate them. Plan to rotate the two/three groups through the schedule, so that each group experiences the ward at different times in the daily schedule, and no group visits the NRU 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 NRU) can be achieved at any time after the first two hours of the opening day; it is necessary to vary it somewhat. It is critical to provide everyone with a copy of the schedule to avoid confusion. The course director usually prepares a schedule for the number of groups (2 or 3) so that each group knows exactly when it visits the ward.

Day 2 objectives (**Clinical Signs**) should be achieved according to the prepared schedule. Participants 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 *Principles of Care* before this session.

Day 3 objectives (Initial Management). The clinical sessions on this day should be scheduled, if possible, at times when there are likely to be new admissions. The clinical sessions on this day should be scheduled at times when there are usually new admissions. If there are no new admissions, review of the initial management procedures already done on admitted patients should be reviewed and discussed accordingly. Dextrostix to test for hypoglycaemia should only be done if there is a new patient who requires this, or a patient being monitored for hypoglycaemia. It should not be done when not indicated.

Day 4 objectives (Feeding) include practice measuring and giving feeds. Practise feeding by NG tube, cup, supplemental suckling and with RUTF. Each session should include a scheduled feeding time. Practise monitoring and recording feeds, including assessing if child is taking adequate amounts of therapeutic feed.

Day 5 objectives (Daily Care and Monitoring Quality Care) and Tour of the Outpatient Therapeutic Programme (OTP) Clinic 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. Review the Daily Care Charts of admitted patients to determine response to clinical and nutritional management. Discuss children who are responding poorly and determine why, including finding solutions. Discuss preparation for discharge from hospital and transfer to outpatient care to continue treatment until recovery, or, discharge from hospital after full recovery. Discuss also quality of care and steps for QI, and filling reporting sheets and discuss performance. Observing a clinic session of the OTP site should be arranged if it is within reach and if time allows.

Day 6 (Involving mothers in the care) additional objectives

- Observe a health and nutrition counselling session
- Observe a cooking session
- Observe a play session

These health and nutrition counselling, 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.

Example Clinical Session Schedule

		MONDAY	**TUESDAY**	**WEDNESDAY**	**THURSDAY**	**FRIDAY**	**SATURDAY**
GROUP A		**14th November, 2016**	**15th November, 2016**	**16th November, 2016**	**17th November, 2016**	**18th November, 2016**	**19th November, 2016**
	WARD	**11.00 – 12.00**	**14.00 – 15.30**	**11.00 – 12.30**	**14.00 – 15.30**	**14.00 – 15.00**	**11.00 – 12.30**
		Tour of the ward	Clinical signs and *Measuring MUAC & Weight*	Initial Management – *CCP Chart* Feeding: F-75	Initial Management and Feeding: F-75, Transition to RUTF/F-100	Daily Care, Assessment for Outpatient Treatment: Criteria for Early Discharge	Referral to OTP/Discharge Procedure
	KITCHEN		**16.30 – 17.15**	**15.00 – 16.00**		**08.30 – 09.30**	
			Preparation of ReSoMal	Preparation of F-75, F-100 Show RUTF		Visit to OTP Clinic	
	VIDEO	**14.00 – 14.30**	**11.00 – 11.30**				**12.00 – 13.00**
		Transformations	*Emergency Care*				Nutritional advice; play
GROUP B	**WARD**	**12.00 – 13.00**	**11.00 – 12.30**	**14.00 – 15.30**	**15.30 – 17.00**	**15.00 – 16.00**	
		Tour of the ward	Clinical Signs and *Measuring MUAC & Weight*	Initial Management – *CCP Chart* Feeding: F-75	Initial Management and Feeding: F-75, Transition to RUTF/ F-100	Daily Care, Assessment for Outpatient Treatment: Criteria for Early Discharge	
	KITCHEN		**14.30 – 15.15**	**10.00 – 11.00**		**09.30 – 10.30**	
			Preparation of ReSoMal	Preparation of F-75, F-100 Show RUTF		Visit to OTP Clinic	
	VIDEO	**14.00 - 14.30**	**11.00 – 11.30**				**12.00 - 13.00**
		Transformations	*Emergency Care*				Nutritional advice; play

Schedule for Clinical, Kitchen and Video Sessions

**** VIDEO SESSIONS: all groups to watch together**

****FRIDAY 18th November, EACH GROUP VISIT THE OTP CLINIC at the times indicated in the schedule**

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 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 Care Treatment Card pages or 24-Hour Food Intake Charts.

2. Each morning, review the children in the NRU 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 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 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.

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 NRU 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 whom 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 participants' visit and the training to the mothers of the children who are identified as learning cases.

4. Brief the NRU 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 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 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 providing 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 and so on.

    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 and so on. 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; Clinical Signs

Preparation

Review section 7, 'General Procedures for Planning and Conducting Clinical Sessions' (pages 10–11 above), and the guidelines for the day.

Prepare to take each group for a tour of 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, and whether or not children are discharged early for transfer to outpatient care or follow up in OPD.

Plan to tour the NRU, the emergency room, the admissions area, the OPD, the kitchen area, and any special areas used for play, health and nutrition counselling and so on.

Find one child on the NRU who is recovering well (a 'success story') and prepare to describe the child's condition on admission and how he/she has improved, emphasising the successes.

Arrange for participants to weigh and measure children who are clinically well (do not pick very ill children). Ensure that MUAC tapes are available, scales are working and measuring boards are set up correctly.

Select one or two children with a variety of clinical signs to show to participants. Try to find clear examples of signs. See *'Clinical signs to demonstrate on day 1'* below (page 15) for a list of the signs to show today.

Look for children in the admissions area or NRU 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.

Ask facilitators to have their participants bring their job aids and a pen or pencil to the clinical session.

Participant Objectives

- Observe the admissions area
- Observe the emergency room
- Observe how the NRU is organised
- Observe the kitchen area
- Observe any special areas for play, health and nutrition counselling and so on
- Observe children with clinical signs of SAM
- Look for signs of SAM and medical complications

- Measure MUAC
- Measure weight
- Measure length and height
- Look up WFH z-score classification
- Test the appetite with RUTF of children who are clinically well and alert
- Identify children with SAM, review admission criteria and discuss treatment as inpatient or outpatient

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 handwashing 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 OPD and explain how children with SAM are referred for emergency triage assessment and treatment (ETAT), and admitted to the NRU or transferred to outpatient care.
5. Visit the emergency room and explain what treatments are given here.
6. Take participants for a tour of the NRU, pointing out areas that participants will learn about during the course: beds, areas for weighing and bathing, play area, education area and so on.
7. If possible, while touring the NRU, 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 and so on.
9. Discuss availability of food for the mothers.
10. Review the objectives for today's clinical session.
11. Show one or two children with various clinical signs, which may include wasting, oedema, dermatosis and blinding eye signs. Point out these signs to participants.
12. Using these same children (unless they are too sick), demonstrate how to measure MUAC, weight, height and length. Follow guidance of **section 3.0, Module 2. Principles of Care**. Demonstrate measuring both standing height and recumbent length.
13. Ask participants to look up the WFH z-score classification of these children.
14. Practise the RUTF appetite test for children who are clinically well and alert.
15. Determine whether the children meet the criteria for admission (given in **section 5.0**, **Module 2. Principles of Care**), include discussing:
    a. the role of the appetite test for children older than 6 months with

SAM who are clinically well and alert

b. observation period for infants less than 6 months with SAM who are gaining weight

16. 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 whether the child has SAM, appetite and/or medical complications and should be admitted.
17. 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.
18. 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 to see whether he/she missed a sign.
19. Toward the end of the session, conduct rounds. See page 15 below, '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 classification; discuss whether the child should be admitted to hospital or transferred to outpatient care. 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.

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 inpatient management of SAM. The NRU may not be like the setting where you usually work. However, seeing and working in the NRU 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 NRU staff.

Clinical Signs to Demonstrate on Day 1

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	+	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	+	Mild: Discolouration or a few rough patches of skin
	++	Moderate: Multiple patches on arms and/or legs
	+++	Severe: Flaking skin, raw skin, fissures
Appetite	Poor appetite, RUTF appetite test	
Eye signs	Pus and inflammation (redness) Bitot's spots Corneal clouding Corneal ulceration	

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 oedema, 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 1, 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 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 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 the 'round' 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 examining the body.
- Ask whether the child should be admitted, or whether admission was justified. 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 2: Initial Management

Preparation

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.

Obtain a supply of Initial Management Charts of the Inpatient Care Treatment Card (2–3 copies per participant).

In the morning and throughout the day, look for newly admitted patients with SAM.

Brief the staff of the NRU 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.

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

Participant Objectives

- Observe initial management of children with SAM.
- Identify emergency signs of SAM: hypoglycaemia, hypothermia, severe pneumonia, shock, blinding eye signs, severe anaemia, dehydration, and other common infections such as urinary tract infection (UTI), malaria and so on.
- Practise using dextrostix.
- Practise filling out an Inpatient Care Treatment Card during initial management.
- Assist in conducting initial management, if feasible, such as:
    - Taking temperature, respiratory rate, pulse rate
    - Giving bolus of glucose for hypoglycaemia

- Warming the child

Instructor Procedures

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 or routine treatment that has already been provided. If there are several patients, spread out the participants so that they can be more involved.
3. Ask participants to complete the Initial Management Chart of an Inpatient Care Treatment Card 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, presence of oedema, corneal ulceration).
5. Teach the additional clinical signs listed (see 'Clinical signs to teach on day 2' 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:
    - Taking temperature, respiratory rate, pulse rate
    - Giving bolus of glucose for hypoglycaemia
    - Warming the child.
8. Watch participants carefully and give feedback. Let other participants observe the practice.
9. 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 Chart of an Inpatient Care Treatment Card. 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 Chart 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.)
10. 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 2

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°C or rectal temperature < 35.5°C

- Hypoglycaemia: blood glucose < 3 mmol/L
- Pneumonia: cyanosis, respiratory distress, fast breathing, lower chest wall indrawing
- Lethargic/unconscious
- Shock: cold hands, plus either slow capillary refill (> 3 seconds) or weak or fast pulse
- Severe anaemia
- Dehydration (recent history [within the last 24 hours] of significant fluid loss and recent change in the child's appearance):
    - Recent sunken eyes
    - Skin pinch goes back slowly (may be present in all SAM)
    - Restless/irritable
    - Lethargic
    - Thirsty
    - Dry mouth/tongue
    - Absence of tears
- Other common infections:
    - UTI
    - Malaria
    - Other infections

Also review the clinical signs from day 1 (severe wasting, oedema, dermatosis, blinding eye signs and poor 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 health worker is doing and what results are found. Participants should record on the Inpatient Care Treatment Card 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 temperature, another to give the initial bolus of glucose (if needed) and so on.
- Two or three participants may work together to examine a patient. Each participant records on a separate Inpatient Care Treatment Card.
- 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 and so on). If blood tests have already been done on the child, participants should look at the child's record for the results. If blood tests have not yet been done and are 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 the result on the Inpatient Care Treatment Card.

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 3: Initial Management (Continued)

Preparation

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 shock or dehydration. Select new or recent admissions to be seen by participants.

Obtain a supply of the Initial Management Chart of the Treatment Card (two per participant) and 24-Hour Food Intake Charts (two per participant).

Brief the staff of the NRU 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.

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

Participant Objectives

- Observe and assist in the treatment of shock in lethargic or unconscious child:
  - Identifying signs of shock in a child with SAM
  - Measuring and giving IV fluids
  - Monitoring a child on IV fluids
- Observe and assist in the treatment of dehydration:
  - Identifying signs of dehydration in a child with SAM
  - Measuring and giving ReSoMal
  - Monitoring a child on ReSoMal
- Determine antibiotics and dosages

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 2. In addition, they will practise the tasks listed in the objectives for today.
2. Ask participants to observe and participate in the treatment of cases with shock and with dehydration. Assign participants to patients as feasible. See page 18 above, 'Assigning cases for initial management'. Supervise closely. Have participants complete an Initial Management Chart of the Inpatient Care Treatment Card on each case observed or managed.
3. If there are patients with shock, ask participants to practise:
   - Identifying signs of shock
   - Deciding the treatment plan
   - Measuring an appropriate amount of IV fluid for the child
   - Giving IV fluids
   - Monitoring the child on IV fluid and recording treatment and its outcome
   - Deciding whether treatment plan needs to be changed, and or next steps.

4. If there are patients with diarrhoea, ask participants to practise:
    - Identifying signs of dehydration
    - Deciding the rehydration plan
    - Measuring an appropriate amount of ReSoMal for the child
    - Giving ReSoMal orally or through nasogastric (NG) tube Monitoring the child on ReSoMal and recording treatment and its outcome
    - Deciding whether treatment plan needs to be changed, and or next steps.
5. Ask participants to determine the appropriate antibiotics and dosages for the patient and record them on the Inpatient Care Treatment Card. They should refer to the Medicine Protocols Job Aid as needed. Discuss their answers.
6. When participants are ready, conduct rounds.

At end of the session

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

Day 4: Feeding

Preparation

On day 4, 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 NRU. 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.

Brief the staff of the NRU 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, e.g., feeding with an NG tube, testing readiness for NG tube removal, feeding by cup, ready to introduce RUTF and complete with milk diet if needed, feeding by supplemental suckling, feeding during rehabilitation with increasing F-100 or F-100 Diluted. 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).

Obtain a supply of blank 24-Hour Food Intake Charts (three to four per participant).

Participant Objectives

- Prepare F-75, F-100 and ReSoMal, and learn the contents of RUTF.
- Practise measuring, giving and recording feeds.
- Determine whether the child has regained appetite and is ready for transition.
- Practise feeding with RUTF and completing the feed with therapeutic milk.
- Review 24-Hour Food Intake Charts and plan feeds for the next day.

Instructor Procedures

1. Review the objectives for the clinical session. Explain that the focus today will be about preparing feeds and making decisions on the feeding plan for a child. Participants will also practise the different feeding techniques.
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. Explain (or have the health worker show and explain) how the correct amount of feed is measured for each child and infant less than 6 months in the different phases of the treatment.
4. Find a mother or health worker who is feeding a child or infant less than 6 months 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 or infant who is being fed by NG tube and show how the feed slowly drips in. (It should not be plunged.) Find a child in transition phase who is being fed with RUTF. Find an infant who is being fed by supplemental suckling.
5. 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, MUAC measurement, admission weight, clinical signs on admission and so on). 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? 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 (NG tube 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.
6. 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 next page, '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 health workers 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.

7. Discuss the feeding of a breastfed infant with SAM with the supplemental suckling technique. 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 NG tube feeding is needed?’ ‘When is a child ready for transition, when for rehabilitation and discharge from hospital?’ ‘What happens each day during transition?’

8. Discuss the feeding of a child older than 6 months of age on RUTF: how the child gets accustomed to eating small bits of semi-solid food, if needed, complete the feed with therapeutic milk (F-75) and calculate the right amounts to give.

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

Holding and feeding children

Participants can help with 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 a child may be distressed if taken from its 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 5: Daily Care and Monitoring Quality Care

Preparation On day 5, you will need detailed information on a child who has been in hospital for at least 3 days. Preferably, health workers are routinely keeping Treatment Cards 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 and so on. for several children over the next few days. Select children who are likely to still be in hospital on day 5 of the course. You may then transcribe this information onto the Inpatient Care Treatment Card.

Brief the health workers of the NRU 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 hospital for at least 3 days and has complete records of care, daily weights and so on.

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 NRU procedures. Ask facilitators to be sure that participants bring their copy of **Module 6. Monitoring, Problem Solving and Reporting** to the session.

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

Participant Objectives

- Keep Inpatient Care Treatment Cards on children observed and cared for. *(The focus in this session will be on the Daily Care, Monitoring Record and Weight Charts.)*
- Participate in daily care tasks, as feasible (continued practice):
  - Measuring pulse rate, respiratory rate and temperature
  - Administering eye drops, antibiotics, other drugs and supplements, change eye bandages and so on.
  - Weighing child and recording weight (on Daily Care Chart and on Weight Chart of Treatment Card)
  - Observing and assisting with bathing children
- Assist with feeding (continued practice).
- Discuss progress of treatment and readiness for discharge and transfer to continue treatment in outpatient care or for discharge at the end of treatment, and decide when the child is ready; practise preparing the child and mother for discharge and transfer to outpatient care or for discharge at the end of treatment.
- Monitor quality of care using checklist, and propose steps for quality improvement.
- Practise filling out a reporting sheets, and assess and discuss performance.

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 Treatment Card. Present information on the child and demonstrate monitoring the child while participants record on the Treatment Card. For details, see page 24, 'Recording on Daily Care, Weight Chart and Monitoring Record Charts'.
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 whether a child in transition is ready for transfer to Outpatient Care or remains in inpatient 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. Discuss whether the introduction of RUTF was done appropriately.
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 Treatment Card and a 24-Hour Food Intake Chart for each child.

Health workers of the NRU will be caring for these children too. Participants should observe health workers of the NRU and assist with care as much as possible. They should complete (or add to) a Treatment Card on each child. Watch to see that each participant is assisting with care and completing Treatment Cards correctly. Step in to give guidance and feedback whenever needed.

6. Each participant should take respiration and pulse rates and temperatures for his/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 that the child is quickly dried, re-covered and warmed.
9. If practical, attach the Treatment Cards completed by the first group to the beds of the children. The later groups can then continue with the same Treatment Card for each child. *(This may not be practical if the forms are illegible. If not practical, later groups may start with new Treatment Cards.)*
10. Discuss children who are approaching or are ready for discharge and what steps should be considered and what messages should be given give 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 of the NRU some questions now. Ask them to be quiet when observing and inoffensive 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 reporting sheet. If this is difficult to do during the clinical session, ask the participants to assess performance based on reviewing a 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 and Monitoring Record Charts

Participants do not need to complete the entire Initial Management Chart, 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 Chart 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 and the number of feeds and so on. 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 are 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 them and observe any trend.

Demonstrate how to monitor the child's pulse and respiration. 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 Chart of the Treatment Card. Ask participants what danger signs they should look for related to pulse, respiration and temperature. See the Monitoring Danger Signs in Inpatient Management of SAM Job Aid.

Additional Objectives: Day 5 – Outpatient Care Session (OTP)

Preparations

- Check the schedule to determine when each group will be able to visit Outpatient Therapeutic Centre.
- Identify an OTP site that is closest to the training location.
- Visit the OTP centre prior to the sessions to prepare the staff at the centre and assess patient flow; this will help in planning the session. Check that the OTP centre has necessary resources, such as anthropometric equipment, RUTF, essential drugs, available clinical and nutrition staff, CMAM Guidelines and job aides.
- Plan how the session will be conducted, dividing the participants into smaller groups to rotate through the sections of OTP to allow maximum participation.
- Ensure all the participants have MUAC tapes and laminated job aids.

Learning Objectives

- Practise taking weight, height, MUAC, assessing for bilateral pitting oedema, and conducting an appetite test.
- Observe the nurse or clinician conducting the following:
    - Clinical assessment of medical complications
    - Administering appropriate treatment according to the OTP Action Protocol outlined in the CMAM Guidelines.
- Using admission criteria charts, participants should determine where the child should be managed.
- Observe transfer protocol between outpatient care and inpatient care.

Instructor Procedures

1. Review with the participants the objectives for the OTP 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 the outpatient care and the 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. At the end, participants should decide where the child will be managed according to the OTP action protocol as well as the admission criteria.
4. Watch the participants as they examine each child. Ask participants to work as a team when conducting the examination, appetite test, weighing and measuring MUAC.
5. Show to the participants a completed referral card/form from inpatient care to outpatient care. Ask participants to review and highlight the key areas, specifically the child's weight, MUAC, and medical condition and medications and vaccinations given while in inpatient care.
6. Assess the flow of patients between the inpatient care and the outpatient care at this centre. If there is no NRU at this OTP centre, examine the challenges that exist when transferring the children from outpatient care to inpatient care and back to outpatient care.

At the End of the Session

The OTP session should take about 3 hours. At the end of the session, participants should return to their classroom for a plenary session that will take about 15 minutes. Aim to conduct the plenary session with all participants and when everyone has had a chance to visit the OTP. Address their questions. Summarise the main points and discuss the way forward.

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

Preparation

Check the schedule to determine when each group will observe the health and nutrition counselling, 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.

If the small group facilitators will lead the discussions afterward, give copies of the discussion questions below.

Brief the staff that participants will observe the health and nutrition counselling, cooking and play sessions, and provide the schedule for this.

If it is not possible to observe these sessions organised for the NRU, similar sessions are recorded in the video provided in the training materials.

Participant Objectives

- Observe a health and nutrition counselling session
- Observe a cooking session
- Observe a play session

Instructor Procedures

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 counselling, 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 counselling 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 Counselling 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 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?

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 learned 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, 1.5 hours			
Day 2: Clinical Signs, 1.5 hours			
Day 3: Initial Management, 2 hours			
Day 4: Feeding, 2 hours			
Day 5: Daily Care; Monitoring Quality Care and OTP, 2 hours			
Day 6: Observe Health and Nutrition Counselling Session			
Observe a cooking session			
Observe a play session			

Annex B. Equipment and Supplies for Inpatient Management of SAM

Ward Equipment/Supplies

- ❑ Running water
- ❑ Thermometers (preferably low-reading)
- ❑ Stethoscope
- ❑ 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

- ❑ Commercial F-75, F-100, infant formula and RUTF
- ❑ Oral rehydration solution (ORS) for preparing Rehydration Solution for Malnutrition (ReSoMal), or commercial ReSoMal
- ❑ Iron syrup (e.g., ferrous sulphate)
- ❑ Vitamin A (Retinol 100,000 IU and 200,000 IU capsules)
- ❑ Sterile 10% glucose (or sucrose)
- ❑ Intravenous fluids:
    - o Half-strength Darrow's
    - o Ringer's lactate
    - o Normal saline
- ❑ Sterile water for diluting
- ❑ Sterile potassium chloride (20 mmol/L)
- ❑ Vaccines as per the national expanded programme of immunisation
- ❑ Dextrostix
- ❑ Haemoglobinometer
- ❑ Urine dipstix
- ❑ Supplies for IV fluid administration:
    - o 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
- ❑ 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
- ❑ Antimalarial: Lumefantrine–Artemerther (LA)
- ❑ Atropine 1% eye drops
- ❑ Ceftriaxone
- ❑ Ciprofloxacin
- ❑ Cloxacillin
- ❑ Cotrimoxazole
- ❑ Gentamicin
- ❑ Albendazole/Mebendazole
- ❑ Metronidazole
- ❑ Paracetamol
- ❑ Tetracycline eye ointment or chloramphenicol eye drops

For Skin

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

Laboratory Resources

- ❑ Blood culture (if available)
- ❑ Cerebrospinal fluid microbiology and culture (if available)
- ❑ HIV tests (rapid diagnostic test and polymerase chain reaction test)
- ❑ Malaria tests (rapid diagnostic test, thick blood test)
- ❑ Stool microscopy and culture (if available)
- ❑ TB tests (x-ray, culture of sputum, Mantoux)
- ❑ Urinalysis

Hygiene Equipment/Supplies of Mothers and Staff

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

Kitchen Equipment/Supplies

- ❑ Large containers and spoons for mixing/cooking feed for the ward
- ❑ Hotplate/Electric kettle
- ❑ Feeding cups, saucers, spoons
- ❑ Measuring cylinders (or 50 ml syringe or suitable utensils for measuring feeds, ReSoMal, ingredients and leftovers)
- ❑ Jugs (1-litre and 2-litre)
- ❑ Refrigeration (if possible)
- ❑ Food for mothers

Job Aids

Laminated Set (and Wall Charts)

- ❑ Admission, Transfer and Discharge Criteria for the Management of SAM in Children under 5
- ❑ Management of SAM in Children 6–59 Months Flow Chart
- ❑ Management of SAM in Children less than 6 Months Flow Chart
- ❑ Medicine Protocols and Preventive Actions for Inpatient Management of SAM
- ❑ Emergency Management of SAM in Inpatient Care
- ❑ Monitoring Danger Signs in Inpatient Management of SAM
- ❑ Anthropometry
- ❑ Weight-for-Height/Length Look-Up Tables, Growth Charts, Weight Velocity Tables
- ❑ Therapeutic Foods Look-Up Tables
- ❑ Use of RUTF in Inpatient Care
- ❑ Monitoring Inpatient Management of SAM

Forms and Checklists, Examples

- ❑ 24-Hour Feeds Chart
- ❑ Daily Feeds Chart
- ❑ Quality Improvement of Clinical Care Checklist

- ❑ Supportive Supervision Checklist
- ❑ Inpatient Care Treatment Card

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 whether 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, Clinical Signs and Anthropometric Measurements

Objectives	Group A	Group B	Group C
Observe the admissions area and OPD			
Observe emergency room			
Observe how the NRU or area is organised			
Observe kitchen area			
Observe any special areas for play, health counselling and so on			
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/L z-score classification			
Test the appetite with RUTF			
Identify children with SAM, review admission criteria and discuss treatment in inpatient care or outpatient care			

Day 2: 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			
‣ pneumonia			
‣ lethargy, unconsciousness			
‣ shock			
‣ blinding eye signs			
‣ severe anaemia			
‣ dehydration			
Identify other infections, e.g., UTI, malaria			
Practise using dextrostix			
Practise filling out a Treatment Card during initial management			
Assist in initial assessment and treatment: ‣ Taking temperature			
‣ Taking respiratory rate and pulse rate			
‣ Giving bolus of glucose for hypoglycaemia			
‣ Warming the child			

Day 3: Initial Management (Continued)

Objectives	Group A	Group B	Group C
Observe and assist in treatment of shock: ▸ Identifying signs of shock in a child with SAM			
▸ Measuring and giving IV fluids			
▸ Monitoring a child on IV fluids			
Observe and assist in rehydration: ▸ Identifying signs of dehydration in a child with SAM			
▸ Measuring and giving ReSoMal			
▸ Monitoring a child during rehydration on ReSoMal			
Determine antibiotics and dosages			

Day 4: Feeding

Objectives	Group A	Group B	Group C
Prepare F-75, F-100 and ReSoMal, and learn the contents of RUTF			
Observe health workers measuring and giving feeds; practise measuring and giving feeds			
Practise feeding by cup			
Practise feeding by NG tube			
Practise feeding by supplemental suckling technique			
Practise feeding RUTF and completing the feed with therapeutic milk			
Determine whether the child has regained appetite and is ready for transition			
Review 24-Hour Food Intake Charts and plan feeds for the next day			

Day 5: Daily Care and Monitoring Quality Care and OTP

Objectives	Group A	Group B	Group C
Keep Treatment Cards on children observed and cared for			
Participate in daily care tasks, as feasible: ‣ Measuring temperature, respiratory rate and pulse rate			
‣ Administering eye drops, antibiotics, other drugs and supplements; change eye bandages			
‣ Weighing child and recording weight (on Daily Care and Weight Charts of Treatment Card)			
‣ Observing and assisting with bathing children			
Assist with feeding (continued practice)			
Discuss progress to discharge and decide when the child is ready			
Practise transfer to outpatient care when stabilised and discharge at end of treatment when fully recovered			
Monitor quality of care using checklist, and discuss quality improvement			
Practise filling out reporting sheets, and assess performance			
Observe and assist in conducting clinic session at the OTP site			

Additional Objectives

Objectives	Group A	Group B	Group C
Observe a health and nutrition counselling session			
Observe a cooking session			
Observe a play session			