The United Republic of Tanzania

Ministry of Health, Community Development,
Gender, Elderly and Children

Nutrition Assessment, Counselling and Support (NACS)

FACILITATOR'S GUIDE

for Training Health Facility-Based Service Providers

2016

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Facilitator's Guide for Training Health Facility-Based Service Providers

Tanzania Food and Nutrition Centre

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ABBREVIATIONS AND ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
ANC	antenatal care
ART	antiretroviral therapy
ARV	antiretroviral medication
BMI	body mass index
cm	centimetre(s)
CNAs	Critical Nutrition Action(s)
CTC	care and treatment clinic
dl	decilitre(s)
DOTS	directly observed treatment, short course (for tuberculosis)
ENA	Essential Nutrition Actions
FANTA	Food and Nutrition Technical Assistance III Project
FBF	fortified-blended food
g	gram(s)
HAZ	Height-for-age z-score
HBC	home-based care
HIV	human immunodeficiency virus
IP	implementing partner
IPD	Inpatient department
kcal	kilocalorie(s)
kg	kilogram(s)
m	metre(s)
M&E	monitoring and evaluation
MAM	moderate acute malnutrition
MOHCDGEC	Ministry of Health, Community Development, Gender, Elderly and Children
MSD	Medical Stores Department
MUAC	mid-upper arm circumference
MVC	most vulnerable child(ren)
NACS	nutrition assessment, counselling and support
NGO	nongovernmental organisation
OI	opportunistic infection
OPD	outpatient department
PMTCT	prevention of mother-to-child transmission of HIV
RCH	reproductive and child health
RDA	Recommended Dietary Allowance
RUSF	Ready-to-use supplementary food
RUTF	ready-to-use therapeutic food
SAM	severe acute malnutrition
TB	tuberculosis
TFNC	Tanzania Food and Nutrition Centre
USAID	U.S. Agency for International Development
WAZ	Weight-for-age z-score
WHZ	weight-for-height z-score
WHO	World Health Organization

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FOREWORD

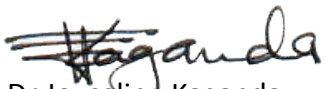
Nutrition has a wide-ranging influence on health. Malnutrition in pregnant and lactating women can lead to irreversible life-long consequences for their infants. Nutrition deficiencies during the first 2 years of life are associated with significant morbidity and mortality and delayed mental and motor development. These deficiencies can impair intellectual performance, reproductive outcomes, overall health status and economic productivity during adolescence and adulthood.

The Tanzanian diet is largely based on cereals, starchy roots and pulses, despite the wide variety of food grown in the country. Rapid urbanisation and imported foods have contributed to higher cereal prices, adding to the economic burden of a large proportion of the population. Various national programmes have been implemented to combat malnutrition and micronutrient deficiencies, but undernutrition is still found in all age groups. In 2014, over one-third of children under 5 were chronically malnourished (stunted) as a result of factors including maternal malnutrition, inadequate infant feeding and poor hygiene and sanitation.[1] At the same time, rising consumption of energy-dense and processed foods in urban areas has increased the prevalence of overweight and obesity.

Malnutrition is closely associated with chronic diseases such as tuberculosis (TB) and HIV, which are significant burdens on health care systems in Tanzania. Although the national HIV prevalence rate among adults decreased from 7.0 percent in 2004 to 5.3 percent in 2014, the country still has approximately 1.5 million people living with HIV.[2]

Because nutrition is a potential causal factor and an aid to treatment in most illnesses, health care providers need knowledge and skills to help clients improve their nutritional status, manage symptoms and avoid infections. NACS should be a routine component of prevention, care and treatment in health care services.

This training course is an essential step toward the integration of NACS into reproductive and child health services, outpatient departments, paediatric wards and clinics, care and treatment clinics for people with HIV, and TB/HIV clinics in Tanzania. This training complements training in infant and young child feeding, prevention of mother-to-child transmission of HIV, management of acute malnutrition, Essential Nutrition Actions, and quality improvement in infant feeding and nutrition and HIV.



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[1] Tanzania Food and Nutrition Centre (TFNC). 2014. *Tanzania National Nutrition Survey 2014. Final Report*. Dar es Salaam: TFNC.
[2] Joint United Nations Programme on HIV/AIDS (UNAIDS). 2014. United Republic of Tanzania. Epidemiological Factsheet. Available at http://www.unaids.org/en/regionscountries/countries/unitedrepublicoftanzania/.

GUIDE FOR FACILITATORS

A. PURPOSE

The purpose of this guide is to help facilitators train trainers or facility-based health care providers in nutrition assessment, counselling and support (NACS) to strengthen the integration of standardised nutrition care and treatment into routine health care services. The guide supports implementation of the *Management of Acute Malnutrition: National Guidelines* (2009) and *National Guidelines for Nutrition Care and Support for People Living with HIV* (2016) and complements related training in infant and young child nutrition, HIV care and treatment and prevention of mother-to-child transmission of HIV (PMTCT).

B. LEARNING OBJECTIVES

By the end of this training, participants should be able to:

1. Advocate for and discuss the role of nutrition in care and treatment.
2. Assess the nutritional status of clients.
3. Design Nutrition Care Plans for clients.
4. Counsel clients on nutrition.
5. Communicate the Critical Nutrition Actions (CNAs).
6. Prescribe and monitor specialised food products for acutely malnourished clients.
7. Manage NACS services in the workplace.
8. Collect information to monitor and report on NACS services.

C. COURSE FORMAT

The course is divided into five independent modules that can be taught separately or be combined into a 5-day package as needed. The five modules are listed below.

Module	Topic	Audience
1	Overview of Nutrition	Doctors, clinicians, doctors, nurses, nutritionists, nutrition officers, pharmacists
2	Nutrition Assessment, Classification and Care Plans	Doctors, clinicians, nurses, nutritionists, nutrition officers
3	Nutrition Education, Counselling and Referral	Doctors, clinicians, doctors, nurses, nutritionists, nutrition officers
4	Nutrition Support	Doctors, clinicians, nurses, nutritionists, nutrition officers, pharmacists, storekeepers
5	NACS Monitoring and Reporting	Doctors, clinicians, nurses, pharmacists

There are three reasons for the modular format. First, for facility-based health care providers who are unable to leave their workplaces for a full 5-day course, the modules can be taught separately over a longer period. Second, different types of service providers need different NACS knowledge and skills. For example, it is important for clinicians, nurses and nutritionists to know how to assess nutritional status (**Module 2**), while it is important for pharmacists and other service providers to know how to order and manage specialised food products (**Module 5**). Third, health facilities that do not provide specialised food products need not be trained in how to order, prescribe and manage these commodities (**Module 4**). Therefore, not all participants will be trained in all modules.

D. FACILITATORS

The training of trainers requires **at least 3 facilitators for a class of 24 participants** to support the practical sessions, demonstration, small group discussion and role-plays. At least one facilitator should be a nutritionist, and one should have a medical background. One facilitator should be the course director. The course director and facilitators should have been trained by national NACS facilitators and have the following competencies:

- Degree or diploma in a health- or nutrition-related field
- Knowledge of nutrition
- Familiarity with the health care system and service delivery protocols
- Knowledge of national nutrition guidelines
- Experience using adult learning methods
- Skills in counselling and communication
- Knowledge of chronic infectious diseases such as TB and HIV

Transfer training courses require **at least 4 facilitators for a class of 30 participants**.

E. PARTICIPANTS

This NACS training course for facility-based health care providers is aimed at doctors, clinicians, nurses, nutritionists, nutrition officers and pharmacists working in reproductive and child health (RCH)/PMTCT services, outpatient departments (OPDs), paediatric wards, care and treatment clinics (CTCs) for people living with HIV and TB/HIV clinics in Tanzania.

> The training of trainers (TOT) course should have a maximum of **24** participants. The transfer training should have a maximum of **30** participants, ideally with at least **two** participants from each health facility represented.

F. VENUE

If possible, conduct the training in the district or region where the participants work, at a location accessible to participants from multiple health facilities. The venue should have enough space to post the flipcharts and to project slides onto a white screen or wall and enough space for participants to work in small groups of no more than six per group.

G. TRAINING MATERIALS

1. The **Facilitator's Guide** contains information needed to plan the course and lead participants through the training, including:
   - Detailed instructions on how to facilitate each module
   - Images of the PowerPoint slides for each module
   - Sample timetable for a 5-day course
   - Pre- and post-tests
   - Module Evaluation Forms for participants
   - Instructions for preparing for site practice visits

2. The **Reference Manual** contains reference material for participants to use during the course and to use at the workplace after the training.

3. The **Participant Workbook** contains the learning objectives for each module, expected competencies at the end of training, worksheets and case studies for participants to use during practical sessions, as well as images of the PowerPoint slides for participants to follow during training and space to take notes.

4. The **Job Aids** are practical tools to help participants implement standardised nutrition assessment, counselling and management of malnourished clients in their workplaces.

5. The **PowerPoint** slides on a CD reinforce the training content. Facilitators without access to an LCD projector can copy the wording of the slides onto flipchart pages. Facilitators can use the book **Slides for Training Facility-Based Service Providers** to prepare for the training.

6. The **NACS monitoring and reporting forms** and registers are used to record, track and report nutrition information.

7. The **NACS Implementation Guide** provides step-by-step guidance to implementing partners on integrating NACS into routine health care and community services.

8. Facilitators can use **The Role of Local Government Authorities in Integrating Nutrition Services into Health Facilities in Tanzania PowerPoint slides** to raise awareness of the importance of nutrition and define roles and responsibilities for integrating nutrition into routine health care services.

H. SUPPLIES AND EQUIPMENT

☑ Checklist for each module

- ☐ One copy of the **Facilitator's Guide** for each facilitator
- ☐ One copy of the Ministry of Health, Community Development, Gender, Elderly and Children (MOHCDGEC) **Training Registration Form** for each participant
- ☐ One copy of **Annex 1. Pre- and Post-Test** in the **Facilitator's Guide** for each participant
- ☐ One copy of **Annex 3. Module Evaluation Form** in the **Facilitator's Guide** for the module taught for each participant
- ☐ One copy of the **Reference Manual** for each facilitator and participant
- ☐ One copy of the **Participant Workbook** for each facilitator and participant
- ☐ One set of the **Job Aids** for each participant
- ☐ NACS training **PowerPoint**
- ☐ One copy of the **Slides for Training Facility-Based Service Providers** for each facilitator
- ☐ Copies of the timetable for each facilitator and participant
- ☐ Flipcharts and stands
- ☐ Marker pens
- ☐ Masking tape
- ☐ LCD projector and computer (if you do not have this equipment, copy the PowerPoint slides onto a flipchart)
- ☐ Long surge protector extension cords
- ☐ Notebooks for facilitators and participants
- ☐ Pens and pencils for all participants
- ☐ Paper for printing or photocopying
- ☐ Any other materials listed under 'Materials Needed' in the introduction to each module
- ☐ Course certificates for participants

☑ Checklist for a 5-day course

- ☐ One copy of the **Facilitator's Guide** for each facilitator
- ☐ NACS training **PowerPoint**
- ☐ One copy of the **Slides for Training Facility-Based Service Providers** for each facilitator
- ☐ One copy of the MOHCDGEC **Training Registration Form** for each participant
- ☐ One copy of **Annex 1. Pre- and Post-Test** in the **Facilitator's Guide** for each participant
- ☐ One copy of **Annex 2. Pre- and Post-Test Answer Key** from the **Facilitator's Guide** for each facilitator
- ☐ One copy of **Annex 3. Module Evaluation Forms** in the **Facilitator's Guide** for each participant
- ☐ One copy of **Annex 5. Final Course Evaluation Form** in the **Facilitator's Guide** for each participant
- ☐ One copy of each of the following materials for each facilitator and participant:
  - **Reference Manual**
  - **Participant Workbook**
  - **Job Aids**
  - **NACS Implementation Guide**
  - Nutrition Assessment and Management Form
  - Daily Register of NACS Clients
  - NACS Prescription Form
  - Daily Specialised Food Product Dispensing Register
  - Monthly Summary Form for NACS Services
  - Monthly Specialised Food Product Report and Request Form
  - Timetable
- ☐ Flipcharts and stands
- ☐ Marker pens
- ☐ Masking tape
- ☐ LCD projector and computer (if you do not have this equipment, copy the PowerPoint slides onto a flipchart)
- ☐ Long surge protector extension cords
- ☐ Notebooks for facilitators and participants
- ☐ Pens and pencils for all participants
- ☐ Paper for printing or photocopying
- ☐ 36 index cards

- ☐ 10 packets each of ready-to-use therapeutic food (RUTF) and fortified-blended food (FBF)
- ☐ Two packets each of F-75 and F-100
- ☐ Enough water and cooking utensils (e.g., at least 2 small cooking pans, a cooker, stirring spoons, 28 small spoons and small cups) to prepare and taste the FBF
- ☐ At least two functioning scales (1 for adults and 1 for children)
- ☐ At least two height boards
- ☐ At least two length boards for children
- ☐ The following mid-upper arm circumference (MUAC) tapes for each participant and facilitator
  - Children 6–59 months
  - Children 5−9 years
  - Children 10−14 years
  - Adolescents 15–17 years and adults
- ☐ Ball
- ☐ Any other materials listed under 'Materials Needed' in the introduction to each module
- ☐ Course certificates for participants

I. TRAINING PRINCIPLES

1. **Performance-based** training teaches participants tasks they are expected to do on the job.
2. **Active participation** increases learning and keeps participants interested and alert.
3. **Practicing** a task is more effective than hearing about it.
4. **Immediate feedback** increases learning.

Below are suggestions for applying these principles in this course.

- Create a supportive learning environment by making participants feel confident that their contributions will be received respectfully.
- Build trust by showing commitment to the course and willingness to share your experience.
- Explain how you know what you know.
- Build teamwork by encouraging active participation.
- Stress the immediate usefulness of the material for participants' daily work.
- Do not read directly from slides or flipcharts. Instead, make the points in your own words and add examples and practical problems.
- Ask participants to share culturally appropriate stories to illustrate important points.
- Pace the training to make sure participants can absorb the information. Learners can absorb only five or six new pieces of information at a time.

- Give participants opportunities to practice what they learn and address questions that arise during the practice.

J. METHODS

The modules use different training methods, listed below:

- Brainstorming to help participants form connections with prior knowledge and experience
- Presentation in lecture form with slides, including demonstration
- Discussion
- Group work, including written exercises and role-play to practice counselling skills
- Site practice visit
- Review to reinforce acquired knowledge
- Test/evaluation to help measure effectiveness of the training course

Below are the symbols used as cues in the modules.

Component	Cue
Duration (may be modified depending on the participants' skills)	
Brainstorm	
Presentation	
Discussion	
Group work	
Practice	
Review	
Test/evaluation	

K. BEFORE THE TRAINING

1. Review the objectives of the course and prepare needed materials.
2. Discuss the training methods and assignments with the other facilitators.
3. Make sure the LCD projector and computer are functioning, that you can operate them and that the slides are visible on the screen or wall. If you do not have a projector, transfer the information from the slides onto flipcharts.

4. Read each session through to familiarise yourself with the information.
5. Print or photocopy needed handouts before each session.
6. Make preparations for the site practice visit, following **Annex 4. Site Practice Visit Planning Guide**.

L. DURING THE TRAINING

The facilitator´s role is to present each session, introduce key concepts, lead group discussion and exercises, answer questions, explain ideas, clarify information, give constructive feedback and encourage participants to discuss how they can apply the information in their work.

1. **Show respect** for the other facilitators and work as a team.
2. Try to **learn participants' names** and use them whenever possible.
3. **Keep to the time** allocated for each session and module to maintain the course integrity. Remember that participants´ knowledge and skills will be reinforced on the job in follow-up supervision and mentoring.
4. **Encourage group interaction** and participation early. In the first 2 days, interact at least once with each participant and encourage participants to interact with each other.
5. **Begin each day by distributing copies of Annex 3. Module Evaluation Form** to all participants. Ask them to return the completed forms to you at the end of the day.
6. **Review key points covered in earlier sessions** at the beginning of each day for up to 10 minutes. This can be done by facilitators or participants, preferably the participants. Review helps participants remember information and see connections between what they are learning and their work. You can also use review to discuss questions or concerns about the training so far, highlight useful participant insights or new knowledge and identify topics that need reinforcement or are irrelevant to the participants' work. After the review **give a brief overview of the module** for that day.
7. **Consult participants** throughout each module **to assess their comprehension and attentiveness**. **Praise or thank them** when they do an exercise well, participate in discussion, ask questions or help each other.
8. **Use energisers** to recharge the group after lunch or a long session.
9. **Divide participants into small groups**. During group work, each facilitator should **facilitate no more than two groups at a time**.
10. **Be available after each session to answer questions** and discuss concerns. Instead of talking with the other facilitators during breaks, talk with the participants.
11. **Review the day's training with the other facilitators and plan the following training session** for 30–45 minutes at the end of the day. Discuss the day's training, go through the **Module Evaluation Forms** and use the results to improve the next sessions. Praise what the other facilitators did well and discuss any problems with the training content, methods or timing.

M. MODULE CONTENTS AND DURATION

Training of trainers takes 6 days, with day 6 allocated to practice training. Transfer training for facility-based health care providers can be conducted over 5 days or spread out over a longer period. **The entire course takes approximately 40 hours**, not including meal breaks or opening and closing ceremonies.

Session	Topic	Duration
INTRODUCTORY SECTION		1 hour
MODULE 1. OVERVIEW OF NUTRITION		**4 hours**
	Objectives	5 minutes
1.1	Key Nutrition Terms	30 minutes
1.2	Importance of Nutrition	30 minutes
1.3	Nutrient Requirements	30 minutes
1.4	Effects of Infection on Nutrient Requirements	25 minutes
1.5	Causes of Malnutrition	25 minutes
1.6	Clinical Features of Malnutrition	30 minutes
1.7	Consequences of Malnutrition	30 minutes
1.8	Preventing and Managing Malnutrition	30 minutes
	Discussion	5 minutes
MODULE 2. NUTRITION ASSESSMENT, CLASSIFICATION AND CARE PLANS		**14 hours**
	Objectives	5 minutes
	Review	15 minutes
2.1	The Importance of Nutrition Assessment	45 minutes
2.2	Clinical Assessment	1 hour
2.3	Physical Assessment	3 hours
2.4	Biochemical Assessment	40 minutes
2.5	Dietary Assessment	50 minutes
2.6	Nutrition Care Plan C: Severe Acute Malnutrition (SAM)	4 hours
2.7	Nutrition Care Plan B: Moderate Acute Malnutrition (MAM)	2 hours
2.8	Nutrition Care Plan A: Normal Nutritional Status	1 hour
2.9	Nutrition Care Plan D: Overweight and Obesity	15 minutes
	Discussion and Evaluation	10 minutes

MODULE 3. NUTRITION EDUCATION, COUNSELLING AND REFFERRAL		**6 hours**
	Objectives	5 minutes
	Review	15minutes
3.1	Nutrition Education	40 minutes
3.2	Definition of Counselling and Required Skills	1 hour
3.3	Nutrition Counselling Using the GATHER Approach	2 hours
3.4	Nutrition Counselling Messages	1 hour
3.5	Providing Nutrition Services along the Continuum of Care	20 minutes
3.6	Referral	25 minutes
	Discussion and Evaluation	10 minutes
MODULE 4. NUTRITION SUPPORT		**6 hours**
	Objectives	5 minutes
	Review	15–60 minutes
4.1	Components of NACS	15 minutes
4.2	NACS Client Flow and Staff Roles	45 minutes
4.3	Specialised Food Products to Treat Malnutrition	1½ hours
4.4	Entry and Exit Criteria for Specialised Food Products	45 minutes
4.5	Managing Clients on Specialised Food Products	2¼ hours
	Discussion and Evaluation	10 minutes
MODULE 5. NACS MONITORING AND REPORTING		**9 hours**
	Objectives	5 minutes
	Review	20–60 minutes
5.1	Purpose of Recording NACS Data	10 minutes
5.2	NACS Data Collection Forms	2 hours
5.3	NACS Indicators	30 minutes
5.4	Site Practice Visit	4¾ hours
5.5	Action Plan	40 minutes
	Discussion and evaluation	10 minutes
	Post-Test	10 minutes
	Final Course Evaluation	10 minutes
TOTAL		**40 hours**

Below is a sample timetable for the 5-day course.

<table>
<tr><th></th><th>Day 1</th><th>Day 2</th><th>Day 3</th><th>Day 4</th><th>Day 5</th></tr>
<tr><td>Time</td><td colspan="5">Topic</td></tr>
<tr><td>8:00–8:30</td><td>Introductory Session
1. Introduction and Training Overview
2. Pre-Test</td><td rowspan="4">2.3. Physical Assessment (cont.)</td><td rowspan="3">2.7. Nutrition Care Plan B (cont.)</td><td>3.6. Referral (cont.)</td><td rowspan="3">5.2. NACS Data Collection Forms (cont.)</td></tr>
<tr><td>8:30–9:00</td><td>3. Expectations and Objectives
4. Participant Roles
5. Module Evaluations</td><td>Discussion and evaluation</td></tr>
<tr><td>9:00–9:30</td><td>Module 1. Overview of Nutrition
Objectives
1.1. Key Nutrition Terms</td><td>Module 4. Nutrition Support
Objectives
Review</td></tr>
<tr><td>9:30–10:00</td><td>1.2. Importance of Nutrition</td><td>2.8. Nutrition Care Plan A</td><td>4.1. Components of NACS
4.2. NACS Client Flow and Staff Roles</td><td>5.2. NACS Indicators</td></tr>
<tr><td>10:00–10:15</td><td>BREAK</td><td></td><td></td><td></td><td></td></tr>
<tr><td>10:15–10:45</td><td>1.3. Nutrient Requirements</td><td>2.3. Physical Assessment (cont.)</td><td>2.8. Nutrition Care Plan A (cont.)</td><td rowspan="2">4.3. Specialised Food Products to Treat Malnutrition</td><td rowspan="3">5.4. Site Practice Visit</td></tr>
<tr><td>10:45–11:15</td><td>1.4. Effects of Infection on Nutrient Requirements</td><td rowspan="2">2.4. Biochemical Assessment</td><td>2.9 Nutrition Care Plan D
Discussion and evaluation</td></tr>
<tr><td>11:15–11:45</td><td>1.5. Causes of Malnutrition</td><td>2.5. Dietary Assessment</td><td>Module 3. Nutrition Education, Counselling and Referral
Objectives
Review</td><td>4.4. Entry and Exit Criteria for Specialised Food Products</td></tr>
</table>

11:45–12:15	1.6. Clinical Features of Malnutrition	2.6. Nutrition Care Plan C	3.1. Nutrition Education		
12:15–1:15	LUNCH				
1:15–1:45	1.7. Consequences of Malnutrition	2.6. Nutrition Care Plan C (cont.)	3.1. Nutrition Education (cont.)	4.5. Managing Clients on Specialised Food Products	5.4. Site Practice Visit (cont.)
1:45–2:15	1.8. Preventing and Managing Malnutrition Discussion and evaluation		3.2. Definition of Counselling and Required Skills		
2:15–2:45	**Module 2. Nutrition Assessment, Classification and Care Plans** Objectives Review 2.1. The Importance of Nutrition Assessment		3.3. Nutrition Counselling Using GATHER		
2:45–3:00	BREAK				
3:00–3:30	2.1. The Importance of Nutrition Assessment (cont.)	2.6. Nutrition Care Plan C (cont.)	3.3. Nutrition Counselling Using GATHER (cont.)	4.5. Managing Clients on Specialised Food Products (cont.)	5.4. Site Practice Visit (cont.)
3:30–4:00	2.2. Clinical Assessment			Discussion and evaluation	
4:00–4:30				**Module 5. NACS Monitoring and Reporting** Objectives Review	5.5. Action Plan

<table>
<tr><td></td><td rowspan="4">2.3. Physical Assessment</td><td rowspan="2"></td><td rowspan="2">3.4. Nutrition Counselling Messages</td><td></td><td rowspan="2"></td></tr>
<tr><td>4:30–5:00</td><td>5.1. Purpose of Recording NACS Data</td></tr>
<tr><td rowspan="2">5:00–5:30</td><td rowspan="2">2.7. Nutrition Care Plan B</td><td rowspan="2">3.5. Providing Nutrition Services along the Continuum of Care</td><td rowspan="3">5.2. NACS Data Collection Forms</td><td rowspan="3">Discussion and evaluation
Post-test
Final Course Evaluation</td></tr>
<tr><td>3.6. Referral</td></tr>
</table>

Introductory Session

INTRODUCTORY SESSION

1 hour

Purpose	Introduce participants and facilitators to each other, introduce the course objectives and expected outcomes, and allow participants to discuss their expectations of the course and take a pre-test.

Learning objectives	By the end of the session, participants will have: 1. Discussed their expectations and related them to the objectives of the course 2. Taken a pre-test to assess their knowledge of nutrition

Materials needed	▪ Flipchart or PowerPoint slides with the course objectives (**Slide 0.6** in **Slides for Training Facility-Based Service Providers**) ▪ Ball ▪ Notebooks for all participants ▪ Pens and pencils for all participants ▪ A4 paper (for participant name signs, ice breakers, scratch paper) ▪ **Annex 2. Pre- and Post-Test Answer Key** for each facilitator ▪ **Handouts** (one copy for each participant) – Course timetable – MOHCDGEC Participant Registration Form – **Annex 1. Pre- and Post-Test** – **Annex 3. Module Evaluation Form** for the Introductory Session ▪ **Participant Workbook** for each facilitator and participant ▪ **Reference Manual** for each facilitator and participant

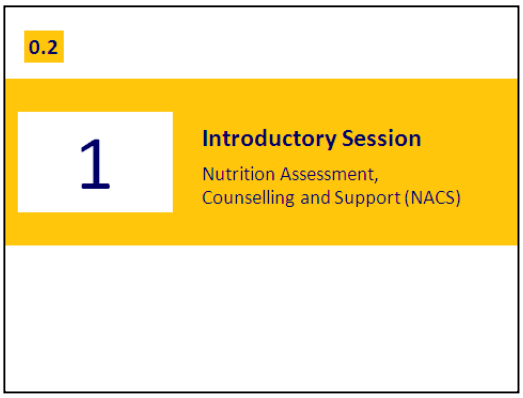
Advance preparation	▪ Review course timetable, **Annex 1. Pre- and Post-Test and Annex 2. Pre- and Post-Test Answer Key**. ▪ Review **Slides 0.1 to 0.6.** ▪ Tape a sheet of flipchart paper on a wall as a 'parking lot' for any issues that arise during the module to address later.

1. INTRODUCTION AND TRAINING OVERVIEW (15 MINUTES)

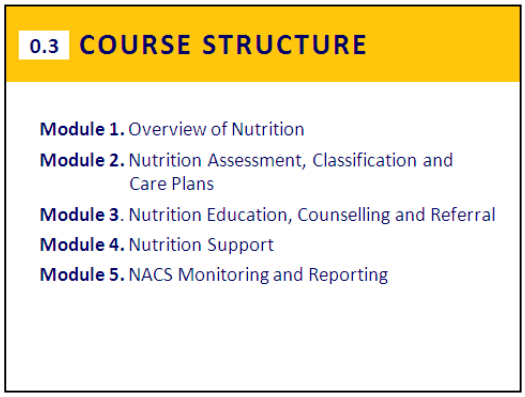
- Ask each participant to write his or her name on a piece of folded A4 paper and display it on the table.

- Ask each participant to fill out an MOHCDGEC **Participant Registration Form.** Review all the forms carefully to make sure they're complete and give them back to participants to add any missing information.

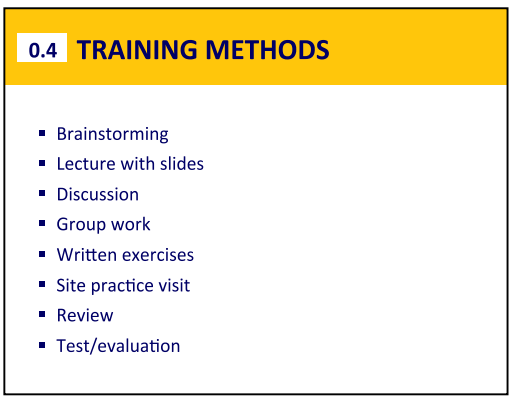
- Show **Slides 0.1 and 0.2.**



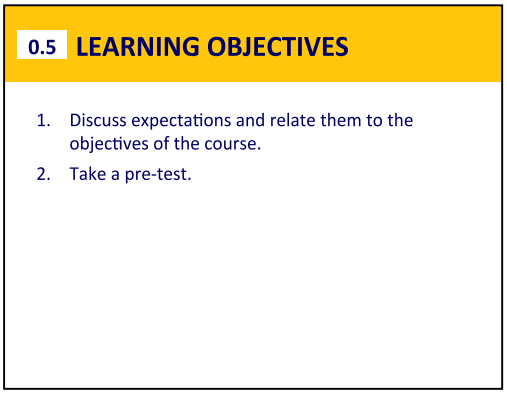
- Show **Slide 0.3** and go over the course structure.



- Show **Slide 0.4** and explain the training methods that will be used in the course.



- Present the introductory learning objectives on **Slide 0.5** and keep them in view.



- Show a copy of each of the materials the participants will use during the course. Explain that they will use them during the course and take them back to their workplaces to use as references.

- Lead participants in one of the icebreakers in the box.

ICEBREAKERS

Do one of the icebreaker exercises suggested below or use another one adapted to the local context. This exercise introduces the participants to each other and establishes a relaxed and collaborative atmosphere.

1. Throw the ball to one participant. Ask her/him to introduce herself/himself, by name, job and place of work and to say one thing she/he finds interesting about nutrition. Then ask her/him to throw the ball to another participant, who then introduces herself/himself the same way. If the ball is thrown to someone who has already been introduced, the person who threw the ball must introduce the catcher and then throw the ball to someone else.

   OR

2. Give each participant an A4 piece of paper. Ask each participant to write down his or her name, position, place of work and favourite food and then fold the paper to make a paper airplane. When all participants have made their airplanes, ask them to 'fly' them across the room to other participants. Ask each participant to read the information on the paper airplane he or she has picked up and then shake hands with the person who sent the airplane.

   OR

3. Ask participants to form two large circles, one inside the other, with the same number of participants in each circle. Have the people in the inside circle face the people in the outside circle. Ask each participant to introduce herself/himself to the person facing her/him, giving her/his name, job and place of work. Then ask the participants in the inside circle to move one step to the right. The participants now facing each other should introduce each other. Continue so that each participant can meet each new person as the circle continues to move.

- Go over the housekeeping points in the box.

HOUSEKEEPING

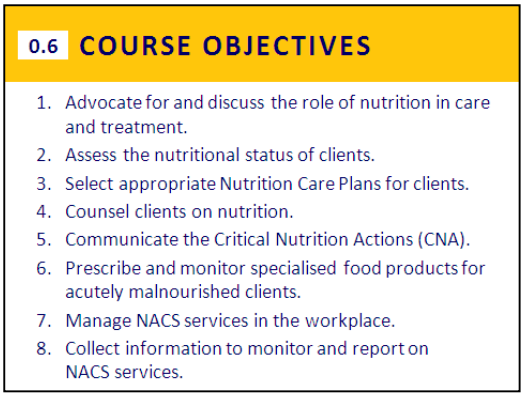
- Ask participants to decide on **norms for the training**, for example, being punctual, keeping cell phones on vibrate or silent and stepping outside to make urgent calls, not working on their computers during training, participating fully, contributing to discussions and respecting each other's opinions.
- Ask participants to decide on **penalties for breaking the norms**, for example, singing a song, dancing or naming three things learned the day before.
- Emphasize that full participation is expected, as well as strict observation of start times (the course will begin each day even if all participants have not yet arrived).
- Discuss arrangements for **accommodation** (if the training is residential), meals and reimbursement of travel and other expenses.

2. PRE-TEST (10 MINUTES)

- Explain to participants that 'NACS' stands for 'nutrition assessment, counselling and support'.
- Give each participant a copy of **Annex 1. Pre- and Post-Test**. Ask training of trainers participants to write their names, position titles or profession, places of work, the date and the numbers assigned by the facilitators at the top of the sheet. Ask transfer training participants to write the same information except their names and numbers. Give 10 minutes to complete the pre-test.
- After 10 minutes, collect the pre-tests. Facilitators should correct them immediately using **Annex 2. Pre- and Post-Test Answer Key**, calculate the scores and tabulate the results to identify topics that need emphasis during the training.

3. EXPECTATIONS AND OBJECTIVES (15 MINUTES)

- Ask each participant to share at least one expectation of the course aloud.
- Present the course objectives on **Slide 0.6**. Compare the course objectives to the expectations of the participants.



Keep the course objectives and participants' expectations in view during the rest of the training.

4. PARTICIPANT ROLES (10 MINUTES)

- Ask participants to assign the following roles, either daily or for the entire course:
  1. **Chairperson** to lead plenary discussions, ask other participants if there are any questions or comments on each topic and inform the facilitators of any issues that arise during the training
  2. **Timekeeper**
  3. **'Eyes'** to observe and take notes on group discussions or activities
  4. **'Ears'** to record what they have heard in the group discussions or activities
  5. **Any other leadership roles** participants think are important

- Participants should rotate the roles if the training session is longer than 1 day. When an activity is over, ask participants who take these roles to share observations and respond to group feedback.

5. MODULE EVALUATIONS (5 MINUTES)

- Explain that participants will evaluate each session daily to improve the training on subsequent days. Distribute copies of **Annex 3. Module Evaluation Form** and ask participants to fill it out at the end of the day and give it to the facilitators.

DISCUSSION (5 MINUTES)

- Allow time for questions and discuss any issues that need clarification.

1 Overview of Nutrition

MODULE 1. OVERVIEW OF NUTRITION

4 hours

Nutrition is the process of taking in and using food to meet the body's needs. An adequate, well-balanced diet is a cornerstone of good health. **Poor nutrition** can lower immunity, increase susceptibility to disease, impair physical and mental development and reduce productivity. **Good nutrition** is important for everyone, but especially for people with special needs such as pregnant and lactating women, children under 2 and people with diseases such as tuberculosis (TB) and HIV. Nutrition care and support can ensure adequate food intake, improve nutritional status and enhance quality of life.

Purpose	Give an overview of the definition, causes, consequences and levels of malnutrition; nutritional requirements; Critical Nutrition Actions (CNA) to prevent and manage malnutrition; and components and standards of nutrition care.

Learning objectives	By the end of this module, participants will be able to: 1. Define basic nutrition terms. 2. Explain the importance of nutrition for good health. 3. Explain the energy and protein requirements of people in different age groups. 4. Explain the additional nutritional requirements of people living with HIV. 5. Describe the interaction between HIV and nutrition. 6. Describe the interaction between TB and HIV. 7. Describe the causes, clinical features and consequences of malnutrition. 8. Describe the Critical Nutrition Actions (CNAs).

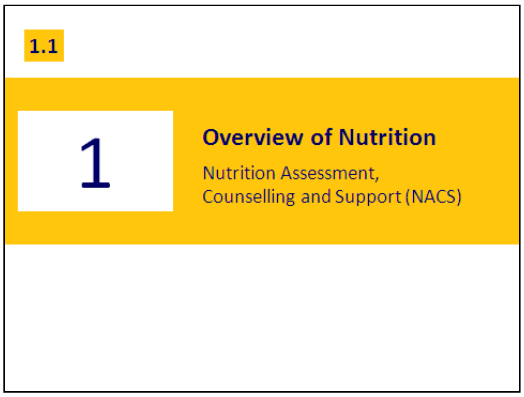
Materials needed

- Flipchart and stand
- Markers and tape
- LCD projector
- PowerPoint
- **Handouts**
  - One copy of **Annex 3. Module Evaluation Form** for Module 1 for each participant
- **Reference Manual**
  - Reference 1. Key Nutrition Terms
  - Reference 2. Human Energy Requirements
  - Reference 3. Causes of Malnutrition
  - Reference 4. Children with Kwashiorkor and Marasmus
  - Reference 5. Ways to Prevent and Manage Malnutrition
  - Reference 6. Critical Nutrition Actions with Messages and Explanations
- **Job Aids**
  - Job Aid 1. A Balanced Diet
  - Job Aid 2. The Vicious Cycle of Poor Nutrition and Infection

Advance preparation

- Review the PowerPoint slides for Module 1 (copy the information onto a flipchart if you do not have an LCD projector).
- Review References 1 to 6 in the **Reference Manual**.
- Review Job Aids 1 and 2 in the **Job Aids**.

- Show **Slide 1.1.**



OBJECTIVES (5 MINUTES)

- Present the module objectives on **Slide 1.2**.

1.2 LEARNING OBJECTIVES

1. Define basic nutrition terms.
2. Explain the importance of nutrition for good health.
3. Explain human nutrient needs.
4. Explain the additional nutritional requirements of people living with HIV.
5. Describe the interaction between HIV and nutrition.
6. Describe the interaction between tuberculosis (TB) and HIV.
7. Describe the causes, features and consequences of malnutrition.
8. Describe the Critical Nutrition Actions (CNAs).

1.1. KEY NUTRITION TERMS (30 MINUTES)

BRAINSTORM: What is food?

- Compare responses with the information on **Slide 1.3**.

1.3 DEFINITION OF FOOD

- **Food** is anything edible that provides the body with nutrients.
- **Nutrients** are chemical substances in food that are released during digestion and provide energy to maintain, repair or build body tissues. Nutrients include **macronutrients and micronutrients**.
  - **Macronutrients** include carbohydrates, protein and fat (needed in large amounts).
  - **Micronutrients** include vitamins and minerals (needed only in small amounts).

BRAINSTORM: What is nutrition?

- Compare responses with the information on **Slide 1.4**.

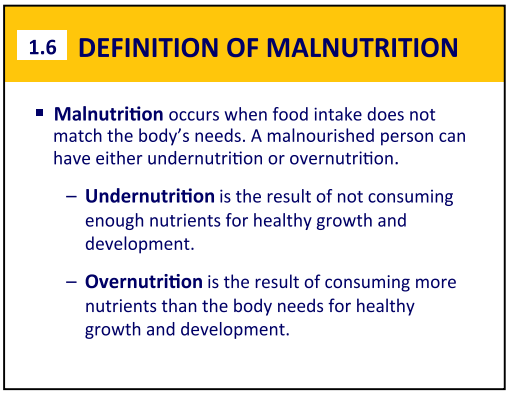
1.4 DEFINITION OF NUTRITION

- **Nutrition** is the intake of food and drink and the chemical and physical processes that break down the food and release nutrients needed for growth, reproduction, immunity, breathing, work and health.

- Show **Slide 1.5** and discuss the conditions for good nutrition.

BRAINSTORM: What is malnutrition?

- Compare responses with the information on **Slide 1.6**.

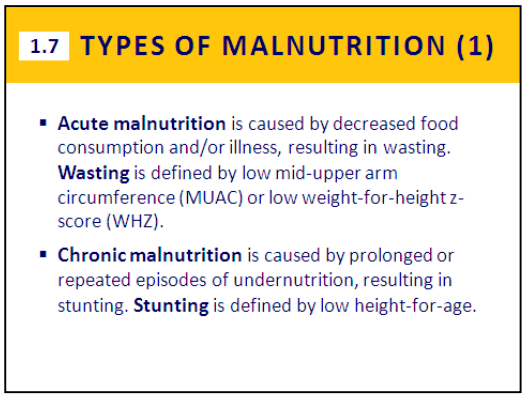


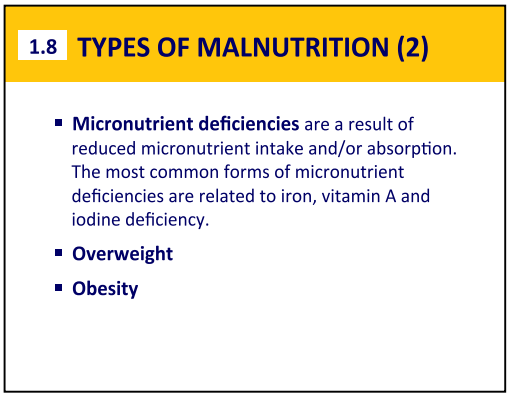
- Explain that the term 'malnutrition' refers to both undernutrition and overnutrition. In Tanzania most malnutrition is undernutrition, although overweight and obesity are rapidly increasing and put people at risk of diabetes, hypertension and heart problems.

- Explain to participants that these definitions are also in **Reference 1. Key Nutrition Terms** in the **Reference Manual**.

BRAINSTORM: What are the different types of malnutrition?

- Compare responses with the information on **Slides 1.7 and 1.8.**

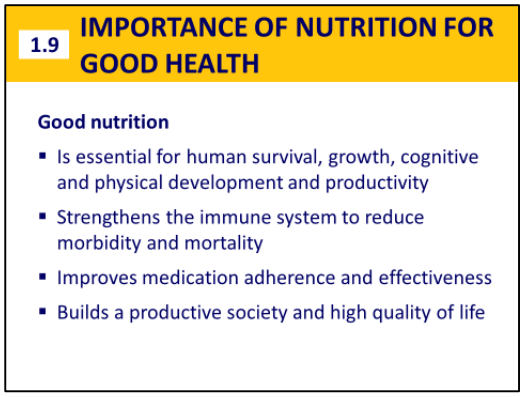




1.2. IMPORTANCE OF NUTRITION (30 MINUTES)

BRAINSTORM: Why is nutrition important?

- Compare responses with the information on **Slide 1.9**.



BRAINSTORM: At which contact points can health facilities integrate routine nutrition services for clients?

- Draw a line down the middle of a flipchart page. List responses to the brainstorming question on the left side of the line and compare them with the information in the table below.

Service	
Reproductive and child health (RCH), antenatal care (ANC) and PMTCT services	
Maternity ward	
Medical ward	
Paediatric ward	
Outpatient departments (OPDs)	
Care and treatment clinics (CTCs) for people with HIV and TB/HIV clinics	

BRAINSTORM: What nutrition services can be integrated into routine care offered at these contact points?

- List responses on the right side of the flipchart and compare them with the information in the table below.

Service	Nutrition services
RCH, ANC and PMTCT services	▪ Nutrition assessment and counselling, including infant feeding counselling ▪ Nutrition education ▪ Prescription of specialised food products for clinically malnourished clients according to standard protocol and criteria
Maternity ward	▪ Nutrition assessment and counselling, including infant feeding counselling ▪ Nutrition education
Medical ward	▪ Nutrition assessment and counselling ▪ Prescription of specialised food products for clinically malnourished clients
Paediatric ward	▪ Nutrition assessment and counselling ▪ Prescription of specialised food products for clinically malnourished children
OPDs	▪ Nutrition assessment and counselling ▪ Prescription of specialised food products for clinically malnourished clients
CTCs	▪ Nutrition assessment and counselling ▪ Nutrition education ▪ Prescription of specialised food products for clinically malnourished clients ▪ Referral to food support and economic strengthening and livelihood support

- Facilitate discussion about whether these nutrition services are integrated into routine care in the participants´workplaces.

BRAINSTORM: For good nutrition, people need to eat the right quality and quantity of food. What is 'the right quality of food'?

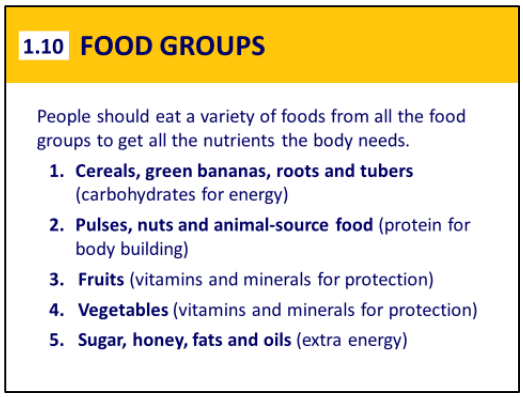
- Explain that breast milk is the only food that by itself provides all the nutrients the body needs to function properly and that it only provides complete nutrition through the age of 6 months. Eating a variety of foods is important for good health because it increases the chance of the body getting all the required nutrients.

- Explain that food is necessary but not enough to prevent malnutrition. Good nutrition requires adequate household food security, clean food and water, access to basic health services and adequate caring practices.

1.3. NUTRIENT REQUIREMENTS (30 MINUTES)

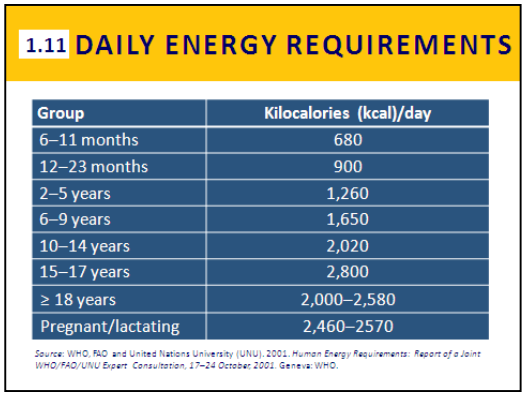
BRAINSTORM: What is 'the right quality and quantity of food'?

- Show **Slide 1.10** with the different food groups and go over the nutrients they provide. Explain that people should eat foods from all these food groups every day.



- Refer participants to **Job Aid 1. A Balanced Diet**. Explain that this job aid contains the same information as the slide but includes pictures of the different food groups.

- Show **Slide 1.11** and explain that energy intake is made up of **carbohydrates**, proteins and fats. Daily energy needs have been established for people in different age groups. These requirements increase with age and special needs such as pregnancy and lactation and can change according to activity level, body composition and the presence of infections.

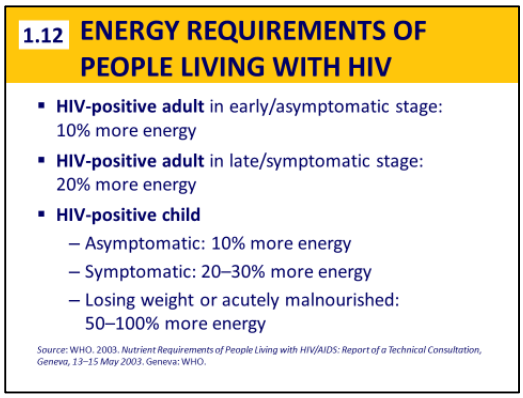


- Refer participants to **Reference 2. Nutrient Requirements**. Point out the sample food equivalents for the energy needs of different age groups.

PRESENTATION: Nutrition and HIV

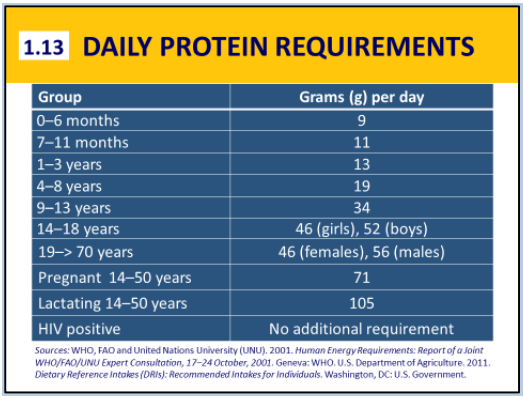
- Explain that people with HIV need more energy because HIV causes weight loss and decreases the body's ability to absorb and use nutrients as well as to fight infection.

- Show **Slide 1.12** and explain that energy requirements are greater for children and adults with HIV. Point out that energy requirements differ depending on the presence of HIV-related symptoms such as opportunistic infections (OIs), appetite loss, diarrhoea, nausea and weight loss.



- Refer participants again to **Reference 2. Nutrient Requirements**. Point out the sample food equivalents for the increased energy needs of people living with HIV.

- Show **Slide 1.13** and explain that daily protein needs have been established for people in different age groups. Protein requirements increase with age and special needs such as pregnancy and lactation and the presence of infections. Requirements for children are sometimes different for boys and girls.



- Show **Slide 1.14** and explain that the protein, micronutrient and fat requirements of people living with HIV are the same as for people without HIV. People with HIV need to increase their total energy intake while maintaining the same balanced proportions among carbohydrates, protein and fat as recommended for people without HIV.

1.14 NUTRIENT REQUIREMENTS OF PEOPLE LIVING WITH HIV

- **Protein:** Same as for HIV-negative people (12–15% of energy intake, 50–80 g/day or 1 g/kg of ideal weight)
- **Fat:** Same as for HIV-negative people (no more than 35% of total energy needs), but people on antiretroviral therapy (ART) or with persistent diarrhoea might need to eat less fat
- **Micronutrients:** Same as for HIV-negative people (1 Recommended Daily Allowance [RDA] through diet), but if diet is insufficient, HIV-positive children and pregnant/post-partum women might need multiple micronutrient supplements

Source: WHO. 2003. *Nutrient Requirements of People Living with HIV/AIDS: Report of a Technical Consultation, Geneva, 13–15 May 2003.* Geneva: WHO.

1.4. EFFECTS OF INFECTION ON NUTRIENT REQUIREMENTS (25 MINUTES)

BRAINSTORM: What special needs can increase nutrient requirements?

- Explain that infectious diseases can reduce appetite, decrease the body's absorption of nutrients and make the body use nutrients faster than usual, for example, to repair the immune system.

- Explain that HIV and TB are common infectious diseases that affect and are affected by nutrition.

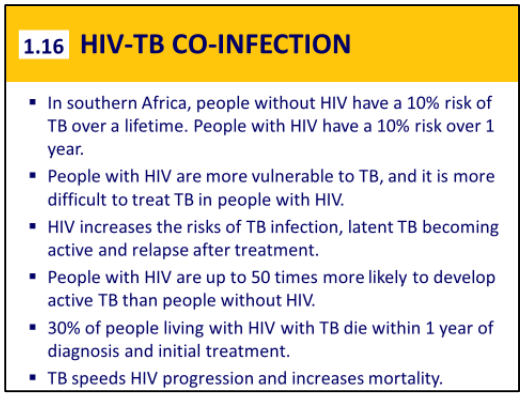
PRESENTATION: Nutrition and TB

- Show **Slide 1.15** on nutrition and TB. Explain that TB reduces appetite and increases the body's use of energy, which causes wasting. Underweight people have a higher risk of developing TB. Poor nutritional status may make essential nutrients unavailable to the body and make TB infection more likely to develop into TB disease (active TB). Because TB increases energy expenditure and breaks down tissue, people with TB have higher micronutrient requirements. But because they have poor appetite, they cannot meet these increased requirements through their diet.

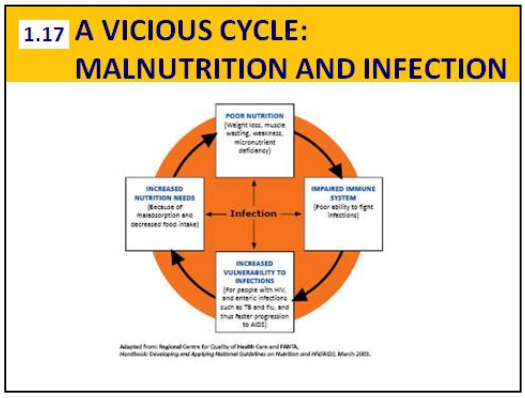
1.15 NUTRITION AND TB

- TB reduces appetite and increases energy expenditure, causing wasting.
- Underweight people are at risk of developing active TB.
- Poor nutritional status may speed up progression from TB infection to TB disease.
- Protein loss in TB patients can cause nutrient malabsorption.
- Increased energy expenditure and tissue breakdown increase micronutrient needs in people with TB.
- Poor appetite makes people with TB unable to eat enough to meet their increased micronutrient needs.

- Show Slide 1.16 on HIV-TB co-infection. Explain that TB is increasing, largely because of the spread of HIV. The case fatality rate from TB is over 50 percent in areas where HIV prevalence is high.



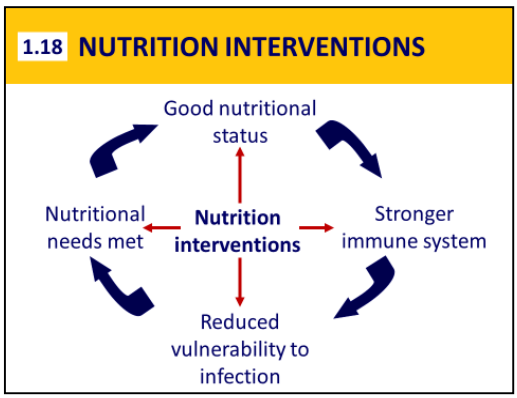
- Show **Slide 1.17** and follow the arrows to explain that infection increases nutritional needs but also decreases appetite and nutrient absorption. This leads to poor nutrition, which increases vulnerability to infections, which increase nutritional needs.



- Ask participants to take out their NACS **Job Aids**. Point out **Job Aid 2. The Vicious Cycle of Poor Nutrition and Infection**. Explain that the job aids are tools to use in their workplaces to counsel clients and find information quickly and that regular use of job aids improves the quality and consistency of health service delivery.

BRAINSTORM: How can good nutrition help prevent and fight infections?

- Compare responses with the information on **Slide 1.18**. Follow the cycle from one arrow to another, explaining that good nutrition strengthens the immune system so the body can prevent and fight infection.

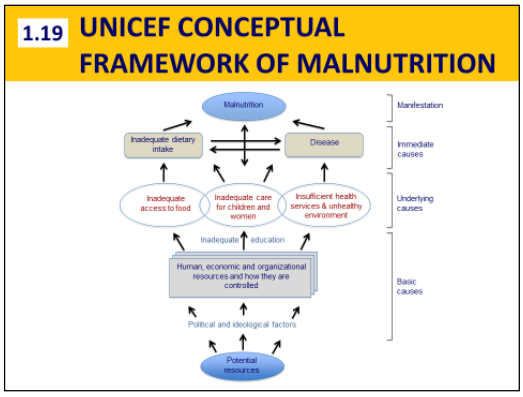


1.5. CAUSES OF MALNUTRITION (25 MINUTES)

BRAINSTORM: Besides infections such as TB and HIV, what else can cause people to become malnourished?

- Explain that malnutrition has many causes. Ask participants to think about why people may not eat enough nutritious food to keep healthy. Give them time to think of different reasons. Write responses on a flipchart.

- Show **Slide 1.19.** Explain that this is the UNICEF conceptual framework of malnutrition, which shows how different factors influence nutrition. Point out the basic, underlying and immediate causes of malnutrition on the framework. Explain that the arrows show how the basic causes influence the underlying causes, which in turn influence the immediate causes.



DISCUSSION: Immediate and underlying causes of malnutrition

- Explain that the **immediate** causes of malnutrition are poor diet and infection/disease.

- Explain that the **underlying** causes of poor diet and disease are poor access to food, poor access to health care, inadequate infant and young child feeding, gender issues, unclean water and poor sanitation.

- Explain that the underlying causes of malnutrition are influenced by political and economic structures, institutions, allocation of resources and policy decisions. These are the **basic** causes of malnutrition. Ask participants how these structures and resource allocation can cause malnutrition. (*ANSWERS*: Inadequate health facility staff, inadequate medication distribution systems, the cost of health services and lack of education on the importance of nutrition)

- Explain that participants can find this framework in **Reference 3. Causes of Malnutrition**.

1.6. CLINICAL FEATURES OF MALNUTRITION (30 MINUTES)

BRAINSTORM: How can you tell if someone is malnourished?

- Compare responses with the information on **Slide 1.20**.

1.20 CLINICAL FEATURES OF MALNUTRITION (1)

In adults
- Weight loss
- AIDS wasting
- Anaemia

In pregnant women
- Inadequate weight gain
- Anaemia
- Pre-term delivery

General
- Reduced lean body mass
- Metabolic disorders

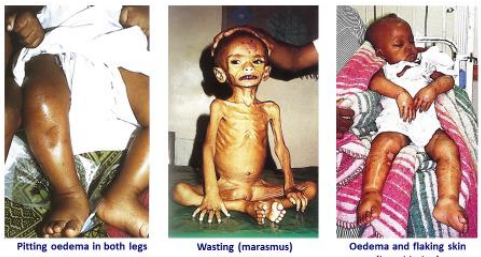
In children
- Growth faltering
- Slower growth rate
- Weight loss
- Stunting
- Underweight
- Wasting
- Hair colour change
- Bilateral pitting oedema
- Anaemia

PRESENTATION: Clinical features of malnutrition

- Explain that without appropriate interventions, people with illness, decreased appetite or poor nutrient absorption and utilisation can become malnourished.

- Show **Slide 1.21** and explain the signs of severe acute malnutrition (SAM) in the children in the photos: Pitting oedema in both feet or legs, wasting (marasmus), oedema and flaking skin (kwashiorkor) and hair colour change (not shown).

1.21 CLINICAL FEATURES OF MALNUTRITION (2)



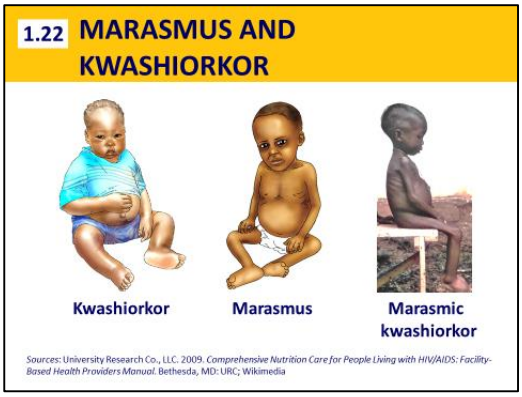
Pitting oedema in both legs | Wasting (marasmus) | Oedema and flaking skin (kwashiorkor)

Photos: WHO. 2002. *Training course on the management of severe malnutrition.* Geneva: WHO.

- Explain that people can be moderately malnourished without showing obvious signs. MAM puts people at risk of severe malnutrition. It is important to assess all clients' nutritional status so they can be counselled on how to maintain good nutritional status and avoid becoming severely malnourished.

- Remind participants that overweight and obesity are also signs of malnutrition, in this case overnutrition. Overweight and obesity put people at risk of diabetes, hypertension and heart problems.

- Show **Slide 1.22** and explain that kwashiorkor and marasmus are clinical signs of acute malnutrition in children. Point out that the child on the right with marasmic kwashiorkor has both bilateral pitting oedema (a sign of kwashiorkor) and wasting (a sign of marasmus).



- Explain that in the Ga language of West Africa, 'kwashiorkor' means 'first-second child' because it affects infants who are weaned abruptly when their mothers become pregnant again or give birth to another child. Kwashiorkor is caused by prolonged or repeated episodes of undernutrition. Signs of kwashiorkor are oedema, loss of muscle mass, change in hair colour or texture, infections, flaking skin and diarrhoea.

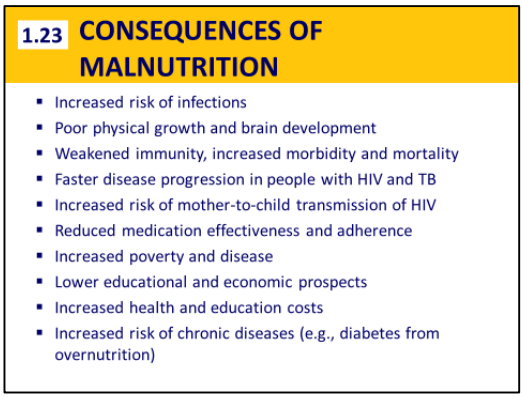
- Explain that marasmus is caused by decreased food intake and/or illness, resulting in wasting. Other signs of marasmus are dry, loose skin on the upper arm and loss of fat on the buttocks and thighs.

- Point out that this information is also in **Reference 4. Children with Kwashiorkor and Marasmus.**

1.7. CONSEQUENCES OF MALNUTRITION (30 MINUTES)

BRAINSTORM: What can happen to people who are malnourished?

- Compare responses with the information on **Slide 1.23**.



- Explain that **metabolism** is the set of chemical processes in the body needed to maintain life. Metabolism breaks down organic matter into energy and uses energy to make components of cells such as protein. When the body doesn't get enough nutrients, it starts to use muscle for energy, and this can lead to muscle wasting.

- Metabolic complications are problems in the body's ability to make or use energy. Examples are impaired glucose metabolism, abnormal body fat distribution, lactose intolerance and lactic acid disorders.

BRAINSTORM: What can happen to people with HIV who are malnourished?

- Compare responses with the information in the following box, filling in gaps as needed.

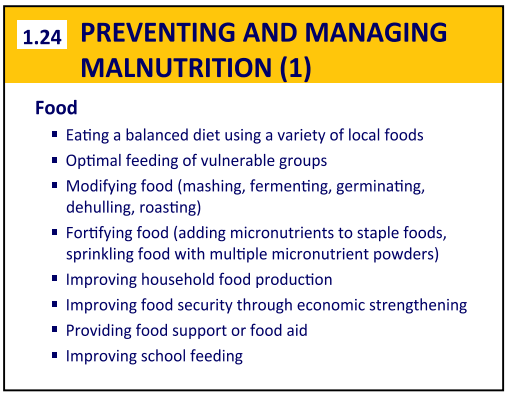
WHY GOOD NUTRITION IS IMPORTANT FOR PEOPLE LIVING WITH HIV

- People with HIV are vulnerable to malnutrition for biological and social reasons.
- Symptoms associated with HIV decrease appetite and interfere with nutrient digestion and absorption. This weakens immunity and increases the risk of illness and death.
- Proper nutrition care helps maintain body weight and strength, enhances tolerance of medications and optimises their benefits. It also delays the progression of HIV to AIDS.

1.8. PREVENTING AND MANAGING MALNUTRITION
(30 MINUTES)

BRAINSTORM: How can people prevent and manage malnutrition?

- Ask participants to consider the causes of malnutrition discussed earlier. Compare responses with the information on **Slides 1.24 and 1.25**. Facilitate discussion.



- Explain to participants that this information is also found in **Reference 5. Ways to Prevent and Manage Malnutrition**.

PRESENTATION: The Critical Nutrition Actions

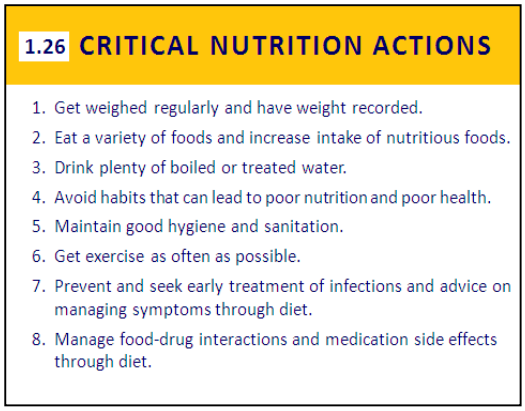
- Explain that the eight CNAs are actions that *people* can take to prevent and manage malnutrition.

- Make sure participants know the difference between the CNAs and the Essential Nutrition Actions (ENA). The ENA (listed below) are the actions that *programs* can implement to improve maternal and child health.

ENA

1. Promotion of optimal nutrition for women
2. Promotion of adequate intake of iron and folic acid and prevention and control of anaemia for women and children
3. Promotion of adequate intake of iodine by all members of the household
4. Promotion of optimal breastfeeding during the first 6 months
5. Promotion of optimal complementary feeding starting at 6 months with continued breastfeeding to 2 years of age and beyond
6. Promotion of optimal nutritional care of sick and severely malnourished children
7. Prevention of vitamin A deficiency in women and children

- Show **Slide 1.26** and read aloud each CNA.



- Ask participants to turn to **Reference 6. Critical Nutrition Actions with Messages and Explanations**. Point out that the table contains shaded boxes with information specific to people living with HIV.

BRAINSTORM: What kind of nutrition services can health facilities provide?

- Compare responses with the information on **Slide 1.27**.

- Explain that health care providers can help prevent and manage malnutrition through nutrition assessment, counselling and support (NACS). Clients who visit a health facility should be assessed to determine nutritional status. They should then be counselled on how to improve their nutritional status and referred to needed medical care or social support. Nutrition support includes prescribing micronutrient supplements and specialised food products according to standard protocols and criteria.

DISCUSSION (5 MINUTES)

- Allow time for questions and discuss any issues that need clarification.

- Distribute copies of **Annex 3. Module Evaluation Form** for Module 1. Ask participants to fill them out and give them to you before they leave.

2 Nutrition Assessment, Classification and Care Plans

MODULE 2. NUTRITION ASSESSMENT, CLASSIFICATION AND CARE PLANS

14 hours

Health care providers need to know clients' nutritional status to be able to counsel them on how to maintain healthy weight, manage common conditions and avoid infections. **Clinical assessment** includes checking for medical complications that can affect nutritional status. **Physical assessment** includes measuring weight, height and mid-upper arm circumference (MUAC) and finding weight-for-height z-score (WHZ) and body mass index (BMI). **Biochemical assessment**, including interpreting lab tests based on blood and urine, helps confirm nutritional deficiencies. **Dietary assessment** gathers information on food intake. With this combined information, health care providers can choose appropriate Nutrition Care Plans.

Purpose	Give participants the knowledge and skills to assess and classify nutritional status and select Nutrition Care Plans based on the results, with special reference to people living with HIV.

Learning objectives	By the end of this module, participants will be able to: 1. Explain the importance of nutrition assessment 2. Take and interpret anthropometric measurements accurately 3. Do clinical, biochemical and dietary assessments 4. Classify nutritional status correctly based on nutrition assessment 5. Select appropriate Nutrition Care Plans based on clients' nutritional status 6. Explain the importance of recording client nutrition information.

- Flipchart and stand
- Markers and tape
- Four sheets of white paper, cut in half lengthwise
- LCD projector
- PowerPoint
- At least functioning scales (1 for adults and 1 for children)
- At least two height boards
- At least two length boards for children
- MUAC tapes for each participant and facilitator:
  - Children 6–59 months
  - Children 5−9 years
  - Children 10−14 years
  - Adolescents 15–17 years and adults
- BMI wheel for each participant and facilitator (if available)
- **Handouts**
  - One copy of **Annex 3. Module Evaluation Form** for Module 2 for each participant
  - 6 copies each of the 24-Hour Dietary Recall Form and Food Frequency Questionnaire from **Reference 12. Taking a Dietary History**
- **Reference Manual**
  - Reference 7. Clinical Nutrition Assessment
  - Reference 8. Finding Weight-for-Height Z-Score for Children from Birth to 59 Months of Age
  - Reference 9. Finding Body Mass Index
  - Reference 10. Finding BMI-for-Age
  - Reference 11. Measuring Mid-Upper Arm Circumference
  - Reference 12. Taking a Dietary History
  - Reference 13. Nutrition Care Plan Criteria
  - Reference 14. Doing an Appetite Test
  - Reference 15. Nutrition Care Plan C for Children from Birth to 14 Years of Age with Severe Acute Malnutrition (SAM)
  - Reference 16. Nutrition Care Plan C for Adolescents 15 to 17 Years of Age and Adults with Severe Acute Malnutrition
  - Reference 17. Nutrition Care Plan B for Children 6 Months to 14 Years of Age with Moderate Acute Malnutrition (MAM)
  - Reference 18. Nutrition Care Plan B for Adolescents 15 to 17 Years of Age and Adults with Moderate Acute Malnutrition
  - Reference 19. Nutrition Care Plan A for Children 6 Months to 14 Years of Age with Normal Nutritional Status
  - Reference 20. Nutrition Care Plan A for Adolescents 15 to 17 Years of Age and Adults with Normal Nutritional Status
  - Reference 21. Nutrition Care Plan D for Children 6 Months to 14 Years of Age with Overweight and Obesity
  - Reference 22. Nutrition Care Plan D for Adolescents 15 to 17 Years of Age and Adults with Overweight and Obesity

Materials needed

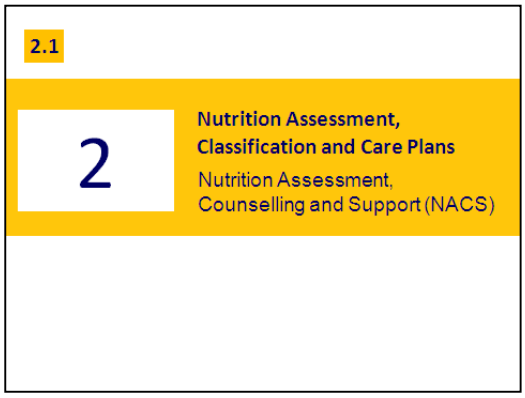
- **Job Aids**
  - Job Aid 3. How to Assess Bilateral Pitting Oedema
  - Job Aid 4. How to Weigh Adults and Young Children
  - Job Aid 5. How to Weigh Children up to 25 Kg
  - Job Aid 6. How to Measure Length and Height
  - Job Aid 7. How to Find Weight-for-Length/Height for Children from Birth to 59 Months of Age
  - Job Aid 8. How to Find Weight-for-Age for Children from Birth to 59 Months of Age Using the Tanzania Child Growth Card (RCH1)
  - Job Aid 9. How to Find Height-for-Age Z- Score for Children from Birth to 59 Months of Age
  - Job Aid 10. How to Find Body Mass Index (BMI) for Adults
  - Job Aid 11. How to Find BMI-for-Age for Children and Adolescents
  - Job Aid 12. How to Measure Mid-Upper Arm Circumference (MUAC)
  - Job Aid 13. Algorithm for Managing Malnutrition in Children 6 Months to 14 Years of Age
  - Job Aid 14. Algorithm for Managing Malnutrition in Adolescents 15–17 Years of Age and Adults
- **Participant Workbook**
  - Worksheet 2.1. Weight, Height, Body Mass Index (BMI) and Mid-Upper Arm Circumference (MUAC)
  - Worksheet 2.2. Weight-for-Height Z-Score (WHZ)
  - Worksheet 2.3. BMI
  - Worksheet 2.4. BMI-for-Age
  - Worksheet 2.5. Daily Register of NACS Clients from the Mawingu CTC
  - Worksheet 2.6. Nutrition Care Plan C
  - Worksheet 2.7. Nutrition Care Plan B
  - Worksheet 2.8. Nutrition Care Plan A
  - Case Study. Imani, Musa and Faraja

Advance preparation

- Review PowerPoint slides for Module 2 (copy the information onto a flipchart if you do not have an LCD projector).
- Review References 7 to 22 in the **Reference Manual**.
- Review Job Aids 3 to 14 in the **Job Aids**.
- Review Worksheets 2.1 to 2.8 and Case Study in the **Participant Workbook**.
- Write each of the review questions below on a half-sheet of white paper. Crumple one of the sheets to make a ball. Then add another sheet on top and continue until all of the sheets are added and the ball looks like a cabbage with many leaves.

  1. What is undernutrition?
  2. What is overnutrition?
  3. What are the immediate causes of malnutrition?
  4. What are the five food groups?
  5. What does the food group that includes pulses, nuts and animal-source food provide?
  6. What are two clinical features of malnutrition?
  7. Why do people living with HIV need more energy than people without HIV?
  8. What is one Critical Nutrition Action?

- Show **Slide 2.1.**



OBJECTIVES (5 MINUTES)

- Present the module learning objectives on **Slide 2.2**.

2.2 LEARNING OBJECTIVES

1. Explain the importance of nutrition assessment.
2. Take and interpret anthropometric measurements accurately.
3. Do clinical, biochemical and dietary assessments.
4. Classify nutritional status correctly based on nutrition assessment.
5. Select appropriate Nutrition Care Plans based on clients' nutritional status.
6. Explain the importance of recording client nutrition information.

REVIEW (20 MINUTES)

- Ask participants to stand in a circle. Show them the 'cabbage' made of the crumpled sheets of paper with review questions. Explain that the ball contains questions that will help review the content of **Module 1. Overview of Nutrition**.

- Toss the ball to one of the participants. Ask the person who catches the ball to pull off the first sheet, read the question aloud and answer the question. Then ask that person to toss the ball to another participant, who should pull off the next sheet of paper, read the question aloud and answer the question. Continue until all of the questions are asked and answered.

- If someone has difficulty answering a question, ask the rest of the participants to help. If no one can answer the question correctly, thank the participants for trying and explain the correct answer. Answers are shaded in the right-hand column below.

Questions	Answers
What is undernutrition?	The result of consuming less energy and nutrients than the body needs
What is overnutrition?	The result of consuming more nutrients and energy than the body needs
What are the immediate causes of malnutrition?	Inadequate dietary intake and disease
What are the five food groups?	1. Cereals, green bananas, roots and tubers 2. Pulses, nuts and animal-source food 3. Fruits 4. Vegetables 5. Sugar, honey, fats and oils
What does the food group that includes pulses, nuts and animal-source food provide?	Protein to build the body
What are two clinical signs of acute malnutrition?	Any are correct: Wasting, hair changes, pitting oedema in both legs, kwashiorkor, marasmus
Why do people living with HIV need more energy than people without HIV?	HIV causes weight loss and decreases the body's ability to absorb nutrients and use them to fight

	infections. People with HIV therefore need more energy to compensate for these changes.
What is one of the CNAs?	Any of the following is correct: ▪ Get weighed regularly and have weight recorded. ▪ Eat a variety of foods and increase intake of nutritious foods. ▪ Drink plenty of boiled or treated water. ▪ Avoid habits that can lead to poor nutrition and poor health. ▪ Maintain good hygiene and sanitation. ▪ Get exercise as often as possible. ▪ Prevent and seek early treatment of infections and advice on managing symptoms through diet. ▪ Manage food-medication interactions and side effects through diet.

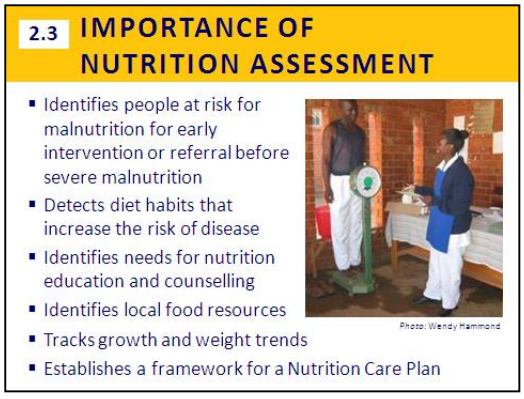
- Explain to participants the meaning of the following abbreviations and acronyms used in this module: SAM (severe acute malnutrition), MAM (moderate acute malnutrition), BMI (body mass index), MUAC (mid-upper arm circumference) and weight-for-height z-score (WHZ).

- Also explain the meaning of the symbols < (less than), > (greater than), ≤ (less than or equal to) and ≥ (greater than or equal to).

2.1. THE IMPORTANCE OF NUTRITION ASSESSMENT
(40 MINUTES)

BRAINSTORM: Why should health care providers do regular nutrition assessment?

- Compare responses with the information on **Slide 2.3.**



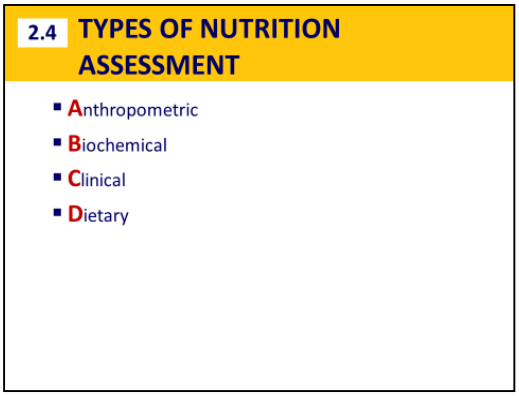
- Explain that knowing a client's nutritional and health status, dietary patterns, current treatment and food security situation allows health care providers to choose a Nutrition Care Plan and advise clients how to maintain normal nutritional status and avoid

malnutrition.

- Explain that malnourished people who are not identified as malnourished and are not treated early have longer hospital stays, slower recovery from infection and increased risk of complications and death.

BRAINSTORM: How can you tell if someone is malnourished?

- Compare responses with the information on **Slide 2.4**. Explain that these types of nutrition assessment are presented in alphabetical order (A, B, C, D) to help participants remember them. Explain that nutrition assessment includes anthropometric measurements, review of laboratory test results, a physical examination and clinical history and analysis of food intake.



- Explain that participants will learn more about all these types of assessment in this module.

PRESENTATION AND DISCUSSION

- Explain that nutrition assessment, counselling and support (abbreviated as NACS) are coordinated with the national HIV care and treatment protocols and the national protocols for management of acute malnutrition. Much nutrition assessment is done as part of broader medical assessment. NACS should be a routine part of clinical care.

- Refer participants to **Reference 7. Clinical Nutrition Assessment**. Point out the three columns ('ASK/LOOK', 'If YES', and 'Implication'). Ask volunteers to identify the five things to assess under 'EXAMINE AND MEASURE' (*Answer: Bilateral pitting oedema, medical complications, MUAC, weight and height*).

- Facilitate discussion and answer questions as needed.

2.2. CLINICAL ASSESSMENT (1 HOUR)

- Show **Slide 2.5** and explain that clinical nutrition assessment includes finding out whether a client has any signs or symptoms of medical complications or is taking any medications that affect nutritional status. This type of assessment is presented first

because medical complications may be life threatening and should be identified for treatment before doing other types of assessment.

2.5 CLINICAL NUTRITION ASSESSMENT

1. Check for medical complications.

- Bilateral pitting oedema
- Wasting
- Anorexia, poor appetite
- Persistent diarrhoea
- Nausea or vomiting
- Severe dehydration
- High fever (≥ 38.5° C)
- Rapid breathing
- Convulsions
- Severe anaemia
- Mouth sores or thrush
- HIV
- Hypothermia
- Hypoglycaemia
- Lethargy or unconsciousness
- Extreme weakness
- Opportunistic infections
- Extensive skin lesions

2. Find out what medications the client is taking.

- Explain that a client with any of these medical complications should be referred for further treatment and treated as an inpatient.

PRESENTATION: Bilateral pitting oedema

- Explain that bilateral pitting oedema is a sign of SAM. It can be used to diagnose SAM regardless of a client's BMI or MUAC.

> Stress that any client, adult or child with bilateral pitting oedema should be classified as having SAM with medical complications, regardless of her or his anthropometric measurements.

- Define 'oedema' as the abnormal accumulation of fluid in the interstitial spaces of tissues. Either too much fluid moves from the blood vessels into the tissues or not enough fluid moves from the tissues back into the blood vessels. This fluid imbalance can cause swelling in one or more parts of the body.

- Explain that bilateral pitting oedema is oedema in either both feet or both legs in which pressure on the skin leaves a depression in the tissues.

- Refer participants to **Job Aid 3. How to Assess Bilateral Pitting Oedema**. Explain that in the second illustration the health care provider is holding the child's heels to show the indented skin in the feet. Point out the different grades of oedema.

- Explain that not all oedema is nutritional. Oedema can also be caused by pre-eclampsia, kidney problems, elephantiasis, heart failure or wet beriberi (vitamin B1 deficiency with oedema). Nutritional oedema is rare in adults.

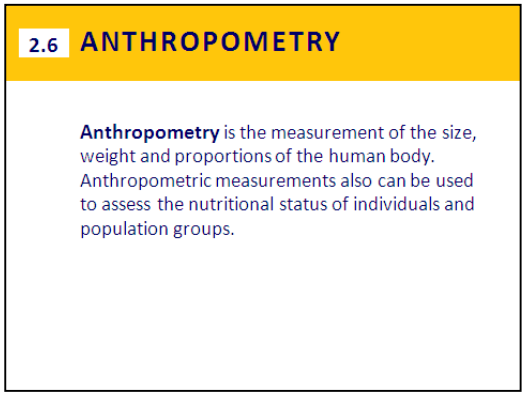
- Explain that some medications can interfere with the absorption, digestion, metabolism and utilisation of food. In return, nutritional status and diet can affect the action of medications. Knowing what medications clients are taking allows health care providers

to counsel them on how to manage medication-food interactions and medication side effects. This will be explained later in this course.

2.3. ANTHROPOMETRIC ASSESSMENT (3 HOURS)

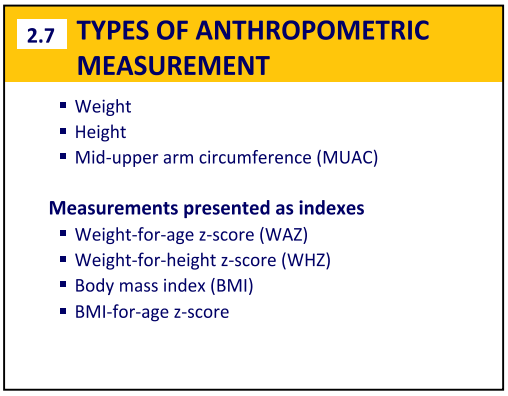
BRAINSTORM: What is anthropometry?

- Compare responses with the information in **Slide 2.6**.



BRAINSTORM: What are the different types of anthropometric measurements?

- Compare responses with the information in **Slide 2.7**.

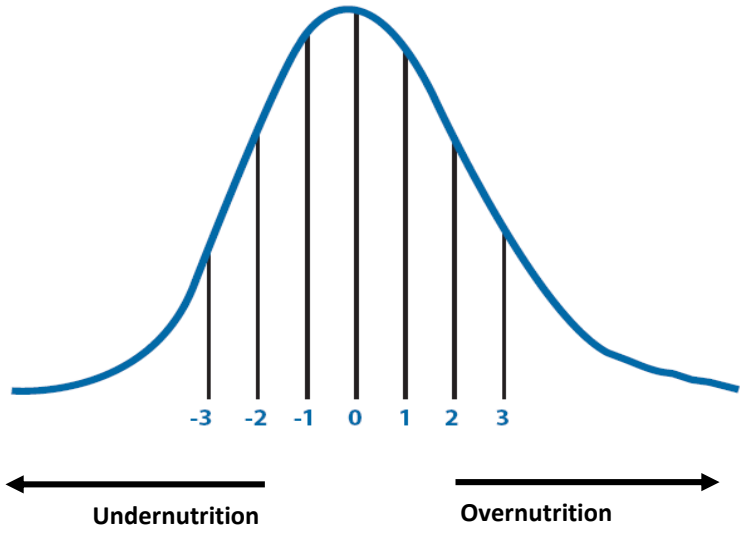


- Explain that MUAC can be used to assess the nutritional status of people of all ages, weight-for-age z-score (WAZ) and height-for-age z-score (HAZ) are used to assess the nutritional status of children from birth to 59 months of age, BMI is used to assess the nutritional status of non-pregnant/post-partum adults and BMI-for-age is used to assess the nutritional status of children and adolescents.

- Explain that WAZ, HAZ, WHZ, BMI and BMI-for-age are recorded as z-scores. Z-scores are measured in standard deviations, which describe how far and in what direction an individual's anthropometric measurement deviates from the median (middle number). These measurements and indexes can be used to classify nutritional status. They can

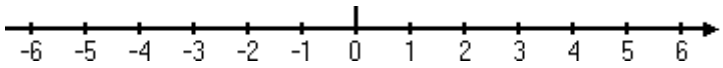
also be used in combination with trend data and other nutrition and health information to understand the nutrition situation in a given population.

- Refer participants to figure 2 in **Reference 8. Finding Weight-for-Height Z-Score for Children from Birth to 59 Months of Age**. Explain that the z- score for the median measurement is 0. A measurement lower than the median has a minus sign (e.g., –1). A measurement greater than the median has a plus sign or no sign (e.g., + 2 or 2).



- Ask participants to look at the curving line, which is called a bell curve. Explain that the further a measurement is from 0 on either side, the greater the risk of malnutrition.

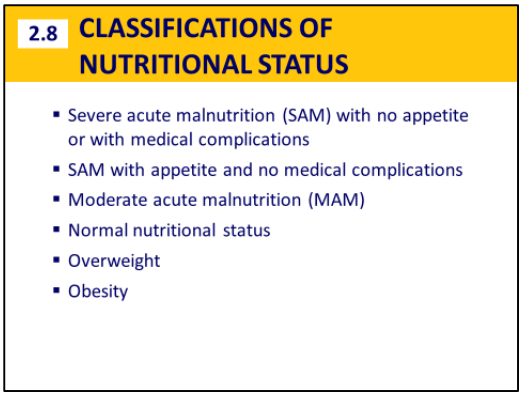
- Then ask participants to look at the number line. Ask which direction the arrow is pointing (*ANSWER*: It is pointing to the right). Then explain that the arrow points in the direction in which the numbers are getting bigger and that the negative numbers get smaller as you move to the left. Ask participants which is bigger, – 5 or – 4 (*ANSWER*: – 4 is bigger than – 5.)



- Explain that –2 is bigger than –3.

BRAINSTORM: What are the different classifications of nutritional status?

- Compare responses with the information on **Slide 2.8**.



PRACTICE: Measuring weight and height

- Explain that loss of body weight is strongly correlated with disease. Unintentional weight loss can weaken the body's ability to fight infection.

- Ask participants to form small groups. Refer the groups to **Job Aid 4. How to Weigh Adults and Young Children**. Ask volunteers to read the information aloud.

- Demonstrate how to zero the weighing scale and use it correctly to measure weight (if participants are unfamiliar with this type of scale).

- Explain that accurate measurements are important because errors can lead to classifying a client's nutritional status incorrectly and providing the wrong care. Errors include weighing clients with too much clothing, weighing clients who are not standing straight and using inaccurate scales.

- Ask each group to go to the weighing scale and choose a person to weigh. One group member should weigh the person while the others observe and record the weight. Watch the groups to make sure they do the exercise correctly.

- Ask the group to find **Worksheet 2.1. Weight, Height, Body Mass Index (BMI) and Mid-Upper Arm Circumference (MUAC).**

- Then ask the groups to write the name, sex, pregnancy status and weight in kg to the nearest 100 g of the first person weighed from the group in the first line of the table in the worksheet.

- Ask each group to weigh the rest of the group members and record their weights, as time permits. Again, one group member should weigh the person while the others observe and record the weight.

- If possible, bring children to the classroom so the groups can practice weighing them. Refer participants to **Job Aid 5. How to Weigh Children up to 25 Kg**. Ask a volunteer to read the information aloud. Explain that children can also be weighed on a scale on the ground. Remind the groups that they can use these job aids in their workplaces when they need to assess children's nutritional status.

- Refer participants to **Job Aid 6. How to Measure Length and Height** and ask a volunteer to read the information aloud.

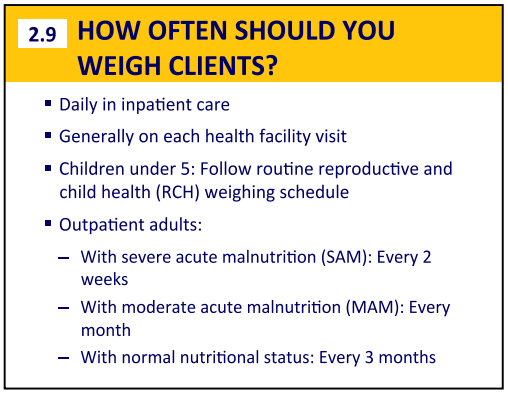
- Ask each group to go to a height board to measure the height of each person who was weighed. The other group members should observe and record the height on **Worksheet 2.1. Weight, Height, Body Mass Index (BMI) and Mid-Upper Arm Circumference (MUAC)**.

- If it is possible to bring children to the classroom, ask the groups to practice measuring them using a length or height board. Show participants a length board for children. Explain that length is measured for children under 2 years of age or under 87 cm long or for clients who are unable to stand or be measured standing. Explain that height is measured for children older than 2 years or 87 cm or taller and adults.[3]

- Ask the groups to discuss any problems they had measuring weight and height, including equipment (error, zeroing), clothing, reading the equipment, colleagues not standing straight for height and so on. Discuss how they could address these problems.

BRAINSTORM: How often should clients be weighed?

- Compare responses with the information in **Slide 2.9**.



PRESENTATION: Weight-for-height z-score

- Explain that WHZ is used to assess the nutritional status of children from birth to 59 months of age. WHZ compares a child's weight to the weight of a child of the same length/height and sex in the 2006 World Health Organization (WHO) Child Growth Standards to classify the child's nutritional status.

- Refer the groups to **Job Aid 7. How to Find Weight-for-Length/Height for Children from Birth to 59 Months of Age**. Point out the separate growth standards for different age groups and for boys and girls.

[3] Tanzania's 2014 *Management of Acute Malnutrition Training Manual: Facilitator's Guide* uses the pre-2006 National Center for Health Statistics (NCHS) cutoff of 85 cm, but this was superseded by 87 cm in the 2006 WHO Child Growth Standards (http://apps.who.int/iris/bitstream/10665/44129/1/9789241598163_eng.pdf?ua=1).

- Point out that the weight-for-height figures in each column are z-scores. A weight-for-height z-score is abbreviated as WHZ.

- Explain that to find a child's WHZ and nutritional status, you first find the table for the appropriate age group and then find the figure closest to the child's length or height in the middle column. If the number behind the decimal point is less than 5, round down to the next whole number (for example, round 99.4 cm down to 99 cm). If the number behind the decimal point is 5 or more, round up to the next whole number (for example, round 99.5 cm up to 100 cm).

- Then find the figure closest to the child's weight in the columns to the right or left of this column, according to the child's sex. If a child's weight falls between two columns, use the higher weight. For example, 18.0 kg falls between 17.4 kg and 19.0 kg, so participants should use 19.0 kg, which is the higher weight.

WHZ cutoffs for classification of nutritional status

Group	**Severe acute malnutrition (SAM)**	**Moderate acute malnutrition (MAM)**	**Normal nutritional status**	**Overweight**	**Obesity**
Children 0–59 months	< –3	≥ –3 to < – 2	≥ –2 to ≤ +2	> +2 to ≤ +3	> +3

PRACTICE: Finding WHZ for children

- Write the following on a flipchart:

  - **3-year-old girl 87 cm tall weighing 8.5 kg**

- Ask participants to use **Job Aid 7. How to Find Weight-for-Length/Height for Children from Birth to 59 Months of Age** to find the WHZ and classify the girl's nutritional status. (*ANSWER*: < –3 z-score, SAM)

- Now refer the groups to **Worksheet 2.2. Weight-for-Height Z-Score (WHZ)** and ask them to use **Job Aid 7** to complete the last two columns. Ask one or two groups to present their results in plenary. Answers are shaded in the table below.

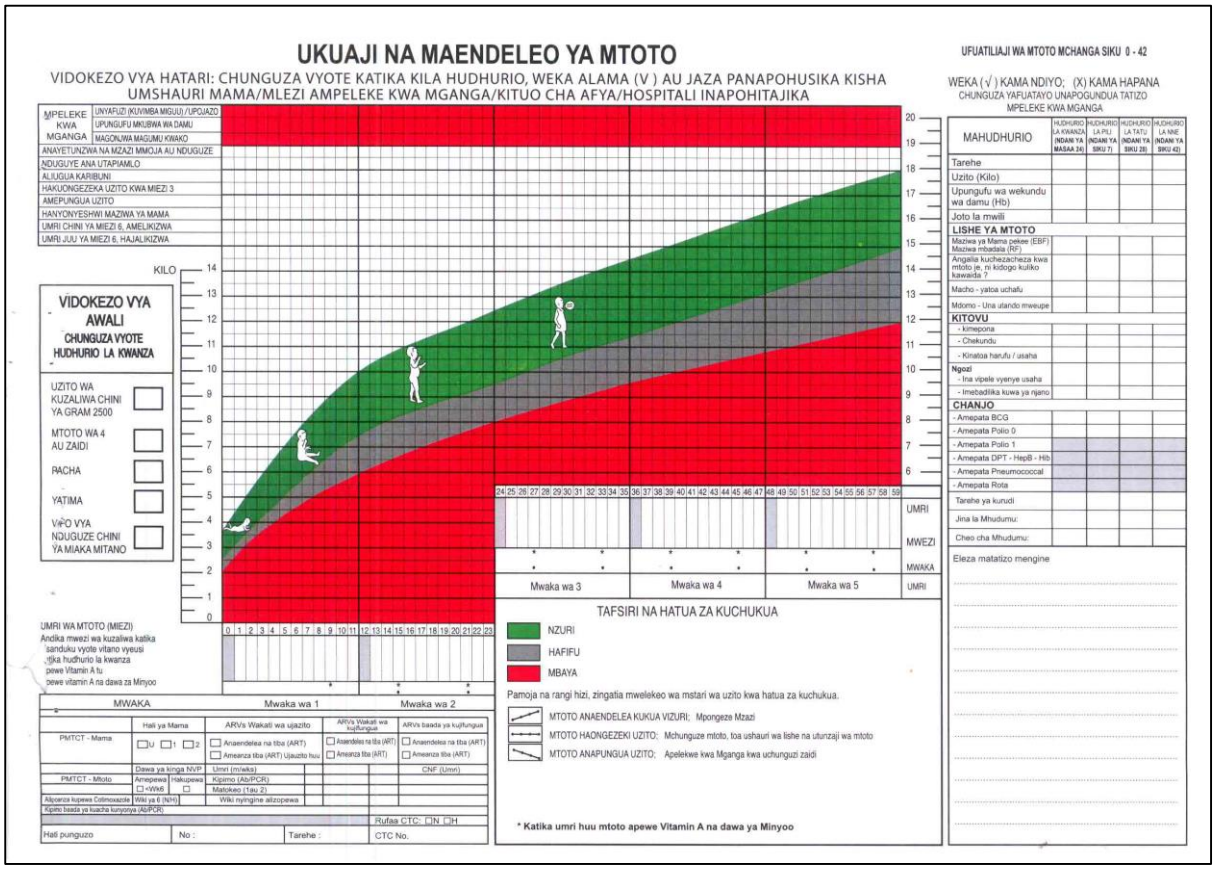
ID	Sex	Age (months)	Height (cm)	Weight (kg)	WHZ	Nutritional status
1	F	35	98.2	11.5	≥ –3 to < –2	MAM
2	M	52	99.5	13.5	≥ –2 to ≤ +2	Normal
3	M	9	69.9	7.5	≥ –2 to ≤ +2	Normal
4	F	8	68.2	5.0	< –3	SAM

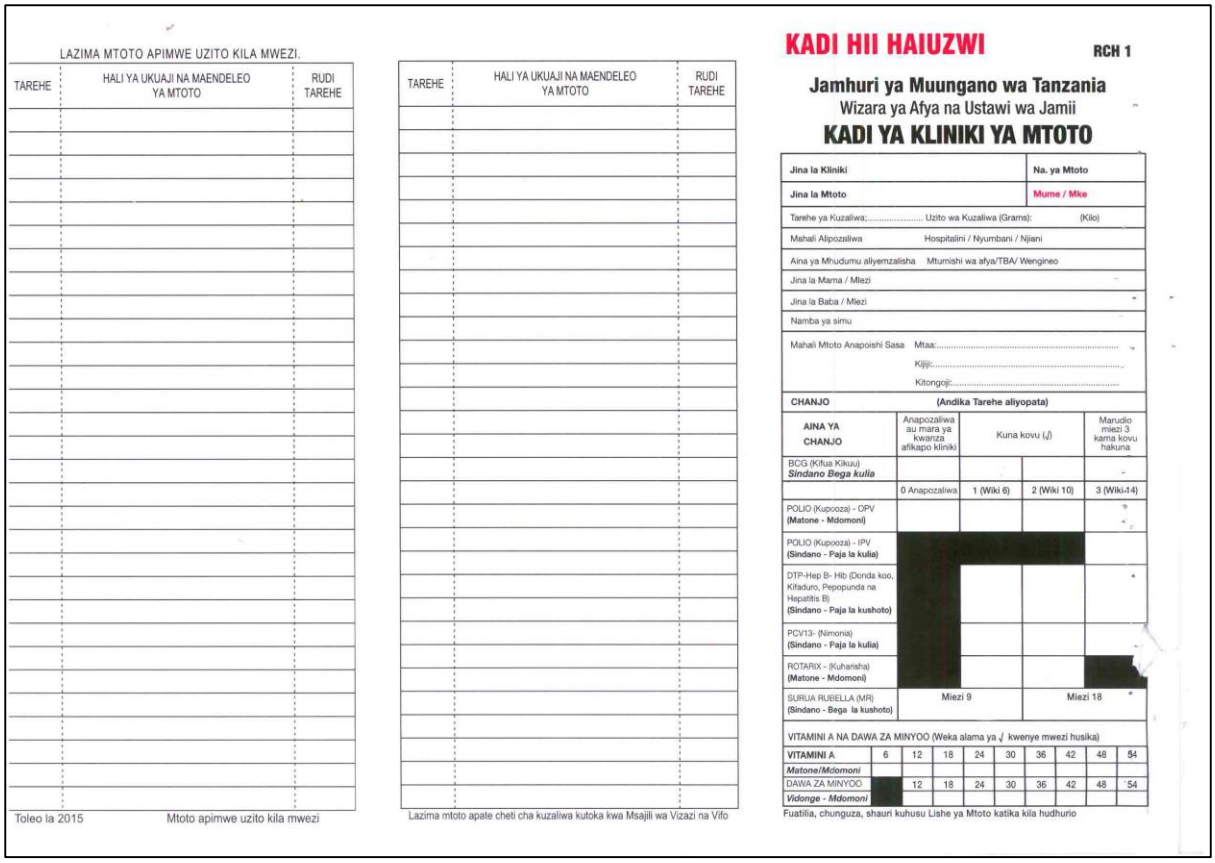
5	M	21	97.2	11.4	≥ –3 to < –2	MAM
6	M	17	89.7	12.9	≥ –2 to ≤ +2	Normal

- Ask participants to answer the question: 'Which of the children are malnourished?' (*ANSWER: 1, 4 and 5*)

PRESENTATION: Weight-for-age z-score

- Refer participants to **Job Aid 8. How to Find Weight-for-Age for Children from Birth to 59 Months of Age Using the Tanzania Child Growth Card (RCH 1)**. Both sides are copied below. Ask them to point out sections of the card that ask for information on child nutritional status.





LAZIMA MTOTO APIMWE UZITO KILA MWEZI.

TAREHE	HALI YA UKUAJI NA MAENDELEO YA MTOTO	RUDI TAREHE

Toleo la 2015 Mtoto apimwe uzito kila mwezi

TAREHE	HALI YA UKUAJI NA MAENDELEO YA MTOTO	RUDI TAREHE

Lazima mtoto apate cheti cha kuzaliwa kutoka kwa Msajili wa Vizazi na Vifo

KADI HII HAIUZWI RCH 1

Jamhuri ya Muungano wa Tanzania
Wizara ya Afya na Ustawi wa Jamii
KADI YA KLINIKI YA MTOTO

Jina la Kliniki	Na. ya Mtoto
Jina la Mtoto	Mume / Mke
Tarehe ya Kuzaliwa:..... Uzito wa Kuzaliwa (Grams): (Kilo)	
Mahali Alipozaliwa Hospitalini / Nyumbani / Njiani	
Aina ya Mhudumu aliyemzalisha Mtunishi wa afya/TBA/ Wengineo	
Jina la Mama / Mlezi	
Jina la Baba / Mlezi	
Namba ya simu	
Mahali Mtoto Anapoishi Sasa Mtaa:..... Kijiji:..... Kitongoji:.....	

CHANJO (Andika Tarehe aliyopata)

AINA YA CHANJO	Anapozaliwa au mara ya kwanza afikapo kliniki	Kuna kovu (√)		Marudio miezi 3 kama kovu hakuna
BCG (Kifua Kikuu) *Sindano Bega kulia*				
	0 Anapozaliwa	1 (Wiki 6)	2 (Wiki 10)	3 (Wiki 14)
POLIO (Kupooza) - OPV (Matone - Mdomoni)				
POLIO (Kupooza) - IPV (Sindano - Paja la kulia)				
DTP-Hep B- Hib (Donda koo, Kifaduro, Pepopunda na Hepatitis B) (Sindano - Paja la kushoto)				
PCV13- (Nimonia) (Sindano - Paja la kulia)				
ROTARIX - (Kuharisha) (Matone - Mdomoni)				
SURUA RUBELLA (MR) (Sindano - Bega la kushoto)	Miezi 9		Miezi 18	

VITAMINI A NA DAWA ZA MINYOO (Weka alama ya √ kwenye mwezi husika)

VITAMINI A	6	12	18	24	30	36	42	48	54
Matone/Mdomoni									
DAWA ZA MINYOO		12	18	24	30	36	42	48	54
Vidonge - Mdomoni									

Fuatilia, chunguza, shauri kuhusu Lishe ya Mtoto katika kila hudhurio

- Explain that this card measures weight-for-age to identify underweight in children under 5. Weight-for-age is used in growth monitoring and promotion.

- Explain how to find weight-for-age using the RCH1 card:

  1. Find the child's weight in kg on the vertical line (y axis).
  2. Run your finger straight across to find the child's age in months on the horizontal line (x axis).
  3. Find the point where the two lines meet.
  4. Look at the colour of the part of the curve where the two lines meet. If **green,** the child is growing well. If **grey**, the child is moderately underweight. If **red**, the child is severely underweight.

PRACTICE: Finding weight-for-age for children

- Write the following on a flipchart:

  - **Boy 4 years and 8 months of age who weighs 11.8 kg**
  - **Girl 8 months of age who weighs 7.2 kg**

- Ask participants to use the RCH1 card to find the children's weight-for-age and classify their nutritional status. (*ANSWERS*: Boy: Moderately underweight; girl: normal weight)

PRESENTATION: Height-for-age z-score

- Explain that height-for-age compares a child's length or height to the length or height of a child of the same age and sex in the 2006 WHO Child Growth Standards to classify the child's nutritional status. HAZ is used to identify stunting, which indicates chronic malnutrition.

- Refer participants to **Job Aid 9. How to Find Height-for-Age Z-Score for Children from Birth to 59 Months of Age**. Point out that there are separate HAZ tables for boys and girls and for length for age (from 0 to 23 months) and height for age (from 24 to 59 months). The middle column in each tables lists the median height for a given age. To either side of the middle column are z-scores based on age in years or months. Point out that –3 (red) indicates severe stunting, –2 (orange) indicates moderate stunting and –1 (yellow) indicates mild stunting. Children that fall into the + columns may need to be referred for examination for an endocrine disorder.

PRACTICE: Finding HAZ for children

- Write the following on a flipchart:

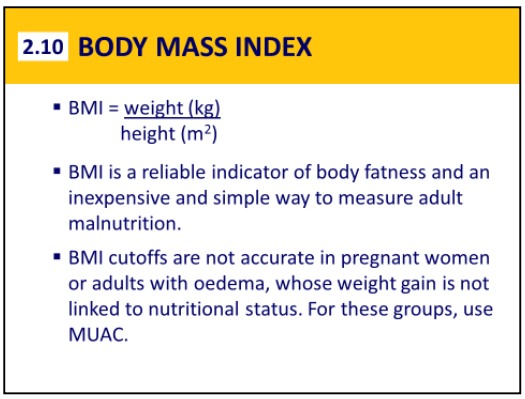
  - **Girl 2 years and 4 months of age and 92 cm tall**
  - **Boy 1 year and 5 months of age and 74 cm long**

- Ask participants to use **Job Aid 9. How to Find Height-for-Age Z-Score for Children from Birth to 59 Months of Age** to find the children's HAZ and classify their nutritional status. (*ANSWERS*: Girl: between the median and < +1 z-score, normal nutritional status; boy: between <–2 and <–3 z-score, moderately stunted)

PRESENTATION: Body mass index

- Explain that weight is a reliable index of nutritional status but only gives general information on fat stores or lean muscle mass. For more specific information on these indicators, other anthropometric measurements are needed.

- Show **Slide 2.10.**



- Point out the formula for calculating BMI. Explain that BMI is the preferred indicator of thinness for adults 18 years and older who are not pregnant or post-partum. BMI

measures body fat composition compared with that of an average healthy person. If BMI is below established standards, nutrition intervention is needed to slow or reverse the loss.

- Explain that BMI is not accurate in pregnant women and women up to 6 months post-partum because their weight gain is not linked to their nutritional status. MUAC is used to measure the nutritional status of these groups.

PRACTICE: Finding body mass index for adults

- Refer the groups to **Reference 9. Finding Body Mass Index** and ask volunteers to read the sections aloud.

- Write the formula below on a flipchart visible to all the participants. Explain that BMI is calculated by dividing weight in kilograms by height in metres squared (BMI = kg/m^2). Point out that height measured in centimetres has to be converted into metres.

$$\frac{\text{weight in kg}}{(\text{height in m})^2}$$

- Point out the BMI cutoffs for classification of malnutrition in adults who are not pregnant or up to 6 months post-partum. Women who are pregnant or up to 6 months post-partum women should be measured using MUAC.

BMI cutoffs for classification of nutritional status

Group	SAM	MAM	Normal	Overweight	Obesity
Adults 18+ years	< 16.0	≥ 16.0 to < 18.5	≥ 18.5 to < 25.0	≥ 25.0 to < 30.0	≥ 30.0

Source: WHO. 1995. *Physical Status: The Use and Interpretation of Anthropometry: Report of a WHO Expert Committee. WHO Technical Report Series 854.* Geneva: WHO.

- Refer the groups to **Job Aid 10. How to Find Body Mass Index (BMI) for Adults**. Explain that they can use this chart to find BMI instead of using a calculator. Explain the colour coding if they are not familiar with it.

- Explain that BMI wheels can also be used to find BMI. Ask participants to look at their BMI wheels. Explain that BMI for adults is found on the front side of the wheel, where they see the word 'Instructions'. The inner/smaller disc shows height. The outer/larger disc shows weight.
- Explain that to find BMI, participants should:
  1. Turn the top disc until the person's height of the client is aligned with the person's weight.
  2. On the outer disc, read the number that the arrow labelled 'BMI' is pointing to.

3. Look at the box at the bottom of the wheel labelled 'Nutritional status for adults 19 years and older'. Find the range that contains the person's BMI and classify the person's nutritional status.

- Ask participants to practice using the wheel to determine the BMI and nutritional status of the clients listed below. ANSWERS are shaded in the last two columns.

Height (cm)	Weight (kg)	BMI	Nutritional status
184	52	15.4	Severe acute malnutrition (SAM)
148	40	18.3	Moderate acute malnutrition (MAM)

- Ask the groups to find the BMIs for the weights and heights they recorded on **Worksheet 2.1. Weight, Height, Body Mass Index (BMI) and Mid-Upper Arm Circumference (MUAC)** and record them in the column headed 'BMI'. Supervise the groups to make sure each participant does the exercise correctly.

- Then ask the groups to use the BMI chart or a BMI wheel to complete the last two columns on **Worksheet 2.3. BMI**.

- Ask two groups to present their results in plenary. ANSWERS are shaded in the table.

ID	Sex	Height (cm)	Weight (kg)	BMI	Nutritional status
1	F	178	50	16	MAM
2	M	190	68	19	Normal nutritional status
3	M	176	48	15	SAM
4	F	156	102	42	Obesity
5	M	160	38	15	SAM
6	M	174	84	28	Overweight

- Ask the groups to discuss any difficulties they had finding BMI on the chart.

PRESENTATION: BMI-for-age

- Explain that simple BMI can be used as an indicator of nutritional status in non-pregnant/non-postpartum adults because most people over 18 years of age have completed their physical development. However, children and adolescents are still growing and developing. Therefore, age and sex have to be considered when using BMI to determine their nutritional status. BMI-for-age can be used as an indicator of nutritional status in children 5–19 years of age.

PRACTICE: Finding BMI-for-age for older children and adolescents

- Refer the groups to **Reference 10. Finding BMI-for-Age** in the **Reference Manual**.

- Explain that the BMI-for-age tables provide the numeric ranges for classifying nutritional status. Like weight-for-height, BMI-for-age is expressed in z-scores. A BMI-for-age z-score tells how many standard deviations a child or adolescent's BMI is away from the median BMI value of that reference population.

  Explain that to find BMI-for-age, you first need to find BMI. Refer the groups to **Job Aid 11. How to Find BMI-for-Age for Children and Adolescents**. Point out the BMI look-up tables for children and adolescents, followed by the BMI-for-age tables. Point out that the BMI look-up tables show height in the left-hand column, or y axis, and weight on the bottom row, or x axis. Point out that the BMI-for-age tables are divided by sex and show nutritional status at the top of the columns.

  BMI-for-age cutoffs for classification of nutritional status[4]

Group	SAM	MAM	Normal	Overweight	Obesity
Children and adolescents 5–17 years	< –3	≥ –3 to < – 2	≥ –2 to ≤ +1	> +1 to ≤ +2	> +2

  Source: World Health Organization (WHO). 2007. 'Growth Reference Data for 5–19 Years.' Available at: http://www.who.int/growthref/en/.

- Write the following example on a flipchart and ask participants to find the BMI-for-age:

  - **Girl 10 years of age who weighs 36 kg and is 164 cm tall**

- Compare responses with the *ANSWER*: BMI = 13.4, BMI-for-age = ≥ –3 to < –2, nutritional status = MAM.

- Explain that the BMI wheels can also be used to find BMI-for-age for children and adolescents. Ask participants to follow the directions below to find BMI-for-age.

  1. Find the child's BMI on the front side of the wheel, using the instructions for finding BMI.
  2. Flip the wheel over. Turn the inner disc until the arrow labelled 'age' points to the age closest to the child's age. Round up or down if needed. For example, if a child is 9 years and 5 months of age, point the arrow to 9. If the child is 9 years and 6 months of age, point the arrow to 10.

[4] WHO BMI-for-age charts and tables for children 0–5 years of age are found at http://www.who.int/childgrowth/standards/bmi_for_age/en/. WHO uses 'severe thinness' instead of 'severe acute malnutrition' for < –3 SD, and 'thinness' instead of 'moderate malnutrition' for < –2 SD.

3. Select the box on the back side of the wheel labelled 'Girls' or 'Boys' based on the sex of the child.
4. With the wheel still pointing to the child's age, find the number range in the box (Girls or Boys) that contains the child's BMI. Classify the child's nutritional status based on the range in which the child's BMI falls.

- Ask participants to practice using the wheel to determine the BMI and nutritional status of the children listed in the table below. ANSWERS are shaded in the last two columns of the table.

Sex	Age (years and months)	Height (cm)	Weight (kg)	BMI	Nutritional status
F	6 yrs., 2 mo.	111	18.8	15.4	Normal
M	17 yrs., 3 mo.	160	43.2	16.8	MAM

- Ask participants to complete the table in **Worksheet 2.4. BMI-for-Age** using the BMI and BMI-for-age tables or BMI wheel. Give participants 10 minutes for this activity.

- At the end of 10 minutes, ask one group to share its results in plenary and have the other groups comment. Answers are shaded in the table below.

ID	Sex	Age (years, months)	Height (cm)	Weight (kg)	BMI	BMI-for-age	Nutritional status
1	F	6 years, 2 months	111	18.8	15.4	≥ –2 to ≤ +1	Normal
2	M	17 years, 3 months	160	43.2	16.8	≥ –3 to < –2	MAM
3	M	14 years, 7 months	145	38.0	18.1	≥ –2 to ≤ +1	Normal
4	F	8 years, 4 months	125	19.0	12.2	≥ –3 to < –2	MAM
5	F	13 years, 1 month	147	27.0	12.5	< –3	SAM

- Facilitate discussion of any difficulties participants had finding BMI-for-age.

PRESENTATION: Mid-upper arm circumference

- Explain that BMI does not account for changes in body composition caused by antiretroviral therapy (ART). Therefore, MUAC is sometimes used instead of BMI to measure nutritional status in people living with HIV.

- Explain again that BMI is only used to classify the nutritional status of non-pregnant/post-partum adolescents and adults. MUAC is used to measure children older than 6 months, pregnant women and women up to 6 months post-partum, and adults who are too sick to stand.

PRACTICE: Measuring MUAC

Explain that MUAC is a quick and easy way to measure nutritional status because it only requires a tape measure, but it must be done accurately. Even a ¼-inch error can mean a difference in treatment.

- Give each participant a set of four MUAC tapes for different age groups. Point out the labels. Point out the colour coding to indicate nutritional status and the cutoffs for SAM, MAM and normal nutritional status.
- Explain that the MUAC tape for adults is also used for adolescents 15–17 years of age and for pregnant women and women up to 6 months post-partum. However, the cutoffs for women who are pregnant and up to 6 months post-partum are different from those marked on the tape, as shown below.

Using MUAC to determine nutritional status

Group	SAM	MAM	Normal nutritional status
Adolescents 15–17 years and adults (non-pregnant/post-partum)	< 18.5 cm	≥ 18.5 to < 22.0 cm	≥ 22.0 cm
Women who are pregnant or up to 6 months post-partum	< 19.0 cm	≥ 19.0 to < 23.0 cm	≥ 23.0 cm

- Wrap an adult MUAC tape around the middle of a co-facilitator's upper left arm. Find the measurement and ask the groups to identify the nutritional status by the colour.
- Refer the groups to **Job Aid 12. How to Measure Mid-Upper Arm Circumference (MUAC)**. Ask volunteers to read each step aloud. Explain that the job aid shows a person measuring the MUAC of a child, but the placement of the tape is the same as for adults.
- Ask one pair in each group to measure each other's MUAC while the other pair observes, makes suggestions (for example, how to place the tape correctly on the arm or keep the tape at eye level) and records the measurements. Give the groups 5 minutes for this activity. Observe each pair and make sure participants are measuring MUAC correctly.
- Ask the pairs to switch roles so that the other pair has a chance to measure each other's MUAC.
- Then ask the groups to record the MUAC measurements in the column labelled 'MUAC' on **Worksheet 2.1. Weight, Height, Body Mass Index and Mid-Upper Arm Circumference**. Supervise the groups to make sure each participant does the exercise correctly.
- Ask the groups to discuss any problems they had measuring MUAC, for example, not finding the correct mid-point of the upper arm.

- Repeat the demonstration if necessary, stressing areas that need strengthening.

- Refer the groups to **Reference 11. Measuring Mid-Upper Arm Circumference** and explain that this reference contains detailed information on this anthropometric measurement.

PRACTICE: Classifying nutritional status

- Ask the groups to use the appropriate algorithms to classify the nutritional status of each person they weighed and measured and record it in the last column on **Worksheet 2.1. Weight, Height, Body Mass Index and Mid-Upper Arm Circumference**.

- Next refer the groups to **Worksheet 2.5. Daily Register of NACS Clients from the Mawingu CTC**. Explain that the register contains information about seven children and four adults seen at this clinic in one day.

- Assign clients to each group as follows:
  - Group 1: Clients 1 and 2
  - Group 2: Clients 3 and 4
  - Group 3: Clients 5 and 6
  - Group 4: Clients 7 and 8
  - Group 5: Clients 9 and 10
  - Group 6: Client 11

- Ask the groups to use what they have learned about finding WHZ, BMI and MUAC and classifying nutritional status to fill in that information for each of their assigned clients. Explain that they should also check the boxes for age, HIV status and nutritional status.

- Ask one or two groups to present their results while the other groups fill in gaps as needed. The correct answers are shaded in the form on the next page.

- Explain that if measurements contradict each other, they should use the severer classification.

United Republic of Tanzania

Ministry of Health, Community Development, Gender, Elderly and Children

Daily Register of NACS Clients

No.	Client no.[1]	Date (dd/mm/yy)	Type of visit (tick ☑ appropriate)			Sex	Age group (tick ☑ appropriate)							Pregnant	Up to 6 months post-partum	Bilateral pitting oedema	WHZ	BMI or BMI-for-age	MUAC	Counselled on diet	Counselled on IYCF	HIV status (tick ☑ appropriate)				Nutritional status (tick ☑ appropriate)					Amount of specialised food product given				Follow-up status (tick ☑ appropriate)						Next appoint-ment date (dd/mm/yy)
			N[2]	R[3]	Ti[4]	M/F	0–6 months	7–11 months	12–23 months	24–59 months	5–14 years	15–17 years	18+ years									+[5]	–[6]	E[7]	U[8]	SAM inpatient	SAM outpatient	MAM	Normal	Overweight/obese	F-75 (packets)	F-100 (packets)	RUTF (packets)	FBF or RUSF (bags)	Transferred out	Treatment failuer[9]	Graduated[10]	Missed appointment (> 2 weeks)	Lost to follow-up[11]	Died	
1						F				✓							–3– <–2						✓					✓													
2						M					✓					✓								✓	✓																
3						M		✓									–3– <–2		11.9						✓			✓													
4						F		✓								✓	<–3		10.5						✓	✓																
5						M			✓								<–3		10.9				✓			✓															
6						M												18.1	20						✓			✓													
7						M					✓							17	15			✓						✓													
8						F								✓		✓			22			✓						✓													
9						M							✓					31					✓							✓											
10						F							✓					19	22			✓							✓												
11						M							✓					27	24			✓	✓							✓											
Total																																										

[1]Use CTC number. If client is referred from another service, use that service's file number. [2]New [3]Returning [4]Transferred in [5]HIV positive [6]HIV negative [7]Exposed child [8]Unknown status [9]Client's condition deteriorated, requiring medical transfer [10]Client reached target weight, WHZ, BMI, BMI-for-age or MUAC [11]Over 2 weeks late [12]Client missed more than three consecutive visits.

- Refer the groups to **Case Study. Imani, Musa and Faraja** in the **Participant Workbook.** Ask a volunteer to read Part 1 aloud.

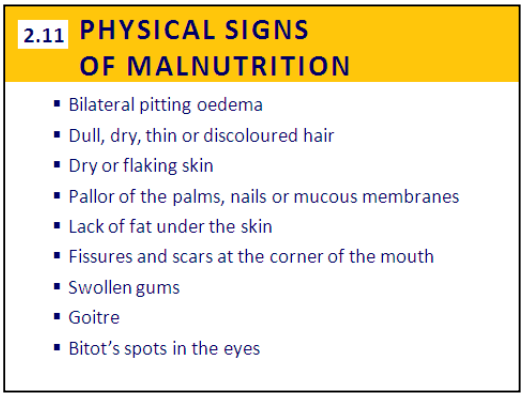
- Instruct the groups to use the appropriate algorithms and BMI chart to classify Imani's nutritional status. Then ask them to list Imani's other problems.

- Ask one or two groups to present their results and compare them with the information in the box.

Imani's nutritional status
Imani's BMI shows that he is moderately malnourished.
Other conditions are:
- Coughing
- Oral thrush
- Diarrhoea
- Skin problems

BRAINSTORM: What other physical signs indicate nutrition problems?

- Compare responses with the information in **Slide 2.11**.



GROUP WORK: ENERGISER

- Have participants stand in a circle. Ask each participant to say 'O, Kabita!' in as many different ways as possible, for example, happily, sadly, angrily, laughing, with fear, with surprise.

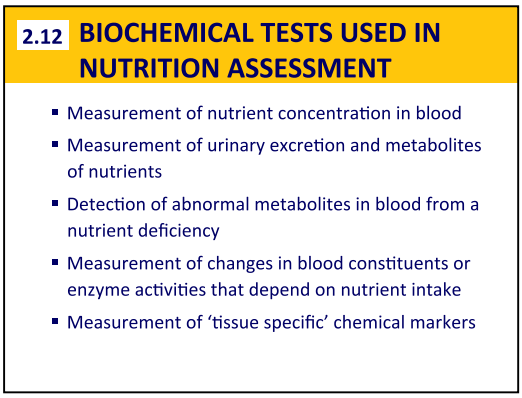
OR

- Have participants sit in a circle. Establish a rhythm, for example, clapping your thighs or hands and then clapping your neighbour's hands. Ask participants to pass this rhythm around the circle. Once the rhythm is moving steadily through the group, try to speed it up. Once the participants can do this, add more rhythms so that several rhythms are being passed around the circle at the same time.

2.4. BIOCHEMICAL ASSESSMENT (30 MINUTES)

- Explain that laboratory tests are helpful but not essential parts of nutrition assessment. Health care providers can obtain nutrition information from the results of blood, urine and stool tests.

- Show **Slide 2.12** on different lab tests that provide information on nutritional status. Explain that not every health facility may do all these tests, but health care providers can use any available lab results to assess the nutrition-related problems of their clients.



- Explain that lab test results can help identify clients who need nutrition care.
  - Blood count, glucose, electrolyte levels and lipid levels produce useful nutrition information.
  - Haematology (dried blood spots, haematocrit, haemoglobin, red and white blood cell counts) can assess mineral and vitamin status.
  - Serum cholesterol and serum triglyceride levels can assess lipid status, which can be used to estimate biochemical deficiencies.
  - Urinary measurements of body metabolism (e.g., creatinine, a product of muscle metabolism excreted into the urine) can estimate muscle mass utilisation.
  - Serum albumin concentration is a lab measure of nutritional status. A reduction in serum albumin can be caused by poor nutritional status (not eating enough protein or losing protein during illness), kidney dysfunction, liver disease, heart conditions, stomach problems such as inflammatory bowel disease, cancer, infections such as tuberculosis (TB) or TB medication side effects. Malnutrition in the hospital setting is defined as serum albumin levels of less than 3.2 g per dl.
  - Stool samples can show helminth (e.g., hookworm and ascaris) infection.

- Facilitate discussion on what lab test results are available for clients in the participants' workplaces and how they can use these results to determine nutrition care and treatment.

2.5. DIETARY ASSESSMENT (1 HOUR)

- Explain that diet history is an essential part of nutrition assessment. It provides information on the amount and quality of food a client has eaten, eating habits, food allergies and intolerances and reasons for inadequate food intake during illness. Health care providers should compare the information with recommended nutrient intake and counsel clients on how to improve their diets.

- Explain that there are different ways to assess diet. One is the 24-hour dietary recall, and another is the food frequency questionnaire.

- Refer the groups to **Reference 12. Taking a Dietary History**, which explains how to use both methods.

PRACTICE: 24-Hour Dietary Recall and Food Frequency Questionnaire

- Distribute the six copies of the **24-Hour Dietary Recall and Food Frequency Questionnaire** forms to the small groups. Explain that each group will practice using one of the methods. Groups 1, 2 and 3 will use 24-hour dietary recall, and groups 4, 5 and 6 will use the food frequency questionnaire. Ask one person in each group to volunteer to share her or his dietary history. Another group member should record the answers. Give the groups 20 minutes for this exercise. Then ask the groups to describe their experience practicing dietary assessment.

- Point out that dietary assessment has the following limitations:
  - Clients may have trouble remembering everything they eat and drink.
  - In a 24-hour dietary recall, the food eaten in one day may not represent the usual food intake.
  - Clients may over-report energy intake.

2.6. NUTRITION CARE PLAN C: SEVERE ACUTE MALNUTRITION (SAM) (4 HOURS)

- Explain that the final step in nutrition assessment is to give the client a Nutrition Care Plan.

- Explain that less than 5 percent of people in resource-poor countries are severely malnourished, approximately 20 percent are moderately malnourished, and 75 percent have normal nutritional status. Therefore, it is important for health care providers to understand how to manage each classification of nutritional status.

- Refer the groups to **Reference 13. Nutrition Care Plan Criteria**. Point out that there are different Nutrition Care Plans for different classifications of nutritional status. Explain that this chart can be used as a quick reference to classify nutritional status.

BRAINSTORM: What criteria classify children and adults as having SAM?

- Compare the response with the information in **Slide 2.13**.

2.13 CRITERIA FOR SAM

Adolescents and adults

- MUAC < 18.5 cm
- **OR** BMI < 16.0
- **OR** weight loss > 10% since the last visit

Women who are pregnant or up to 6 months post-partum

- MUAC < 19.0 cm

Children

- Bilateral pitting oedema
- **OR** severe visible wasting
- **OR** MUAC
  - 6 to 59 months: < 11.5 cm
  - 5 to 9 years: < 13.5 cm
  - 10 to 14 years: < 16.0 cm
- **OR** WHZ **OR** BMI-for-age < –3

- Show **Slides 2.14** to **2.16** with photos of severely malnourished children and adults. Ask participants whether they have seen such cases in their work.

2.14 CHILD WITH SAM (1)

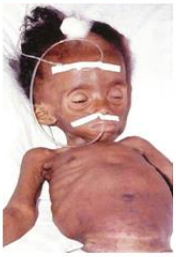
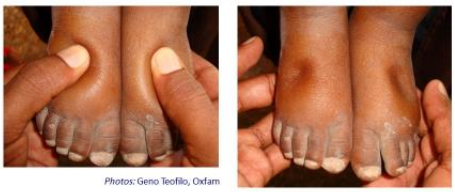


Photo: WHO. 2002. *Training Course on the Management of Severe Malnutrition.* Geneva: WHO.

2.15 CHILD WITH SAM (2)



Photos: Geno Teofilo, Oxfam

2.16 ADULT WITH SAM

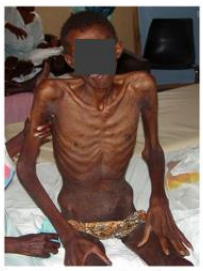
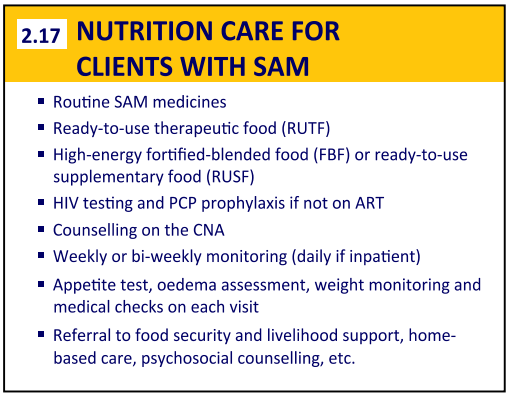


Photo: http://www.redpepper.co.ug/what-to-look-for-14-symptoms-of-hiv/

BRAINSTORM: What nutrition care do clients with SAM need?

- Compare the responses with the information in **Slide 2.17**.



PRESENTATION: Appetite test

- Explain that SAM, infections and some medications can cause loss of appetite. Severely malnourished clients should be given an appetite test to find out whether they can eat the therapeutic food used to treat SAM on their own and thus can be treated on an outpatient basis. If they cannot pass the appetite test, they will need to be admitted for inpatient treatment so they can be carefully monitored during treatment.

- Refer participants to **Reference 14. Doing an Appetite Test**. Ask volunteers to read each step aloud.

GROUP WORK: Nutrition Care Plan C

- Refer the groups to **Reference 15. Nutrition Care Plan C for Children from Birth to 14 Years of Age with Severe Acute Malnutrition (SAM).**

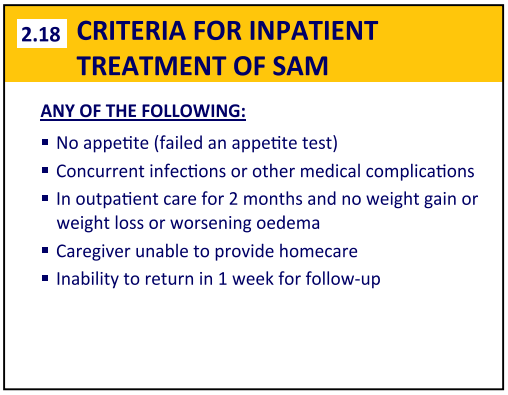
- Explain that Nutrition Care Plan C1 is for *inpatient* treatment of children with SAM and medical complications or no appetite and is divided into two sections:
  - I. Infants under 6 months and infants and children over 6 months weighing less than 4 kg
  - II. Children 6 months to 14 years

- Explain that Nutrition Care Plan C1 refers to but does not include all the steps in medical management of SAM in inpatient care.

- Explain that Nutrition Care Plan C2 is for *outpatient* treatment of children with SAM with appetite and no medical complications.

  IMPORTANT: Explain that only a small percentage of people with SAM have medical complications, and these are the people who seek medical treatment. **Most children and adults with SAM and no medical complications go undetected in the community**.

- Show **Slide 2.18** on the criteria for inpatient treatment of SAM.



- Refer the groups again to **Reference 15. Nutrition Care Plan C for Children from Birth to 14 Years of Age with Severe Acute Malnutrition (SAM)**. Point out that Nutrition Care Plan C1 for inpatient treatment of children with SAM includes separate information on care for infants under 6 months of age and children 6 months to 14 years of age.

- Point out that inpatient care of SAM includes medical treatment and nutritional treatment with specialised food products according to a standard protocol and strict eligibility criteria. The specialised food products are F-75, F-100 and other ready-to-use therapeutic food (RUTF). These are prescribed as medicine for severely malnourished clients.

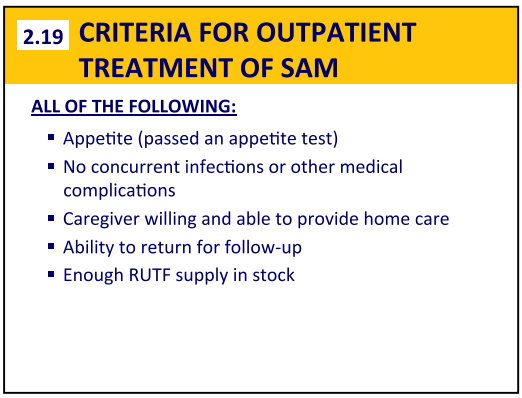
- Point out that there are three phases in inpatient treatment of SAM for children 6 months to 14 years of age.

    1. **Stabilisation phase.** Clients without appetite and with major medical complications are admitted into an inpatient facility and given F-75 therapeutic milk to promote recovery of normal metabolic function and nutrition-electrolyte balance. F-75 is formulated to prevent rapid weight gain, which is dangerous at this stage because it can lead to electrolyte imbalance.

    2. **Transition phase.** In this phase clients start to gain weight on F-100 therapeutic milk or a peanut-based RUTF. This diet results in about 30 percent increase in energy intake. Weight gain should be approximately 5 g per kg of body weight per day.

    3. **Rehabilitation phase.** This phase can take place in both inpatient and outpatient settings. Clients are given F-100 in inpatient management or peanut-based RUTF in outpatient management. These formulas are designed for weight gain of more than 8 g per kg of body weight per day.

- Show **Slide 2.19** on the criteria for outpatient treatment of SAM.



- Explain that in outpatient treatment of SAM, clients are prescribed specialised food products to consume at home. They have to be counselled that the food is medicine and should not be shared with other people in the household. Health care providers should demonstrate how to prepare, eat and store the specialised food products.

- Refer the groups again to **Case Study. Imani, Musa and Faraja** in the **Participant Workbook**. Ask a volunteer to read Part 2. Ask which Nutrition Care Plan the groups would use to treat Imani's severely malnourished son Musa based on what they know about his nutritional and health status (*ANSWER:* Nutrition Care Plan C1 for inpatient treatment of SAM).

- Now ask a volunteer to read Part 4 of the case study. Ask which Nutrition Care Plan the groups would use for Musa now that his medical complications have been treated and he is gaining weight (*ANSWER:* Nutrition Care Plan B for treatment of MAM).

- Ask the groups to use **Reference 15. Nutrition Care Plan C for Children from Birth to 14 Years of Age with Severe Acute Malnutrition (SAM)** and **Reference 16. Nutrition Care Plan C for Adolescents 15 to 17 Years of Age and Adults with SAM** to answer the questions in **Worksheet 2.6. Nutrition Care Plan C**.

- Ask one group to present its answers and let the other groups fill in gaps as needed. The answers are shaded in the box below. Facilitate discussion and answer questions as needed.

1. What nutrition and health criteria qualify children and adults for Nutrition Care Plan C?

POSSIBLE ANSWERS:

- Bilateral pitting oedema
- Severe visible wasting
- Children: WHZ **OR** BMI-for-age (5–14 years) < –3 **OR** MUAC*:*
  - 6 to 59 months: < 11.5 cm
  - 5 to 9 years: < 13.5 cm
  - 10 to 14 years: < 16.0 cm
- Adolescents 15–17 years: BMI-for-age < –3 **OR** MUAC < 18.5 cm

- Adults (not pregnant/post-partum: MUAC < 18.5 cm **OR** BMI < 16.0
- Pregnant/post-partum women: MUAC < 19.0

2. **What specialised food products are prescribed under Nutrition Care Plan C?**

   ANSWER: F-75, F-100, RUTF

3. **What other interventions/services do severely malnourished clients receive?**

   POSSIBLE ANSWERS:

   - Routine SAM medicines such as broad-spectrum antibiotics
   - Cotrimoxazole prophylaxis for HIV-positive clients
   - Deworming according to national guidelines
   - Ferrous sulphate tablets if clinical signs of anaemia
   - 200,000 IU of vitamin A if no oedema
   - Nutrition counselling

4. **How often should health care providers follow up severely malnourished clients?**

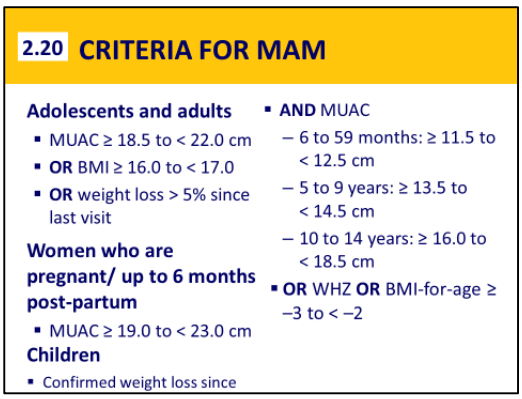
   ANSWER: Every 2 weeks

2.7. NUTRITION CARE PLAN B: MODERATE ACUTE MALNUTRITION (MAM) (2 HOURS)

- Remind participants that approximately 20 percent of people in resource-poor countries are estimated to be moderately malnourished.
- Ask participants to identify challenges they might face in providing care and support to moderately malnourished clients in their health facilities.

BRAINSTORM: What criteria classify people as having MAM?

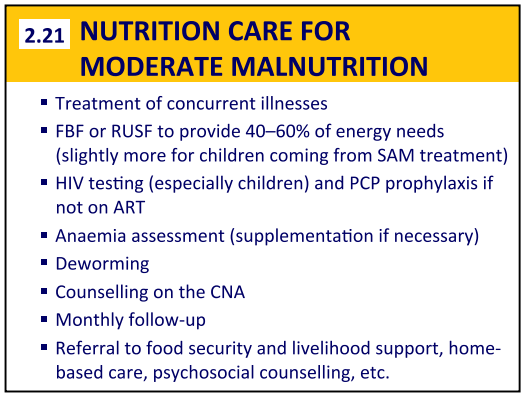
- Compare the responses with the information in **Slide 2.20**.



- Point out that the BMI cutoff for mild malnutrition is ≥ 17.0 to < 18.5 and the WHZ cutoff is ≥ –2.

BRAINSTORM: What nutrition care do clients with MAM need?

- For children with MAM, health care providers should find out whether improved breastfeeding and complementary feeding at home could solve the problem. Health care providers should always counsel adults and caregivers of children to eat a varied diet using traditional local foods before prescribing a commercially manufactured food, especially one that is imported and relatively expensive.
- Show Slide **2.21.**



GROUP WORK: Nutrition Care Plan B

- Ask the groups to answer the questions in **Worksheet 2.7. Nutrition Care Plan B** using:
  - **Job Aid 13. Algorithm for Managing Malnutrition in Children 6 Months to 14 Years of Age**
  - **Job Aid 14. Algorithm for Managing Malnutrition in Adolescents 15–17 Years of Age and Adults**
  - **Reference 17. Nutrition Care Plan B for Children 6 Months to 14 Years of Age with Moderate Acute Malnutrition (MAM)**
  - **Reference 18. Nutrition Care Plan B for Adolescents 15 to 17 Years of Age and Adults with MAM**
- Ask one group to present its answers and let the other groups fill in gaps as needed. Answers are shaded in the box below.

1. **What nutrition and health criteria qualify children and adults for Nutrition Care Plan B?**

   POSSIBLE ANSWERS:

   - Adults (not pregnant/ post-partum: BMI ≥ 16.0 to < 18.5 OR MUAC ≥ 18.5 to 22.0 cm OR weight loss > 5 percent since last visit
   - Pregnant/post-partum women: (≥ 19.0 to < 23.0 cm
   - Adolescents (15–17 years): BMI-for-age ≥ –3 to < – 2 OR MUAC ≥ 18.5 to < 22.0 cm
   - Children: WHZ (0–59 months) ≥ –3 to < –2 **OR** BMI-for-age (5–14 years) ≥ –3 to < –2 OR MUAC:
     - 6 to 59 months: ≥ 11.5 to < 12.5 cm
     - 5 to 9 years: ≥ 13.5 to < 14.5 cm
     - 10 to 14 years: ≥ 16.0 to < 18.5 cm

2. **What specialised food product is given to clients under Nutrition Care Plan B?**
   ANSWER: RUTF and FBF

3. **What key messages should health care providers give adults with MAM?**

   POSSIBLE ANSWERS:

   - Continue to eat three meals and two snacks every day, consuming 20–30 percent more energy from home foods.
   - Add groundnut paste, sugar, eggs or milk to enrich food.
   - If you have been prescribed any medicines, continue to take them as advised by the health care provider.
   - Get weighed every month.
   - Manage symptoms through diet.
   - Maintain good sanitation and hygiene.
   - Exercise to strengthen muscles and improve appetite.

5. **How often should health care providers follow up clients with MAM?**

   ANSWER: Every month

- Refer the groups to Part 6 of **Case Study. Imani, Musa and Faraja** in the **Participant Workbook**. Explain that Musa has been discharged from treatment for SAM but is still moderately malnourished. His mother, Faraja, is severely malnourished and being treated for TB. Ask the groups what support they would give Musa based on Nutrition Care Plan B and Faraja based on Nutrition Care Plan C. One participant in each group should write the responses on a flipchart. Give the groups a time limit of 10 minutes. Then ask one or two groups to present their results.

POSSIBLE ANSWERS:

MUSA

- Counsel his mother to increase his energy intake by 20–30 percent and to feed him three meals and two snacks a day.
- Give him 100 g of FBF per day to last until the next visit.
- Follow him up every month and monitor changes in his appetite and weight.

FARAJA

- Give her an appetite test on each visit.
- Provide routine SAM medicines.
- Give her 3 packets of RUTF per day to last for 2 weeks.
- Counsel her on how to manage symptoms through diet.
- Counsel her on hygiene and sanitation.
- Weigh her every 2 weeks to monitor her weight gain.

- Ask participants to identify challenges they might face in providing care and support to moderately malnourished clients in their health facilities and facilitate discussion of solutions.

2.8. NUTRITION CARE PLAN A: NORMAL NUTRITIONAL STATUS (1 HOUR)

- Remind participants that approximately 80 percent of people have normal nutritional status. Counselling and adequate health care are important to make sure that these people do not become malnourished.

BRAINSTORM: Most people with HIV who receive services at care and treatment clinics (CTCs) or prevention of mother-to-child transmission of HIV (PMTCT) clinics are not malnourished. Why is this?

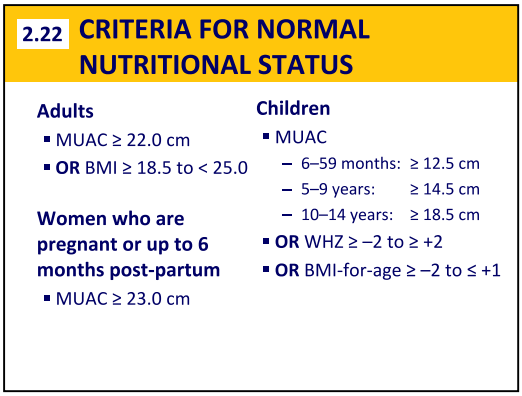
- Compare responses to the information in the box below.

Most people living with HIV are not malnourished because:

- They are in the initial stages of HIV and still asymptomatic (they have no AIDS-related illnesses that cause appetite loss or affect other aspects of nutrition).
- They only need 10–20 percent more energy (because of HIV infection) than HIV-negative people, which most can meet unless they are severely food-insecure.
- Most have begun treatment for illnesses or infections that could affect nutritional status, such as PCP (*Pneumocystis carinii pneumonia*) prophylaxis and treatment of opportunistic infections.

- Refer the groups again to **Job Aid 13. Algorithm for Managing Malnutrition in Children 6 Months to 14 Years of Age** and **Job Aid 14. Algorithm for Managing Malnutrition in**

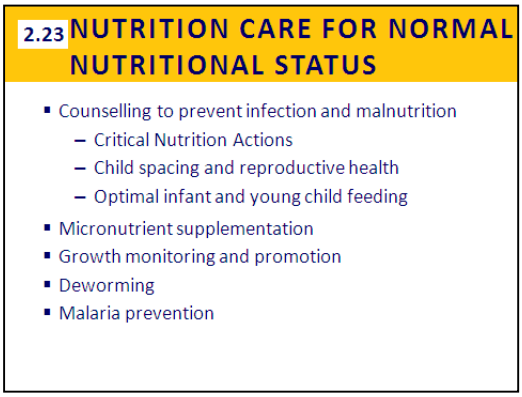
Adolescents 15–17 Years of Age and Adults and find what anthropometric measurements qualify children and adults as having normal nutritional status. Compare responses with the information on **Slide 2.22**.



- Ask the groups to find **Nutrition Care Plan A** in both tables. Explain that green represents 'OK'.

BRAINSTORM: What nutrition care do clients with normal nutritional status need?

- Compare responses to the information on **Slide 2.23**.



GROUP WORK: Nutrition Care Plan A

- Ask the groups to use the following resources to answer the questions in **Worksheet 2.8. Nutrition Care Plan A**:
  - **Job Aid 13. Algorithm for Managing Malnutrition in Children 6 Months to 14 Years of Age**
  - **Job Aid 14. Algorithm for Managing Malnutrition in Adolescents 15–17 Years of Age and Adults**
  - **Reference 19. Nutrition Care Plan A for Children 6 Months to 14 Years of Age with Normal Nutritional Status**
  - **Reference 20. Nutrition Care Plan A for Adolescents 15 to 17 Years of Age and Adults with Normal Nutritional Status**

- Ask one group to present its answers and let the other groups fill in gaps as needed. Answers are shaded in the following box.

1. **How much food does a healthy adult who is not pregnant or up to 6 months post-partum need to eat in a day?**

   ANSWER: Three balanced meals and two snacks a day to provide about 2,500 kcal.
2. **What snacks can provide 10 percent additional energy for an asymptomatic HIV-positive adult?**

   POSSIBLE ANSWERs: One mug of porridge, two medium sweet potatoes, one large coffee cup of milk, two and a half average-size bananas, two avocados, one small ladle of meat sauce and half a small ladle of vegetables, or 200 g of fried fish
3. **How many snacks a day should a woman who is pregnant or up to 6 months post-partum eat?**

   ANSWER: Two or more
4. **What can a caregiver add to porridge to increase a child's energy intake by 10 percent?**

   ANSWER: 2 teaspoons of margarine or oil and 1–2 teaspoons of sugar

- Refer the groups again to **Case Study. Imani, Musa and Faraja**. Ask a volunteer to read Part 7 aloud. Ask the groups to discuss how they would care for Faraja and Musa based on their nutritional and health status in Part 7.

- Ask two groups to share their responses in plenary. Facilitate discussion and fill in gaps as needed.

- Ask the groups to identify challenges they might face in providing this support in their workplaces.

GROUP WORK: Nutrition Assessment and Management Form

- Give each group three copies of the **Nutrition Assessment and Management Form**. Explain that this form is used to enrol and manage clients in NACS services. Health care providers should fill out the form for each client on admission and on every subsequent visit. The form is kept in the client's file.

- Ask a volunteer to read the information required at the top of the form. Answer any questions the participants have.

- Explain that it is important to record client information on this form to monitor progress.

- Explain that the information on this form is also useful for the health facility to monitor and improve integration of nutrition into service delivery.

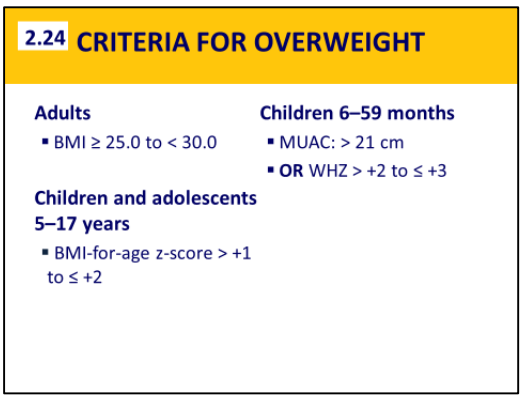
- Ask a volunteer to read each column heading aloud. Point out the explanations at the bottom of the page for different reasons for exiting treatment with specialised food products

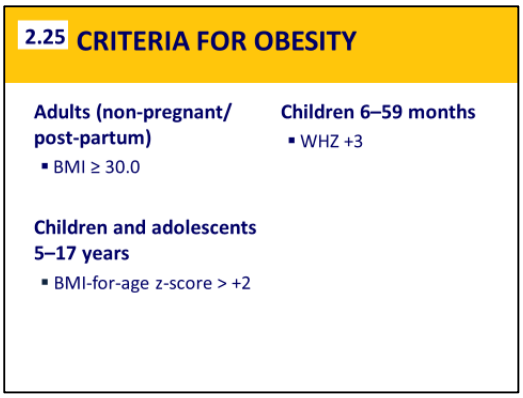
- Explain that it is important to record where clients are referred from and transferred to in order to track clients through the health care system and strengthen the continuum of care.

2.9. NUTRITION CARE PLAN D: OVERWEIGHT AND OBESITY (15 MINUTES)

- Explain that people who have overnutrition also need counselling and sometimes referral for medical attention because overweight and obesity are associated with chronic non-communicable diseases such as diabetes and hypertension.

- Show **Slides 2.24 and 2.25** with the cutoffs for overweight and obesity. Point out the different cutoffs for WHZ, BMI, BMI-for-age and MUAC.



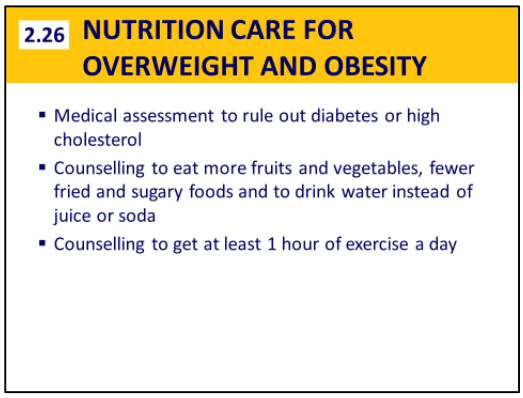


- Refer participants to **Reference 21. Nutrition Care Plan D for Children from 6 Months to 14 Years of Age with Overweight and Obesity**.

- Then refer participants to **Reference 22. Nutrition Care Plan D for Adolescents 15–17 Years of Age and Adults with Overweight and Obesity**.

- Point out that obese clients should be referred for medical assessment to check for chronic non-communicable diet-related diseases.

- Show **Slide 2.26**.



- Point out that both overweight and obese clients need referral for medical assessment and counselling on healthy eating and exercise.

DISCUSSION AND EVALUATION (10 MINUTES)

- Allow time for questions and discuss any issues that need clarification.

- Distribute copies of **Annex 3. Module Evaluation Form** for Module 2. Ask participants to fill them out and give them to you before they leave.

3 Nutrition Education, Counselling and Referral

MODULE 3. NUTRITION EDUCATION, COUNSELLING AND REFERRAL

6 hours

Based on nutritional status and dietary and other needs, health care providers can use the GATHER approach to counsel individual clients on the eight Critical Nutrition Actions (CNAs) to improve food intake, improve practices that increase vulnerability to infections, manage common conditions, prevent and avoid infections and manage medication side effects. Group education on similar nutrition topics can be provided in clinic waiting rooms. Health care providers should refer clients who need further clinical assessment, treatment or economic or social support to appropriate services and programmes in the area.

Purpose	Give participants skills to provide appropriate and effective nutrition education and counselling and to refer clients to other needed services.

Learning objectives	By the end of this module, participants will be able to: 1. Define counselling 2. List the skills needed for effective counselling 3. List considerations for planning a counselling session 4. Counsel using the GATHER approach 5. Recognise challenges in nutrition counselling and how to address them 6. Counsel on the CNAs 7. Refer clients to other clinical services and community programmes

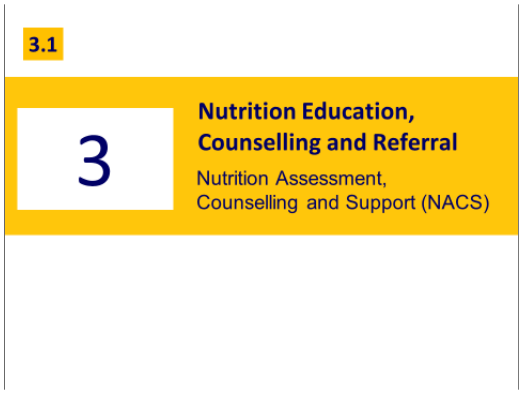
Materials needed

- Flipchart and stand
- Markers and tape
- LCD projector
- PowerPoint
- Ball
- Selection of nutrition education and counselling materials available in Tanzania
- Hand soap, basin of water and towel
- **Handouts** (copies for all participants)
  - NACS Referral Slip
  - Nutrition Assessment and Management Form
  - Annex 3. Module Evaluation Form for Module 3
- **Reference Manual**
  - Reference 6. Critical Nutrition Actions with Messages and Explanations
  - Reference 23. Nutrition Education
  - Reference 24. Nutrition Counselling
  - Reference 25. The GATHER Approach to Counselling
  - Reference 26. Food and Water Safety and Hygiene
  - Reference 27. Dietary Management of Common Symptoms
  - Reference 28. Food and Nutrition Guidance for HIV and Tuberculosis Medications
  - Reference 29. Community Continuum of Care
- **Job Aids**
  - Job Aid 1. A Balanced Diet
  - Job Aid 15. How to Wash Your Hands
  - Job Aid 16. Critical Times to Wash Your Hands with Soap or Ash
  - Job Aid 17. How to Take Care of Drinking and Cooking Water
- **Participant Workbook**
  - Case Study. Imani, Musa and Faraja
  - Worksheet 3.1. Bingo Sheet for Module 2 Review
  - Worksheet 3.2. Referring NACS Clients to Community Services

Preparation

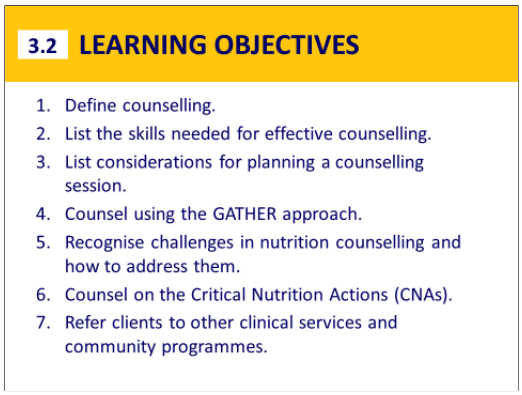
- Review PowerPoint slides for Modules 1–3 (copy the information onto a flipchart if you do not have an LCD projector).
- Review References 6 and 23 to 29 in the **Reference Manual**.
- Review **Job Aids** 1 and 15 to 17.
- Review the Case Study and Worksheets 3.1 and 3.2 in the **Participant Workbook**.
- If possible, find out what community services are available in the area for economic strengthening, food security, home-based care (HBC) or most vulnerable children (MVC), as well as support groups for people living with HIV.

- Show **Slide 3.1.**



OBJECTIVES (5 MINUTES)

- Present the module learning objectives on **Slide 3.2**.



REVIEW (20 MINUTES)

***If participants have been trained in Modules 1 and 2**, review Module 2. Nutrition Assessment, Classification and Care Plans.*

- Say, 'We are going to play a game to review what we learned in **Module 2**. It will take about 10 minutes'.

- Ask participants to find **Worksheet 3.1 Bingo Sheet for Module 2 Review** in the **Participant Workbook**. Point out that the sheet has nine boxes with an answer in each box.

- Ask participants to look at their sheets and mark the correct answers to questions you will ask. The first participant who marks three boxes in a row (vertically, horizontally or diagonally) should say 'Bingo!'

- Ask the questions in the box below and pause for 10 seconds after each question to give participants time to find the answers. The answers are shaded in the following box.

1. **What is the mid-upper arm circumference (MUAC) cutoff for severe acute malnutrition (SAM) in children 6–59 months of age?**

   ANSWER: < 11.5 cm

2. **What is the criterion for admission to inpatient treatment of SAM?**

   ANSWER: SAM with no appetite or with medical complications

3. **What specialised food product is given to clients under Nutrition Care Plan B?**

   ANSWER: Fortified-blended food (FBF)

4. **What anthropometric measure should be used for women who are pregnant or up to 6 months post-partum?**

   ANSWER: MUAC

5. **What are two signs of marasmus in children?**

   ANSWERS: Strong appetite and loss of fat on the buttocks and thighs

6. **What is the nutritional status of a child with WHZ greater than or equal to –2 and less than +2?**

   ANSWER: Normal

- Move on to **Section 3.1. Nutrition Education.**

***If participants have not been trained in Modules 1 and 2*:**

- Explain the meaning of the following abbreviations and acronyms: CNAs (Critical Nutrition Actions) and SAM (severe acute malnutrition).

- Health care providers who will do nutrition assessment and classification of nutritional status should be trained in Module 2. If Module 3 is used for refresher training on nutrition education and counselling and participants have not been trained in Modules 1 and 2, use the PowerPoint slides for **Modules 1 and 2** to review the topics in the box below.

Module 1. Overview of Nutrition

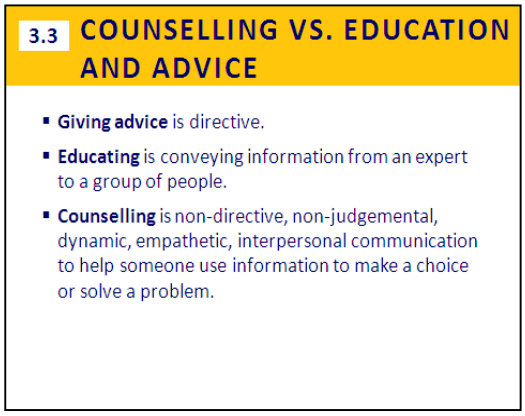
- Causes of malnutrition: poor food availability, intake, digestion/absorption, utilisation and excretion
- CNAs

Module 2. Nutrition Assessment, Classification and Care Plans

- Classifications of nutritional status
- Nutrition Care Plans, especially counselling points

BRAINSTORM: What is the difference between advice, education and counselling?

- Compare the responses with the information in **Slide 3.3**.



3.1. NUTRITION EDUCATION (40 MINUTES)

- Explain that nutrition education is conveying information to groups of people on topics of common interest. Clients can spend a long time in clinic waiting rooms. This is an excellent opportunity for group education on nutrition.

- Nutrition education sessions should be prepared in advance, on topics that cover issues and needs common to the group.

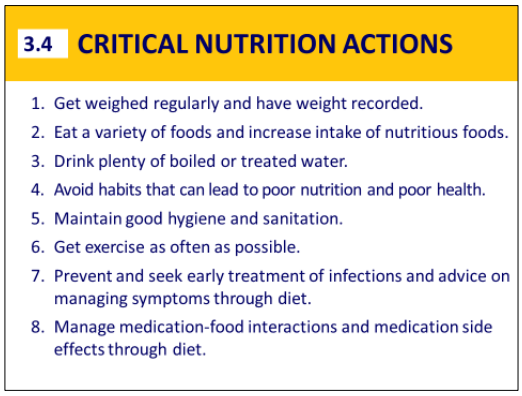
BRAINSTORM: Based on what you have learned so far in this training, what topics could you use for nutrition education?

- Write responses on a flipchart and facilitate discussion.

- Ask participants to compare their responses to the topics listed in **Reference 23. Nutrition Education**.

REVIEW: Critical Nutrition Actions

- Refresh participants' memories of the CNAs by showing **Slide 3.4**. Explain that any of these messages could be a topic for nutrition education.



- Facilitate discussion of the preparation needed for nutrition education sessions.

- Distribute copies of nutrition education materials approved by the Tanzania Food and Nutrition Centre (TFNC). Ask whether any of these are available in participants' workplaces.

- Facilitate discussion of the challenges health care providers might face in presenting the suggested topics.

3.2. DEFINITION OF COUNSELLING AND REQUIRED SKILLS
(1 HOUR)

- Remind participants that nutrition counselling is helping a person make decisions about changing behaviour to stay healthy.

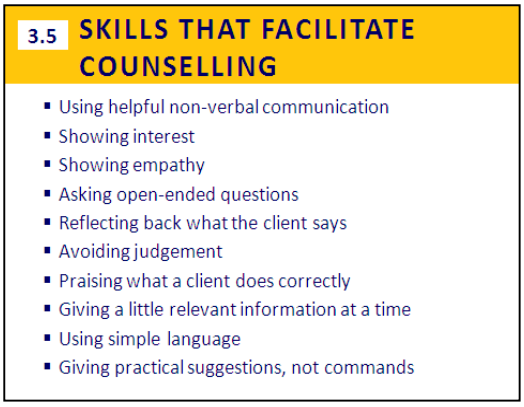
- Ask participants how they felt when someone told them to do something new or difficult (for example, stop smoking or get more exercise to lose weight). Did the person who told them what to do understood their situation? Could they easily change their behaviour? Did they feel defensive or resentful?

- Emphasize that a good counsellor does not judge what a client does but tries to understand the client's point of view and situation and work with the client to improve it.

BRAINSTORM: What makes someone a good counsellor?

- Give participants time to answer. Write responses on a flipchart.

- Show **Slide 3.5** and compare participants' responses to the skills listed.



- With another facilitator, **demonstrate** the skills below. One facilitator should role-play the counsellor, and the other should role-play the client. After each demonstration, ask participants what they thought the counsellor did well and what they should do differently.

1. Using non-verbal communication

Say **'**Good morning, Mary. How are you today?' in different ways, following the 'Dos' and 'Don'ts' below.

A. Posture

Don't: Stand with your head higher than the client's.
Do: Sit with your head at the same level as the client's.

B. Eye contact

Don't: Look in the distance or down or at your notes.
Do: Look at the client and pay attention to what he or she says.

C. Barriers

Don't: Sit behind a table and take notes while you talk.
Do: Sit in a chair right next to the client and listen to the client.

D. Patience

Don't: Greet the client quickly, show impatience and look at your watch.
Do: Sit down and greet the client without hurrying, smile, look at the client and wait for an answer.

2. Showing interest

Counsellor: Do you have any problems?
Client: *I don't have any appetite.*
Counsellor: That's not good. Come back in 2 weeks if you're still not eating.

Counsellor: (Smiling) Good morning, Robert. How are you feeling today?
Client: *All right, but I don't have any appetite.*

Counsellor: Is that so? People can lose their appetite for many different reasons. Are you feeling nauseated?
Client: *Yes.*
Counsellor: What have you been able to eat?
Client: *Just some juice.*
Counsellor: (Nodding) That's good. Would you like to know what you can do to feel less nauseated so you can eat more and gain some weight?
Client: *Yes, that would really help me.*

- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor didn't ask the client for any details and sent her away with no suggestion. In the second one, the counsellor greeted the client in a friendly way, showed interest in what he said, and offered to make suggestions to increase his appetite.

3. Showing empathy

Counsellor: How have you been feeling lately?
Client: *I'm eating very little, and I'm losing weight.*
Counsellor: Well, you should eat more.

Counsellor: Good morning, Mrs. Kasembe. How have you been feeling lately?
Client: *I'm eating very little, and I'm losing weight.*
Counsellor: Has anything happened lately to upset you?
Client: *Yes, my husband died recently.*
Counsellor: That must be very difficult for you. But there are things you can do to increase your appetite.

- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor judged the client for not eating enough. In the second one, the counsellor asked about the client's situation, showed that she understood the client's difficulty and offered to make suggestions to increase her appetite.

4. Asking open-ended questions

Counsellor: Good morning, Mr. Member. How do you feel today?
Client: *Well, thank you.*
Counsellor: Are you eating?
Client: *Yes.*
Counsellor: Are you having any problems?
Client: *No.*
Counsellor: Are you taking your medicines?
Client: *Yes.*

Counsellor: Good morning, Mr. Bwalya... How do you feel today?
Client: *I'm all right, but I don't have much appetite.*
Counsellor: Tell me, what have you been eating?
Client: *This morning I ate porridge. I don't know what I'll eat later.*
Counsellor: What kind of food do you have at home?
Client: *I think there's some rice and beans.*

- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor asked questions that the client could only answer with 'yes' or 'no'. In the second one, the counsellor asked questions that allowed the client to give more information about her situation.

5. Reflecting back what the client says

Client: *I have sores in my mouth and I can't eat.*
Counsellor: The sores make it painful to eat?
Client: *Yes, and I feel too weak to go out to my garden.*
Counsellor: If you can't go out to the garden, you must not be getting fresh vegetables to eat.
Client: *Yes, that's right.*

- Explain that repeating what clients say in a slightly different way makes them feel you're listening to them.

6. Not judging or criticising

Counsellor: May I see your ART card?
Client: *Here it is.*
Counsellor: This says you've lost weight since your last visit. This is very bad. You have to keep your weight up to stay healthy.
Client: *(Looks worried). . . I'm trying.*

Counsellor: May I please see your ART card?
Client: *Here it is.*
Counsellor: This says you've lost weight since your last visit. Is it because you're not eating?
Client: *I don't know. (Looks worried). . . I'm trying.*
Counsellor: Let's see if we can find out why you're losing weight and find a way to help you eat better.

- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor criticised the client for losing weight and made the client feel worried and reluctant to share more information. Making clients feel they're wrong reduces their

confidence and may make them reluctant to share more information. Counsellors don't have to agree with mistaken ideas, but they should suggest other possibilities in a neutral way, without agreeing or disagreeing. In the second one, the counsellor didn't judge the client but instead offered to help her.

7. Praising what a client does correctly

Counsellor: Are you taking your ARVs the way the doctor prescribed?
Client: *Yes, I'm trying, but sometimes I forget.*
Counsellor: You have to take them exactly as directed.

Counsellor: Are you taking your ARVs the way the doctor prescribed?
Client: *Yes, I'm trying, but sometimes I forget.*
Counsellor: It's very good that you're trying to take the medicine the way the doctor told you. That's important so the ARVs will work as they should. Would it help to make a calendar to remind you every day?

- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor told the client what she was doing wrong. In the second one, the counsellor praised the client for what she was doing right. Praise builds confidence and encourages clients to continue good practices. It also makes them more open to suggestions.

8. Giving a little relevant information at a time.

Client: *My baby is 6 months now. What should I feed her?*
Counsellor: Well, here is the situation. Most children need more nutrients than breast milk alone when they reach 6 months because breast milk has less than 1 milligram of absorbable iron and less calories, vitamin A, zinc, and other micronutrients. However, if you feed your baby foods that aren't prepared in a clean way, it can increase the risk of diarrhoea, and if you feed her poor-quality foods, she won't get enough calories to grow well.

Client: *My baby is 6 months old now. What should I feed her?*
Counsellor: I'm glad you've come to talk about it. It's a good idea to start with a little porridge cooked with boiled or treated water to get her used to the taste of different foods. Just two spoons twice a day to start with, while you keep breastfeeding her.

- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor gave too many details that could confuse the client, and the client would probably not be able to remember all the information. In the second one, the counsellor made one suggestion message to help the client solve her problem.

9. **Using simple language.**

Client: *I am having diarrhoea.*
Counsellor: That's because you have gastroenteritis from either a rotavirus, giardia, or E coli and food is passing too quickly through your colon.

Client: *I am having diarrhoea.*
Counsellor: That's because you have an infection in your intestines that makes it hard for your body to use food correctly. You may have gotten the infection from germs in food or water.

- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor used technical language that the client might not understand. In the second one, the counsellor tried to explain the situation in simple terms.

10. **Giving practical suggestions, not commands.**

Client: I don't have enough money to feed my children, and they're hungry.
Counsellor: You must feed them at least three times a day.

Client: I don't have enough money to feed my children, and they're hungry.
Counsellor: There's a program in town that gives food packages to families who need help. I can refer you there so you can talk to them and find out if you qualify.

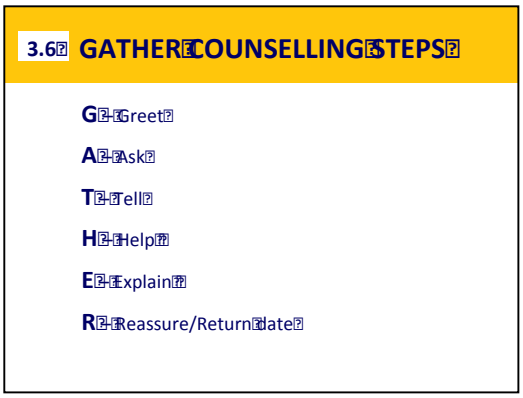
- Ask participants what was different about the two role-plays. (ANSWER: In the first one, the counsellor told the client what she should do but didn't help her figure out how to do it. In the second one, the counsellor realized the client needed help to solve her problem. Commanding clients to do something doesn't help them take responsibility for their actions and feel they're participating in the solution.

- Explain that participants can find these skills and more counselling techniques in **Reference 24. Nutrition Counselling**.

3.3. NUTRITION COUNSELLING USING THE GATHER APPROACH (2 HOURS)

- Write the letters *G A T H E R* vertically on a flipchart that all participants can see clearly. Ask participants what the initials might stand for in counselling.

- Write in the words and show **Slide 3.6**.



- Refer participants to Reference 25. The GATHER Approach to Counselling.

PRESENTATION: Counselling using the GATHER approach

- Refer participants again to **Case Study. Imani, Musa and Faraja** in the **Participant Workbook** under **Module 2**. Ask one participant to read Parts 1 and 3 aloud.
- With another facilitator, demonstrate counselling Imani on his visit to the care and treatment clinic (CTC) using the information in the case study and stressing the GATHER steps. Below is a suggested script for the demonstration.

Counsellor: Hello, Imani. Please sit down. How have you been feeling since you came here the last time?

Imani: I'm feeling a little better.

Counsellor: Let's check your weight (weighs Imani). I see you've gained 3 kg. That is good. You now weigh 47 kg. Are you still coughing?

Imani: No, and I haven't had any more diarrhoea.

Counsellor: Let me examine you. I see you still have the problem with your skin. I think it's time to find out if you can start taking antiretroviral medications, or ARVs. I'll need to ask you a few questions and do a few tests.

Imani: If I go on ARVs, what will I have to do?

Counsellor: It helps the ARVs work better if you eat three meals a day with foods from all the food groups and also eat two snacks a day. Of course, you shouldn't drink alcohol while you're taking ARVs.

Imani: That's a problem, because I don't have money to buy more food and I like to drink with my friends every day.

Counsellor: I can help you plan some simple meals you can make with foods you can afford. Do you think you could try them?

Imani: Yes, I'll try.

Counsellor: Good. When I see you again, we can talk about whether it was easy or difficult to buy and cook those foods. Now, what could you do about the drinking? Can you do other things with your friends, or maybe cut down the amount you drink?

Imani: My friends expect me to drink when I'm with them. Maybe I can go out with them only one night a week instead of every other night.

Counsellor: That would be a good start. We can see how it went when you come back. I'm sure you'll see that you'll feel better if you eat a more balanced diet and drink less alcohol. Can you come back in 2 weeks?

- Ask participants what GATHER steps they observed.

GROUP WORK: Role-play counselling using the GATHER approach

- Ask the participants to form their small groups and choose one person to role-play a client, one to role-play a counsellor and one to observe the counselling.

- Keep the information in the following box on a flipchart visible during this exercise.

A counsellor has to keep in mind:

1. The client's problem or need
2. The client's context
3. The desired behaviour
4. The barriers to and motivations for the behaviour
5. The message to give the client
6. The encouragement the client needs to carry out and sustain the behaviour

- Ask the observers to assess whether the 'counsellors' consider the information in this list and use the GATHER steps during the role-play.

- Refer the groups to Part 4 in **Case Study. Imani, Musa and Faraja** in Module 2 of the **Participant Workbook**. Explain that each group will role-play counselling Faraja using the GATHER approach. Ask the groups to consider that Musa is in outpatient treatment of SAM and to include any relevant CNAs in the counselling.

- Give the groups 10 minutes for the role-play. After 10 minutes, stop the exercise and ask the observers to take 3 minutes to give feedback.

- Ask the group members to switch roles so that each group member has a chance to role-play the counsellor. Set a time limit of 5 minutes for each of these additional role-plays.

- Move around the groups to observe the role-plays and provide feedback as needed.

GROUP WORK: ENERGISER

- Ask participants to form two lines facing each other, with about 1 m between them. Each line should have the same number of participants.

- Ask participants to hold their arms straight in front of them and overlap them by about a hand's length with the arms of the participants standing opposite them.

- Explain that one participant at a time will walk through the 'corridor' between the two lines, and the participants will raise and then lower their arms to create a 'wave' effect through which the single participant will walk.

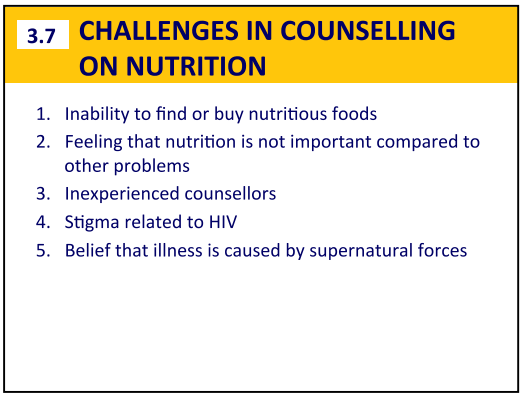
- Ask one participant to peel off and walk down the 'corridor' between the two lines, then join in again at the end of the line. Continue until all participants have passed through the 'corridor'.

- As the group gets more confident, invite participants to walk fast and then run down the 'corridor' while the participants in the line raise their arms in time.

- To end, ask the participants to chop their arms up and down, stopping only to allow the participant through.

BRAINSTORM: What challenges might you face when counselling clients, including people living with HIV, on nutrition?

- Compare response with the information on **Slide 3.7**.



BRAINSTORM: How could you address those challenges?

- Facilitate discussion of each challenge and compare participants' responses to the information on **Slide 3.8**.

3.8 ADDRESSING COUNSELLING CHALLENGES

1. Refer clients to food or economic support.
2. Counsel on the importance of nutrition to prevent and recover from illness, perform better at school and work and help medicines work effectively.
3. Learn more about nutrition and counselling methods.
4. Counsel people living with HIV in private and assure them that their information will be kept confidential.
5. Show evidence of improvement from nutrition interventions.

3.4. NUTRITION COUNSELLING MESSAGES (1 HOUR)

- Explain that counsellors should not only give messages to clients but also explain the reasons for those messages. Refer participants again to **Reference 6. Critical Nutrition Actions with Messages and Explanations**. Ask one volunteer to read each topic and another volunteer to read the messages for each topic.

GROUP WORK: RECALL GAME on the Critical Nutrition Actions

- Ask participants to stand in a circle. Throw the ball to one participant. Ask her or him to name one of the CNAs and then throw the ball to another participant. That participant should give a counselling message related to that CNA and throw the ball to another participant.

- The next participant who catches the ball should explain the reason for that message.

- Guide participants in deciding whether the explanation conveys the benefit of the behaviour. When the message is satisfactory, ask the participant to throw the ball to another participant and continue in the same way until all the CNAs have been covered.

Explain that the participants will look more closely at counselling on the following specific CNAs.

2. Eat a variety of foods and increase intake of nutritious food.
3. Drink plenty of boiled or treated water.
7. Prevent and seek early treatment of infections and advice on how to manage symptoms through diet.
8. Manage medication-food interactions and medication side effects through diet.

BRAINSTORM: Why should people eat a variety of foods from all food groups?

- Compare responses to the information in the box below.

No single food contains all the nutrients the body needs to stay strong and fight infection, except for breast milk for infants up to 6 months of age.

- Refer participants again to **Job Aid 1. A Balanced Diet**. Explain that they can use this job aid to counsel clients.

BRAINSTORM: Why are food and water safety and hygiene important, especially for people who are ill?

- Compare responses with the information on **Slide 3.9**.

- Refer participants to **Reference 26. Food and Water Safety and Hygiene** and ask volunteers to take turns reading the information aloud.

- Explain that handwashing is a simple action that everyone does every day but that it has to be done correctly to prevent infection. Refer participants to **Job Aid 15. How to Wash Your Hands**. Demonstrate correct handwashing technique using soap and a basin of water. Have another facilitator pour the water over your hands to rinse them.

BRAINSTORM: When should people wash their hands?

- Refer participants to **Job Aid 16. Critical Times to Wash Your Hands with Soap or Ash** and ask volunteers to compare the responses to the guidelines on the job aid.

BRAINSTORM: How do you treat drinking water at home?

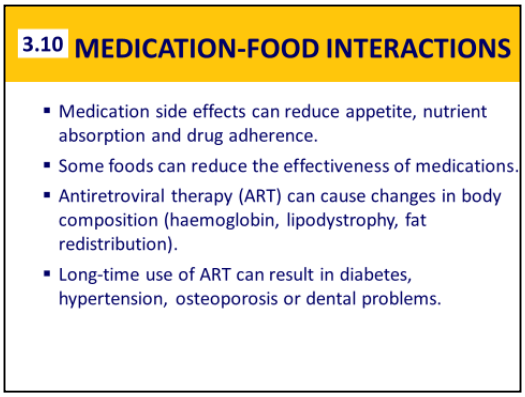
- Facilitate discussion about which methods (e.g., boil, filter, disinfect with water purification tablets or chlorine) clients could be counselled to use. Refer participants to **Job Aid 17. How to Take Care of Drinking and Cooking Water** and compare responses to the guidance on the job aid. Stress the importance of storing and serving water safely, because even boiled or treated water can become re-contaminated if it is touched by dirty hands or containers.

BRAINSTORM: How can people relieve symptoms of illness through diet?

- Compare the responses with the information in **Reference 27. Dietary Management of Common Symptoms**.

BRAINSTORM: How can medications affect food intake and nutrition?

- Ask participants what experience they have had with clients with HIV who have side effects from ARVs or difficulties taking ARVs with certain foods. Show **Slide 3.10**.



- Refer participants to **Reference 28. Food and Nutrition Guidance for HIV and Tuberculosis Medications**. Ask participants to share any food-related problems their clients may have had with any of the medications listed in the table.

- Explain that health care providers should ask clients what medications they are taking during nutrition assessment so they can counsel them on any medication-food recommendations.

BRAINSTORM: What does 'Take this medicine on an empty stomach' mean?

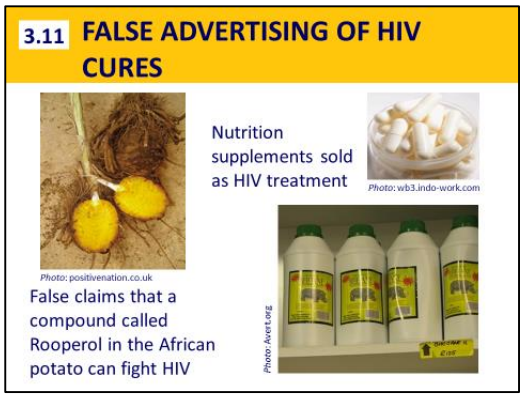
- Compare responses with the correct answer: 'Take 1 hour before eating or 2 hours after eating'.

- Explain that some health care providers in Tanzania tell patients to take medication '*meza kabla ya kula*' or '*meza wakati tumbo halina chakula'*. Ask participants what these words mean literally in English ('Take before eating' and 'Take on an empty stomach').

- Explain that clients might misunderstand these phrases. For example, they might think they should swallow the medication and then eat immediately. Health care providers should explain the timing carefully.

BRAINSTORM: What questions do clients have about vitamins, other supplements or tonics that are said to improve immunity or cure diseases, even HIV?

- Show **Slide 3.11** and explain that vitamins and minerals, particularly from fruits and vegetables, can strengthen the immune system. However, advertisers of commercial supplements or herbal medicines often make false claims, and these substances can reduce the effectiveness of other medicines, including ARVs, or cause side effects.



3.5. PROVIDING NUTRITION SERVICES ALONG THE CONTINUUM OF CARE (20 MINUTES)

BRAINSTORM: How could health facilities increase access to and use of nutrition care services?

- Compare the responses with the information in the box.

Ways to increase access to and use of nutrition services

1. Health education to increase awareness of the importance of nutrition and the signs and consequences of malnutrition
2. Training health care providers in nutrition
3. Home visits and counselling/food demonstrations by community health workers, for example, in HBC
4. Information provided to local leaders and media
5. Health and nutrition education materials (posters, brochures) about signs and risks of malnutrition
6. Improving the integration of NACS into routine health care services at key contact points
7. Improved coordination with other primary health care programmes
8. Community outreach

- Introduce the aims of community outreach to improve access to NACS services by showing **Slide 3.12**.

3.12 AIMS OF COMMUNITY OUTREACH

- Find malnourished people early and refer them for treatment before they develop serious complications.
- Increase awareness of the importance of nutrition and the causes, signs and treatment of malnutrition.
- Increase awareness of available nutrition services.
- Increase coverage and follow-up of clients.
- Link prevention and treatment of malnutrition.

- Ask participants how community members could help with nutrition screening and referral to clinic services. Compare responses to the information on **Slide 3.13**.

3.13 CHANNELS OF COMMUNITY OUTREACH

- **Home-based care (HBC) and most vulnerable children (MVC) services:** Measure MUAC to screen for malnutrition, refer malnourished people to health facilities and counsel people on the CNAs.
- **Local leaders:** Mobilise communities to seek NACS services.
- **Networks and support groups for people living with HIV:** Encourage members to practice the CNAs, measure MUAC and refer members to NACS services.
- **Local media:** Inform communities of NACS services and entry and exit criteria.

GROUP WORK

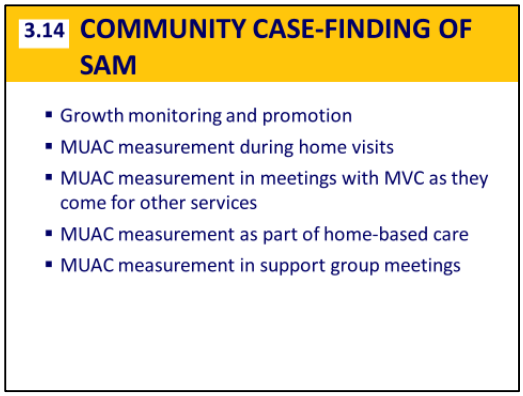
- Refer participants to **Reference 29. Community Continuum of Care**. Assign two of the 'What' topics to groups 1, 2 and 3 and the other three topics to groups 4, 5 and 6. Ask each group to read the information and discuss ways they could implement these ideas in their workplaces. Give the groups 10 minutes for this exercise.
- At the end of 10 minutes, ask one or two groups to present the results of their discussion in plenary.

BRAINSTORM: What is community case-finding?

- Compare the responses with the information in the box below.

Community case-finding is finding people with SAM in the community and referring them to treatment before they become so ill that they require expensive inpatient care.

- Show **Slide 3.14**.



BRAINSTORM: What is home-based care?

- Compare the responses with the information in the box below.

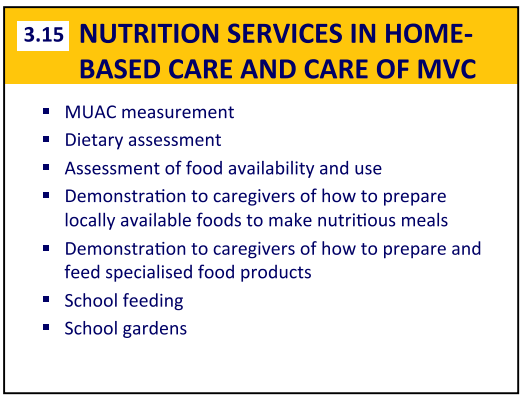
> Home-based care (HBC) provides care and support outside the hospital to people with prolonged illness and their families.

- Explain that HBC is part of the continuum of care for people living with HIV and can be provided through clinics, nongovernmental organisations, community support groups or social welfare services.

- Explain that 'MVC' means 'most vulnerable children'. MVC is used in Tanzania instead of the earlier term 'orphans and vulnerable children' (OVC) because many vulnerable children are not orphans. MVC are children who are vulnerable because they live in a child-headed household, with a disability or a chronically ill guardian, or in poor conditions and without one or both parents. They may or may not be HIV positive.

BRAINSTORM: What nutrition interventions can be provided as part of home-based care and care of most vulnerable children?

- Compare the responses with the information on **Slide 3.15**.



3.6. REFERRAL (25 MINUTES)

- Explain that community workers are also being trained in NACS so that they can do community case finding, basic nutrition counselling and referral of malnourished clients to health facilities.

- Explain that community workers complete the **Fomu ya Kukusanyia Taarifa ya Huduma ya Lishe** for individual clients that they screen and follow up in the community. If they find clients who are acutely malnourished or who have health or nutrition problems that require medical assessment, they refer them to health facilities using the **Fomu ya Rufaa ya Mteja ya Mtoa Huduma katika Ngazi ya Jamii**. Facility-based health care providers who receive or assess the referred clients should complete the bottom section of the referral form with the services provided and the name of the provider and return the form to the community worker.

- Explain that health care providers should fill out a **Health Facility NACS Client Referral Form** to refer clients to community services, e.g., economic strengthening/livelihoods/food security support.

- Refer participants to **Worksheet 3.2. Referring NACS Clients to Community Services**. Ask them to complete the assignments listed in the worksheet. Allow 15 minutes for this activity.

- After 15 minutes, ask one or two groups to share the results of the first assignment while other groups contribute additional information. Facilitate discussion.

- Ask whether participants had any difficulty completing the **Health Facility NACS Client Referral Form** and if so, clarify information as needed.

DISCUSSION

- Ask participants if they ever refer clients to community services or receive referrals from community programmes. If so, have these linkages improved their clients' outcomes? What problems have participants found in such referrals, if any?

DISCUSSION AND EVALUATION (10 MINUTES)

- Allow time for questions and discuss any issues that need clarification.

- Distribute copies of **Annex 3. Module Evaluation Form** for Module 3. Ask participants to fill them out and give them to you before they leave.

4 Nutrition Support

MODULE 4. NUTRITION SUPPORT

6 hours

Some malnourished clients can improve their nutritional status through a food-based approach—eating a better and more varied diet. Severely malnourished clients, however, need treatment with specially designed ready-to-use therapeutic food (RUTF) and supplementary food such as fortified-blended food (FBF). For moderately malnourished clients, the food-based approach can be combined with prescription of supplementary food. Health care providers need to know the clinical and anthropometric entry and exit criteria for nutrition therapy with these products and the duration of treatment. They also need to know how to collect and report data on specialised food products so that health facilities can order needed quantities and avoid stock-outs.

Purpose	Introduce participants to the purpose, use and management of specialised food products for clinically malnourished clients, including determining client eligibility and duration of treatment and managing commodities.

Learning objectives	By the end of this module, participants will be able to: 1. Explain why it is important to treat acute malnutrition 2. Describe the purpose and types of specialised food products 3. List entry and exit criteria for specialised food products 4. Correctly complete specialised food product forms and registers 5. Manage specialised food products

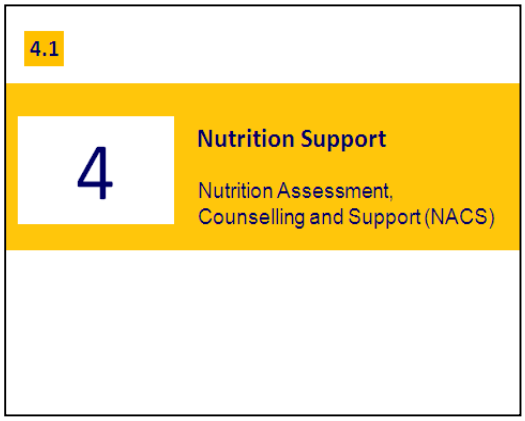
Materials needed

- Flipchart and stand
- Markers and tape
- LCD projector
- PowerPoint
- Six sets of 36 index cards
- At least 10 packets each of RUTF and FBF used in Tanzania
- Utensils and cooker to demonstrate preparation of the FBF
- Bottles of clean (boiled or treated) water for participants to drink
- Ball
- **Handouts (enough copies for all participants)**
  - Daily Register of NACS Clients
  - Nutrition Assessment and Management Form
  - NACS Prescription Form
  - Ration Card
  - Daily Specialised Food Product Dispensing Register
  - Monthly Specialised Food Product Report and Request Form
  - Annex 3. Module Evaluation Form for Module 4
- **Reference Manual**
  - Reference 14. Doing an Appetite Test
  - Reference 15. Nutrition Care Plan C for Children from Birth to 14 Years of Age with Severe Acute Malnutrition (SAM)
  - Reference 16. Nutrition Care Plan C for Adolescents 15 to 17 Years of Age and Adults with SAM
  - Reference 17. Nutrition Care Plan B for Children 6 Months to 14 Years of Age with Moderate Acute Malnutrition (MAM)
  - Reference 18. Nutrition Care Plan B for Adolescents 15 to 17 Years of Age and Adults with MAM
  - Reference 19. Nutrition Care Plan A for Children 6 Months to 14 Years of Age with Normal Nutritional Status
  - Reference 20. Nutrition Care Plan A for Adolescents 15 to 17 Years of Age and Adults with Normal Nutritional Status
  - Reference 30. Components of NACS
  - Reference 31. Specialised Food Products
- **Job Aids**
  - Job Aid 18. Entry, Prescription and Exit Criteria for Specialised Food Products
  - Job Aid 19. How to Feed Ready-to-Use Therapeutic Food to a Malnourished Child
  - Job Aid 20. Fortified-Blended Food and Ready-to-Use Supplementary Food
  - Job Aid 21. How to Store and Dispose of Specialised Food Product Packets
  - Job Aid 22. Recipes for Non-commercial Therapeutic Milks
  - Job Aid 23. NACS Protocol
- **Participant Workbook**
  - Case Study. Imani, Musa and Faraja (from Module 2)
  - Worksheet 4.1. NACS Client Flow and Staff Roles
  - Worksheet 4.2 Specialised Food Products

Advance preparation

- Review PowerPoint slides for Module 4 (copy the information onto a flipchart if you do not have an LCD projector).
- Review References 14, 15–20, 30 and 31 in the **Reference Manual**.
- Review **Job Aids** 18 to 22.
- Review the Case Study and Worksheets 4.1 and 4.2 in the **Participant Workbook**.

- Show **Slide 4.1.**



OBJECTIVES (5 MINUTES)

- Present the module learning objectives on **Slide 4.2**.

REVIEW (15–60 MINUTES)

If participants have been trained in Modules 1 to 3, *review Module 3. Nutrition Education, Counselling and Referral:*

- Ask participants to stand in a circle. Throw the ball to a participant and ask, 'What is the first step in the GATHER approach to counselling?' The participant should catch the ball and answer ('Greet the client') as quickly as possible, then throw the ball back to

you. Continue throwing the ball until participants have named all the steps in the GATHER approach (Greet, Ask, Tell, Help, Explain, Reassure/Return date).

- Next throw the ball to a participant and ask, 'What is one Critical Nutrition Action'? As soon as the participant answers, ask her or him to throw the ball to another participant and ask, 'What is another Critical Nutrition Action'? Ask the participants to continue until all eight Critical Nutrition Actions (CNAs) have been named. Participants who do not know the answers are 'out' and should cross their arms and keep them crossed.

Critical Nutrition Actions (CNAs)

1. Get weighed regularly and have weight recorded.
2. Eat a variety of foods and increase intake of nutritious foods.
3. Drink plenty of boiled or treated water.
4. Avoid habits that can lead to poor nutrition and poor health.
5. Maintain good hygiene and sanitation.
6. Get exercise as often as possible.
7. Prevent and seek early treatment of infections and advice on managing symptoms through diet.
8. Manage medication-food interactions and medication side effects through diet.

- Go to **Section 4.1. NACS Services** and **Reference 30. Components of NACS.**

***If participants have not been trained in Modules 1 to 3**:*

- Explain that this module is for health care providers who manage specialised food products and that the review of the content of Modules 1 to 3 is not a substitute for training in those modules.

- Explain the meaning of the following abbreviations and acronyms: CNA (Critical Nutrition Actions), SAM (severe acute malnutrition), HBC (home-based care) and MVC (most vulnerable children).

- Use the PowerPoint slides for **Modules 1 to 3** and **References 1 to 29** to review the topics in the box.

Module 1. Overview of Nutrition

- Causes of malnutrition: poor food availability, intake, digestion/absorption, utilisation and excretion
- Critical Nutrition Actions

Module 2. Nutrition Assessment, Classification and Care Plans

- Classification of nutritional status
- Nutrition Care Plans, especially counselling points

Module 3. Nutrition Education, Counselling and Referral

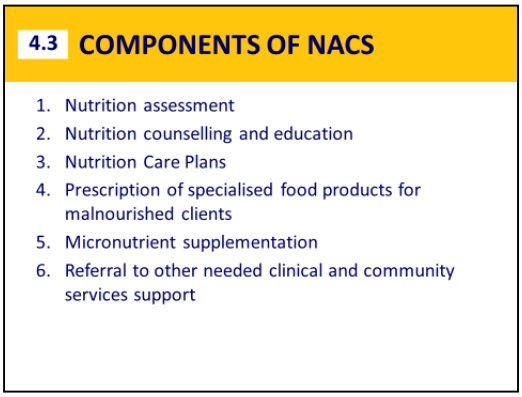
- Definition of counselling
- Counselling skills
- The GATHER approach to counselling
- A balanced diet
- Food and water safety and hygiene

- Explain the meaning of abbreviations and acronyms used in this module: SAM (severe acute malnutrition), MAM (moderate acute malnutrition), BMI (body mass index), MUAC (mid-upper arm circumference), WHZ (weight-for-height z-score), RUTF (ready-to-use therapeutic food) and FBF (fortified-blended food).

4.1. COMPONENTS OF NACS (15 MINUTES)

- Remind participants that 'NACS' stands for 'nutrition assessment, counselling and support'. There is no vertical NACS programme and no new points of service delivery for NACS. Nutrition services should be integrated into existing service delivery points.

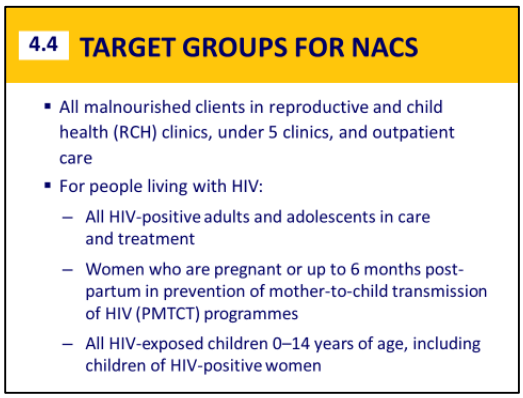
- Show **Slide 4.3** to explain the components of NACS services.



- Refer participants to **Reference 30. Components of NACS**. Ask volunteers to read each component aloud. Facilitate discussion about why each component is important to promote good nutrition and prevent and treat acute malnutrition.

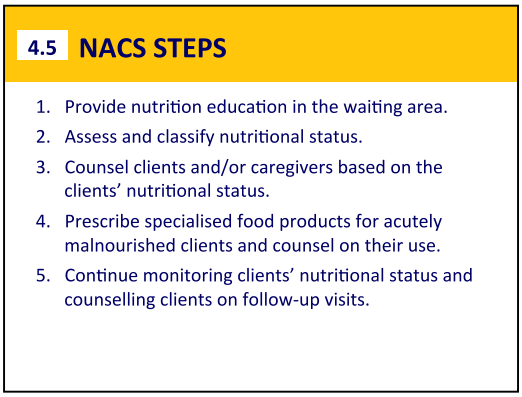
BRAINSTORM: What clients does NACS target?

- Compare the responses with the information in **Slide 4.4**.



BRAINSTORM: What are the steps in NACS services?

- Ask participants to think about the sequence of steps in nutrition assessment, counselling and support. Compare the responses with the information in **Slide 4.5**.



4.2. NACS CLIENT FLOW AND STAFF ROLES (45 MINUTES)

GROUP WORK

- Distribute one set of 36 index cards to each group.
- Assign three groups to work on reproductive and child health (RCH)/prevention of mother-to-child transmission of HIV (PMTCT) services and three groups to work on care and treatment clinic (CTC) services.
- Ask the groups to identify the steps a client goes through in their clinics, write each step on a card and number the steps in order. Give a time limit of 10 minutes.
- After 10 minutes, ask the groups to tape their cards on a flipchart in front of the room. Once all the cards are posted in order, facilitate discussion about whether all the steps

are relevant and in the right sequence. The steps and sequence may differ from one facility to another.

- Next ask the groups to identify a NACS service that could be provided at each step (e.g., anthropometric assessment, dietary assessment, clinical assessment, prescription of specialised food products). They should write these services on cards (one service per card). Give a time limit of 10 minutes.

- After 10 minutes, ask the groups to tape the NACS service cards on the flipchart under the relevant steps. Once all the cards are posted in order, facilitate discussion about whether all the services are appropriate and in the right sequence.

- Next ask the groups to write the titles of the staff responsible for each NACS service on cards (one title per card). Give a time limit of 10 minutes.

- After 10 minutes, ask the groups to tape the NACS staff responsibility cards on the flipchart, under the relevant services. Once all the cards are posted in order, facilitate discussion about challenges participants might face in their workplaces in implementing NACS services.

- Ask the groups to draw the arrangement of their cards on **Worksheet 4.1. NACS Client Flow and Staff Roles**. Remind them to include the NACS services and staff titles for each step. Give 10 minutes for this activity. Then ask each group to present its results in plenary.

- Explain that this module focuses on Step 4 in **Slide 4.5**: Prescribe specialised food products for acutely malnourished clients and counsel on their use.

4.3. SPECIALISED FOOD PRODUCTS TO TREAT MALNUTRITION (1½ HOURS)

- Remind participants that NACS includes nutrition assessment, nutrition counselling, and nutrition support and that each component is equally important.

- Explain that specialised food products are only one form of nutrition support, one that health facilities can provide as medicine to treat acute malnutrition. Health facilities that do not have specialised food products can still provide nutrition counselling and referral to economic strengthening, livelihoods and food security support in the community.

- Show **Slide 4.6** on specialised food products for acutely malnourished people. Ask a volunteer to read aloud the last point on the slide. Stress that specialised food products are **prescribed as medicine** according to a standard protocol and strict eligibility criteria to treat a serious medical condition and are not intended to supplement a family's diet.

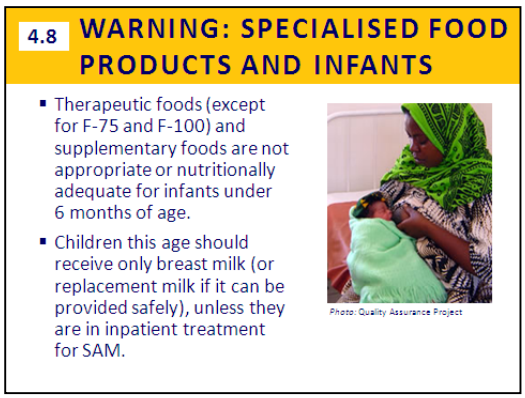
- Refer participants to **Reference 30. Specialised Food Products**. Ask volunteers to take turns reading each section aloud.

- Show **Slide 4.7** to explain the purpose of specialised food products.

- Facilitate discussion about how specialised food products can improve adherence to medication (they can improve nutritional status to make medicines more effective and be an incentive for clients to return for follow-up visits).

- Facilitate discussion about how specialised food products can improve birth outcomes and child survival (a well-nourished woman has a lower chance of giving birth to a low-birth-weight infant, and children with SAM can be treated and their caregivers counselled to maintain their improved nutritional status).

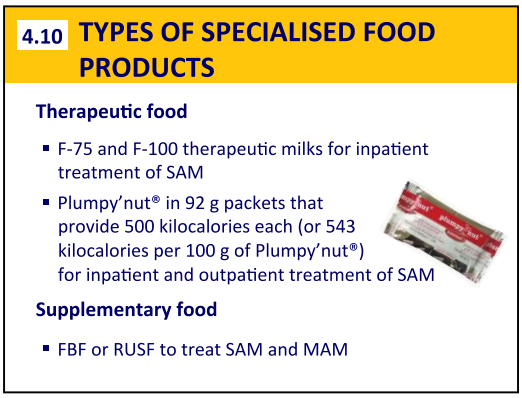
- Show **Slide 4.8** to reinforce the message that therapeutic and supplementary foods are not appropriate for infants under 6 months.



BRAINSTORM: How are specialised food products different from other food support?

- Compare responses with the information on **Slide 4.9**. Stress that specialised food products are special formulations prescribed as medicine according to a standard protocol and have strict eligibility criteria for individual clients to treat acute malnutrition, while food support is usually staple foods given to households to improve food security. Facilitate discussion.

- Show **Slide 4.10** on the most common types of specialised food products.



GROUP WORK: Preparing, tasting and analysing specialised food products

- Distribute one packet of RUTF and one packet of FBF to each group. Also distribute a cooker, pot, spoons and water to each group.

- Ask the groups to open their packets of RUTF. Instruct **all participants** to taste the food. Ask them to consider the flavour, taste, texture and whether or not they like the food.

- Then ask the groups to prepare the FBF, reading aloud the directions on the packet. Move around the groups to make sure the food is prepared correctly. After the food is prepared, ask each participant to taste it, again considering the flavour, taste, texture and whether or not they like the food. **All participants must taste the food**.

- Refer the groups to **Worksheet 4.2. Specialised Food Products**. Ask the groups to fill out the matrix by referring to the food packages and to answer the three questions at the bottom of the page. Give the groups 10 minutes for this activity.

- After 10 minutes, ask one group to present its results in plenary. The answers to the questions in the matrix are shaded below.

Worksheet 4.2. Specialised Food Products

Question	RUTF	FBF
1. Name of the specialised food product	(depends on brand)	(depends on brand)
2. Number of grams in the packet	92	300
3. Total calories per packet	500	1,350 (450 kcal per 100 g)
4. Micronutrients	23 (13 vitamins and 10 minerals)	(depends on brand)
5. Level of Recommended Dietary Allowance (RDA) of most of the micronutrients	Approximately 1	Between 0.5 and 1.2
6. Is water needed for preparation? (Yes/No)	No	Yes
7. Is water needed when you eat the food? (Yes/No)	Yes	No
8. Taste, consistency and texture	(up to each participant)	(up to each participant)
9. Expiry date	(depends on the package)	(depends on the package)

- Ask volunteers to read their answers to the three questions under the table in **Worksheet 4.2. Specialised Food Products**.

- Facilitate discussion about challenges clients might face in preparing and eating specialised food products. Fill in gaps as needed with the points in the box.

> - Clients may not have access to clean, safe (boiled or treated) water to drink with the RUTF or use to prepare the FBF.
> - Clients may not like the taste or texture and may not want to eat the entire ration.
> - Clients may want to share their rations with others in the family, depriving themselves of the required nutrients to treat their malnutrition.

- Explain that health facilities that do not have commercial F-75 and F-100 can prepare these products themselves. Refer participants to **Job Aid 22. Recipes for Non-commercial Therapeutic Milks**. Point out that the recipes for F-75 and F-100 using full cream milk powder, skim milk powder, or fresh milk.

- Explain that some severely malnourished children do not produce enough enzymes to absorb sucrose and lactose, and can develop diarrhoea if given the standard preparations of F-75. For these children, another recipe is included on the second page that uses less sugar and includes cereal flour. Point out the directions for mixing the milks at the bottom of the second page.

- Also point out the ingredients on the third page of the job aid that health facilities can mix to make Combined Mineral and Vitamin Mix if this is not available.

GROUP WORK: ENERGISER

- Ask participants to stand up and form a circle. Teach the participants to chant the nonsense words 'Sagidi sagidi sapopo'. Let them practice three or four times. Join the circle. Explain that you will do different actions as the group chants 'Sagidi sagidi sapopo'. The person to your left should copy your action and the person to her or his left should follow and so on until you change actions. Ask participants to start chanting. Snap your fingers, clap your hands, whistle or stamp your feet to the rhythm of the chant, allowing enough time for at least half the circle to copy the action before changing.

4.4. ENTRY AND EXIT CRITERIA FOR SPECIALISED FOOD PRODUCTS (45 MINUTES)

REVIEW: Classification of nutritional status

- Remind the groups that bilateral pitting oedema, the presence of appetite and medical complications, and anthropometric measurements are used to assess nutritional status.

- Review the classifications of nutritional status: SAM, MAM, normal nutritional status, overweight and obesity.

GROUP WORK

- Refer the groups to **Job Aid 18. Entry, Prescription and Exit Criteria for Specialised Food Products**.

- Ask volunteers to read the entry criteria (cutoffs) for each group of clients. Point out that the cutoffs for adolescents 15–17 years are the same as for adults. They are grouped separately here because they are under 18 but too old to be grouped with children 6 months to 14 years.

- Stress that any client, adult or child, with bilateral pitting oedema should be classified automatically as having SAM, regardless of anthropometric measurements.

- Assign NACS target groups as listed below.
  - Groups 1 and 2: Children 6 months to 14 years, with SAM or MAM
  - Groups 3 and 4: Adolescents and adults who are not pregnant or up to 6 months post-partum with SAM or MAM
  - Groups 5 and 6: Women who are pregnant or up to 6 months post-partum with SAM or MAM

- Ask each group to identify any challenges they might find in using the entry criteria (e.g., clients who do not know their age or pregnancy status) and ways to address these challenges. Give the groups a time limit of 20 minutes.

- After 20 minutes, ask each group to present its results in plenary. Facilitate discussion and answer questions as needed.

4.5. MANAGING CLIENTS ON SPECIALISED FOOD PRODUCTS (2¼ HOURS)

- Show **Slide 4.11** on the steps to follow for prescribing and monitoring specialised food products. Keep this slide in view for the rest of the module.

4.11 PRESCRIBING AND MONITORING SPECIALISED FOOD PRODUCTS

1. Classify nutritional status.
2. Do a medical assessment.
3. Decide whether to treat the client as an outpatient or refer to inpatient care.
4. Prescribe specialised food products as needed.
5. Counsel on how to use the specialised food products.
6. Record all specialised food products given to the client.
7. Exit the client when the target weight, MUAC or BMI is reached.

- Point out bullet 1 on **Slide 4.11**.

4.5.1. CLASSIFY THE CLIENT'S NUTRITIONAL STATUS.

BRAINSTORM: What anthropometric measurements and indexes can be used to classify a client's nutritional status?

- Write responses on a flipchart and compare them to the information in the following box and fill in gaps as needed.

> - Weight
> - Height
> - WHZ for children 6 months to 14 years of age
> - MUAC for children 6 months to 14 years of age, adolescents 15–17 years of age and adults, and pregnant and post-partum women
> - BMI for non-pregnant/post-partum adolescents 15–17 years of age and adults
> - BMI-for-age for children and adolescents 5–19 years of age

- Point out bullet 2 on **Slide 4.11**.

4.5.2. DO A MEDICAL ASSESSMENT.

- Explain that clients with SAM should receive a medical assessment. The medical assessment consists of a medical history and physical examination.

- Explain that taking a medical history should include asking about breastfeeding history (for children up to 6 months), immunisation status, foods and fluids taken in the past few days and duration and frequency of vomiting or diarrhoea.

- Explain that the physical examination includes assessing the client for bilateral pitting oedema and other medical complications and doing an appetite test.

BRAINSTORM: What medical complications should health care providers look for in severely malnourished clients?

- Compare the responses with the information in the box below.

- Bilateral pitting oedema
- Wasting
- Anorexia or poor appetite
- Persistent diarrhoea
- Nausea or vomiting
- Severe dehydration
- High fever (> 38.5° C)
- Difficult or rapid breathing or increased pulse rate
- Convulsions
- Severe anaemia
- Mouth sores, thrush or difficulty swallowing
- HIV
- Hypothermia (temperature < 35° C)
- Hypoglycaemia
- Lethargy or unconsciousness
- Extreme weakness
- Opportunistic infections
- Extensive skin lesions

- Explain that health care providers can ask the client or caregiver about medical complications or refer to the client's medical records.

BRAINSTORM: Why should clients be given an appetite test?

- Compare responses with the information in the box.

SAM, infections and some medications can cause loss of appetite. Clients with SAM must be given an appetite test to find out whether they are able to eat RUTF and can be treated on an outpatient basis. If not, they have to be treated in inpatient care.

GROUP WORK

- Refer the groups to **Reference 14. Doing an Appetite Test**. Ask volunteers to read each step aloud.

- Ask volunteers to repeat the amounts of RUTF clients of different weights must eat to pass the appetite test.

- Explain that if the appetite test is inconclusive, the client should always be referred to inpatient care until appetite has been restored.

- Explain that appetite should be tested on admission and at each follow-up visit.

- Point out bullet 3 on **Slide 4.11**.

4.5.3. Decide whether to treat the client as an outpatient or inpatient.

PRESENTATION: Determining whether to treat severely malnourished clients as inpatients or outpatients

- Explain that a client with SAM and with medical complications and no appetite should be referred automatically to inpatient treatment of SAM. Inpatient treatment is done in a health facility that provides 24-hour care. Inpatient treatment is provided according to the national protocol for treatment of acute malnutrition and/or the WHO guidelines for the stabilisation of SAM.

- Explain that a client with SAM and no medical complications who passes the appetite test can be treated as an outpatient. Generally, fewer than 20 percent of children with SAM have medical complications that need inpatient care. Most clients with SAM are treated as outpatients.

- If the participants were trained in **Module 2. Nutrition Assessment, Classification and Care Plans**, refer them to the **Nutrition Assessment and Management Form**. If they were not trained in **Module 2**, distribute three copies of the form to each group.

- Ask the groups to find column 7 (Medical complications? *Y/N*) and column 8 (Appetite? *Y/N*). Explain they should mark *Y* if the client has medical complications and appetite and *N* if not.

GROUP WORK

- Refer the groups to **Case Study. Imani, Musa and Faraja** in **Module 2** of the **Participant Workbook**. Ask the groups to fill out three copies of the **Nutrition Assessment and Management Form**: One for Imani on his first clinic visit (Part 1), one for Musa on his first clinic visit (Part 2) and the third for Faraja on her first visit (Part 5). Encourage the groups to use **Job Aid 13. Algorithm for Managing Malnutrition in Children 6 Months to 14 Years of Age** and the Nutrition Care Plans in **References 15 to 20** to find the information.

- Explain that the **Case Study** does not include enough information to fill in all the columns for these three clients.

- Move among the groups to make sure the forms are filled in correctly.

- Ask one group to present its results in plenary and ask the other groups to make corrections as needed. The correct information is shown in the illustrative form below. Correct as necessary and facilitate discussion.

United Republic of Tanzania

Ministry of Health, Community Development, Gender, Elderly and Children

NACS Record No. **[__][__][__][__]**

Nutrition Assessment and Management Form

Region _____ District_____ Facility name_____ Facility code _____

Entry point into NACS (*tick one*☑): ☐ RCH ☐ PMTCT ☐ MCH ☐ CTC ☐ TB/DOTS ☐ MVC ☐ Other_____

Client number[1] **_____** **Sex** (*tick one*☑): ☐M ☐F

HIV status (*tick one* ☑): ☐HIV positive ☐HIV negative ☐Unknown HIV status ☐HIV-exposed child (status unknown) ☐HIV+ pregnant ☐ HIV+ up to 6 months post-partum

Age (years) _____ Age group (*tick one*☑): ☐0–6 months ☐7–11 months ☐12–23 months ☐24–59 months ☐5–14 years ☐15–17 years ☐18+ years

Transferred/referred to _____ Date ___/___/___

If specialised food products are prescribed: Date of entry ___/___/___ Date of exit ___/___/___ Number of weeks on treatment

	Visit no.	Date (dd/mm/ yy)	Bilateral pitting oedema? (Y/N)	Medical complications? (Y/N)	Appetite? (Y/N)	Length/height (cm)	Weight (kg)	MUAC (cm)	WHZ	BMI or BMI-for-age	Pregnant? (*Tick* ☑ *if yes*)	Counselled on diet? (*Tick* ☑ *if yes*)	Counselled on IYCF (*Tick* ☑ *if yes*)	Nutritional status					Amount of specialised food product given				Follow-up status (tick ☑ appropriate)					
														SAM inpatient	SAM outpatient	MAM	Normal	Overweight/obese	F-75 (packets)	F-100 (packets)	RUTF (packets)	FBF (Bags)	Linked to community service	Treatment failuer[2]	Graduated[3]	Missed appointment (> 2 weeks)	Lost to follow-up[4]	Died
Imani	1		**N**	**Y**	**N**	**168**	**44**			**BMI 18**		**N**		✓					✓		✓							
Musa	1		**Y**	**Y**		**91**	**10**		**< – 3**			**Y**		✓					✓									
Faraja	1		**N**	**Y**	**Y**			**182**			✓	✓	✓		✓						✓							

[1] Use CTC number; if client is referred from another service, use that service's file number. [2] Client's condition deteriorated, requiring medical transfer. [3] Client reached target weight, WHZ, BMI or MUAC. [4] Client did not return for three consecutive visits.

- Point out bullet 3 on **Slide 4.11**.

4.5.4. PRESCRIBE SPECIALISED FOOD PRODUCTS AS NEEDED.

GROUP WORK

- Refer the groups to **Job Aid 18. Entry, Prescription and Exit Criteria for Specialised Food Products** and to **References 15 to 20** (Nutrition Care Plans). Point out the tables for prescribing specialised food products by weight in **References 15 and 16**.

- Assign Nutrition Care Plans as follows:
  - Groups 1 and 2: Nutrition Care Plan C1
  - Groups 3 and 4: Nutrition Care Plan C2
  - Group 5: Nutrition Care Plan B
  - Group 6: Nutrition Care Plan A

- Ask the groups to find the amounts of specialised food products to prescribe to clients on entry in each Nutrition Care Plan.

- Ask a participant from each group to write the name of its Nutrition Care Plan on a flipchart and the amount of specialised food products to prescribe to clients (the group with Nutrition Care Plan A should write 'None').

- Give each group a copy of the **NACS Prescription Form**. Explain that health care providers will use this form to prescribe specialised food products for malnourished clients.

- Explain the information on water purification at the bottom of the form by saying that some health care facilities give clients products to take home to treat drinking water.

- Ask a volunteer to read aloud the information to record in each row at the top of the form. Answer any questions participants have.

- Next ask a volunteer to read aloud the column headings in the table. Answer participants' questions.

- Explain that the **NACS Prescription Form** is in a carbon copy book with three copies. One copy stays in the book as a record, one copy goes into the client's file and one copy goes with the client to give it to the pharmacist when picking up the prescription. Health care providers should sign the form at the bottom next to 'Prescriber'. Pharmacists should sign the copy brought by the client next to 'Dispenser' and retain it for record keeping.

- Refer the groups again to **Case Study. Imani, Musa and Faraja** in **Module 2** of **NACS Prescription Form** for Imani, one for Musa and one for Faraja with the type and amount of specialised food products to prescribe using **Job Aid 18. Entry, Prescription and Exit**

Criteria for Specialised Food Products and **References 15 to 20** for this exercise.

- Instruct the participants to fill in the boxes for quantities of food and number of days as follows: If the number is a single digit, write a zero in front of it: **05**.

- After 10 minutes, ask each group to present the information on the **NACS Prescription Form** for its assigned client. The correct information is shown in the sample form below. Correct as necessary and facilitate discussion.

United Republic of Tanzania

Ministry of Health, Community Development, Gender, Elderly and Children

Date [__][__]/[__][__]/[__][__]__[__]

NACS Prescription Form

Site name _____

Specialised food products											
Client category	**Reason** *(tick appropriate)* ☑		**No. of units *prescribed***				**No. of days**	**No. of units *dispensed***			
	SAM	**MAM**	**F-75 (102.5 g)**	**F-100 (114 g g)**	**RUTF (92 g)**	**FBF (4.5 kg) or RUSF (92 g)**		**F-75 (102.5 g)**	**F-100 (114 g)**	**RUTF (92 g)**	**FBF (4.5 kg) or RUSF (92 g)**
0–6 months											
7–11 months											
12–23 months											
24–59 months	✓		05				07				
5–< 15 years											
15–< 18 years											
18+ years		✓				300 g/day	07				2.1 kg
Pregnant/≤ 6 months post-partum	✓				03	300 g/day	07			21	2.1 kg
Water purification product											
☐ **No access to clean and safe drinking water**			**Water purifying treatment (WaterGuard, Pur, etc.) ☐ 1 bottle (150 ml) ☐2 bottles (300)**								
Prescriber: Name _____ Signature _____ Date: _____											
Dispenser: Name _____ Signature _____ Date: _____											

- Point out bullet 5 on **Slide 4.5**.

4.5.5. COUNSEL THE CLIENT OR CAREGIVER ON HOW TO USE SPECIALISED FOOD PRODUCTS.

GROUP WORK: ROLE-PLAY

- Refer the groups to **Job Aid 19. How to Feed Ready-to-Use Therapeutic Food to a Malnourished Child.**

- Ask each group to use the job aid to role-play counselling a caregiver on how to feed RUTF to a child with SAM. One group member should role-play the client, another should role-play the counsellor and the others should observe and comment on the counselling. Give the groups 10 minutes for this activity.

- After 10 minutes, ask one group to share its experience with the role-play. Ask participants whether they have any questions about the information or pictures on the job aid.

- Refer the groups to **Job Aid 20. Fortified-Blended Food or Ready-to-Use Supplementary Food** and ask them to read the points silently. Ask participants whether they have any questions about the information or pictures on the job aid.

BRAINSTORM: What should clients do with empty specialised food product packages?

- Explain that the plastic packaging of specialised food products is not biodegradable and will pollute the environment if not disposed of appropriately or recycled. Refer the groups to **Job Aid 21. How to Store and Dispose of Specialised Food Product Packets.** Point out that clients should take the empty packets back to the health facility when they return to pick up their next prescription. The health facility should dispose of the empty packets in the incinerator or recycle them.

- Ask each group to use the job aid to role-play counselling a caregiver on how to store and dispose of specialised food product packets. One group member should role-play the client, another should role-play the counsellor and the others should observe and comment on the counselling. Give the groups 10 minutes for this activity.

- After 10 minutes, ask one group to share its experience with the role-play. Ask participants whether they have any questions about the information or pictures on the job aid.

- Point out bullet 6 on **Slide 4.11**.

4.5.6. RECORD SPECIALISED FOOD PRODUCTS GIVEN TO THE CLIENT.

PRESENTATION: Dispensing specialised food products

- Give each participant a **Ration Card**. Explain that health care providers should give this card to the client or caregiver on the first visit. The ration card records the kind and amount of specialised food products prescribed and dispensed. The client or caregiver should bring the Ration Card back on each visit to collect the next ration. On discharge the health care provider should attach the Ration Card it to the **Nutrition Assessment and Management Form**.

- Ask a volunteer to read aloud the information required on the first page of the card. Ask another volunteer to read aloud the column headings on the second page. Answer any questions participants have.

- Give each group a copy of the **Daily Specialised Food Product Dispensing Register**. Explain that the facility pharmacist will use this form to record all specialised food products dispensed in 1 day.

- Ask a volunteer to read aloud the column headings in the register.

BRAINSTORM: Why is it important to record all this information?

- Compare responses with the information in the box below.

> The Tanzania Food and Nutrition Centre (TFNC) reports monthly to the MOHCDGEC and Medical Stores Department on the number of clients who are receiving specialised food products by age, sex, pregnancy status and nutritional status. This information is critical to track malnutrition rates and for the supply chain for health facilities. Health management teams and health care providers need regular, accurate and uniform NACS data to plan, monitor and improve the quality of services and know what quantities of specialised food products to order.

GROUP WORK

- Ask each group to fill out the **Daily Specialised Food Product Dispensing Register** using the information from the **Nutrition Assessment and Management Forms** for Imani, Musa and Faraja filled out in session **4.5.3.** Give the groups 15 minutes for this exercise.

- After 15 minutes, ask each group to read the numbers under the column 'Number of Units Dispensed' for the three clients.

- Then ask one group to read its page total for each column. The correct answers are shown in the illustrative form on the next page. Make corrections as needed.

United Republic of Tanzania

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Date [__][__]/[__][__]/[__][__]__][__]

Daily Specialised Food Product Dispensing Register

Region_____ **District**_____ **Facility name**_____ **Facility code** _____

Dispensing point (tick one ☑)**:** ☐Pharmacy (preferred) ☐RCH/PMTCT ☐CTC ☐Inpatient ☐OPD ☐TB/DOTS ☐HBC ☐MVC ☐ Other _____

No.	Client name	Client number	No. of units dispensed				Name of dispenser	Client signature
			F-75 (102.5 g packets)	F-100 (114.0 g packets)	RUTF (92.0 g packets)	FBF (4.5 kg bags)		
1.	Imani					½*		
2.	Musa		10**					
3.	Faraja				21***			
Page total			10		21	½		

***300 g/day x 7 days = 2.1 kg
****5 packets (102.5 g each)/day x 2 days
*****3 packets (92 g each)/day x 7 days = 21 packets

- Point out bullet 7 on **Slide 4.11**.

4.5.7. EXIT THE CLIENT WHEN THE TARGET WEIGHT, MUAC OR BMI IS REACHED.

GROUP WORK

- Ask a volunteer to read aloud the column headings under 'Reason'. Answer questions.

- Ask the groups to refer again to **Case Study. Imani, Musa and Faraja** and read Part 7. Based on the information in the case study, ask, 'Can Musa exit from specialised food products? If not, why not? If yes, why?' (ANSWER: Yes, because he is now 48 months and his MUAC is 13 cm, which falls in the green section for normal nutritional status in **Job Aid 13. Algorithm for Managing Malnutrition in Children 6 Months to 14 Years of Age**.)

- Ask, 'Can Faraja exit from specialised food products? If not, why not? If yes, why?' (ANSWER: No, because her MUAC is now 22 cm, which falls in the yellow section for MAM for pregnant/lactating women in **Job Aid 14. Algorithm for Managing Malnutrition in Adolescents 15–17 Years of Age and Adults**.)

REVIEW

- Refer participants to **Job Aid 23. NACS Protocol**. Go over the steps for managing malnourished clients.

BRAINSTORM: How can health facilities know how much RUTF or FBF to order?

- Write responses on a flipchart and compare with the information in the box.

> - By multiplying the number of clients by age and nutritional status during the time period by the approximate amounts of specialised food products given per client
> - By estimating from the prescriptions written during the period
> - By using monthly reports

- Give each group a copy of the **Monthly Specialised Food Product Report and Request Form**. Explain that the site pharmacist will fill this form out at the end of every month to send to the Medical Stores Department (MSD) and TFNC to order specialised food products for the following month.

GROUP WORK

- Ask participants to take turns reading the column headings in the **Monthly Specialised Food Product Report and Request Form** aloud.

- Explain that you will give the groups information to write in their forms. Read aloud the numbers in the white spaces on the sample form on the next page and ask the groups to record them on their forms. Then ask them to calculate the amounts for columns C, F, G, H, I and J. Give the groups 15 minutes for this exercise. Move among the groups to answer questions as needed.

- After 15 minutes, ask one group to read its figures for F-75, another group to read its figures for F-100, a third group to read its figures for RUTF and a fourth group to read its figures for FBF.

- Check the totals against the figures in the shaded spaces of columns C, F, G, H, I and J in the example form on the next page and make corrections as needed.

- Ask the groups to discuss challenges they might face in completing this form and how they could address each challenge.

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Reporting period: Month [__][__] / Year 20[__][__]

Monthly Specialised Food Product Report and Request Form

Region_____ District_____ Facility name_____ Code _____

MSD product code	Product	Unit	Total no. of clients receiving specialised food products during the month	Balance at beginning of month	Additional specialised food products received this month		Total in store this month *(A+B)*	Amount dispensed this month		Loss/ wastage*	Total dispensed + losses *(D+E)*	Ending balance (closing stock) *(C–F)*	Maximum stock quantity *(D x 2)*	Client needs for the site *(D x 3)*	Quantity requested *(I–G)* **Max: 2 Min: 1**
				A	From MSD	From other sites	**C**	To clients	To other sites	**E**	**F**	**G**	**H**	**I**	**J**
					B			**D**							
	F-75	102.5 g packet	5	160		46	206	174			174	32	348	522	490
	F-100	114.0 g packet	3	82	47		129	63			63	66	126	189	123
	RUTF	92.0 g packet	8	610	4,500		5,110	720		0	720	4,390	1,440	2,160	0
	FBF	4.5 kg bag	8	45	50		95	82		2	84	11	164	246	235

Remarks_____

__

*Provide information on food losses (damaged, missing, theft, rodents or expired).

Prepared by (name) _____ **Signature**_____ **Date** _____

Submitted by (name) _____ **Signature**_____ **Date** _____ **Telephone** _____

DISCUSSION AND EVALUATION (10 MINUTES)

- Allow time for questions and discuss any issues that need clarification.

- Distribute copies of **Annex 3. Module Evaluation Form** for Module 4. Ask participants to fill them out and give them to you before they leave.

5 NACS Monitoring and Reporting

MODULE 5. NACS MONITORING AND REPORTING

 9 hours

Monitoring nutrition data can inform and improve the implementation and quality of nutrition assessment, counselling and support (NACS) services and their integration into routine health care delivery. Monitoring assesses the impact of services on client nutritional status and informs resource allocation. Health care providers should record information daily on clients' nutritional status and the amount of specialised food products prescribed and disbursed on standardized forms. Health facilities should report NACS information monthly to the district level and to implementing partners (IPs). District health managers should combine the information from all facilities implementing NACS to send to the Medical Stores Department (MSD) to help MSD plan distribution of NACS commodities for the following month.

Purpose	Introduce participants to monitoring and reporting NACS data and give them the opportunity to practice nutrition assessment, nutrition counselling and NACS data collection in a health facility.

Learning objectives	By the end of this module, participants will be able to: 1. Explain the purpose of collecting NACS data 2. Complete NACS data collection forms accurately 3. List the requirements for quality NACS services 4. Assess the quality of NACS services in their workplaces. 5. Discuss NACS client flow and integration of services 6. Practise nutrition assessment, counselling and NACS data collection in a health facility

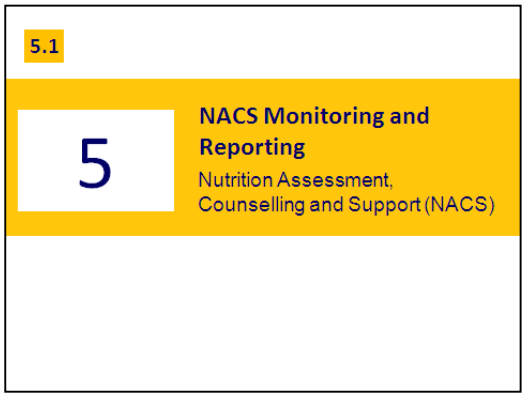
Materials needed

- Flipchart and stand
- Markers and tape
- LCD projector
- PowerPoint
- 24 folded pieces of paper (or enough for each participant)
- If participants have not been trained in **Module 2. Nutrition Assessment, Classification and Care Plans**, 6 of each of the following mid-upper arm circumference (MUAC) tapes:
  - Children 6–59 months
  - Children 5–9 years
  - Children 10–14 years
  - Adolescents 15–17 years and adults
- Handouts (enough copies for all participants)
  - Nutrition Assessment and Management Form
  - Daily Register of NACS Clients
  - NACS Prescription Form
  - Daily Specialised Food Product Dispensing Register
  - Monthly Specialised Food Product Report and Request Form
  - Monthly Summary Form for NACS Services
  - Annex 3. Module Evaluation Form for Module 5
  - Annex 5. Final Course Evaluation Form
  - Course certificates
- **Reference Manual**
  - Reference 24. Nutrition Counselling
  - Reference 32. NACS Site Quality Checklist
- **Job Aids**
  - Job Aid 4. How to Weigh Adults and Young Children
  - Job Aid 5. How to Weigh Children up to 25 Kg
  - Job Aid 6. How to Measure Length and Height
  - Job Aid 12. How to Measure Mid-Upper Arm Circumference (MUAC)
- **Participant Workbook**
  - Worksheet 5.1. Filling in the Monthly Specialised Food Product Report and Request Form
  - Worksheet 5.2. Client Information from Mawingu CTC for April 2016
  - Worksheet 5.3. NACS Data Collection, Monitoring and Reporting
  - Worksheet 5.4. Site Practice Visit Report

Advance preparation

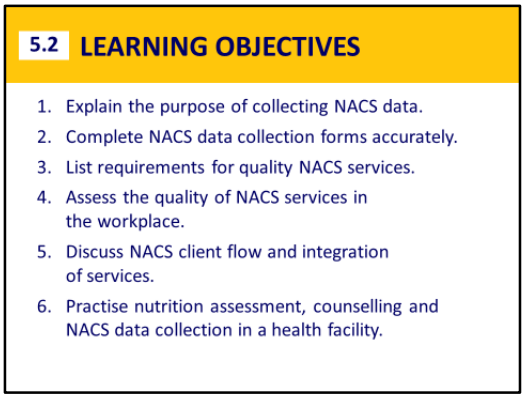
- Review PowerPoint slides for Module 5 and slides 4.3 and 4.4 from **Module 4. Nutrition Support**.
- Review References 24 and 32 in the **Reference Manual**.
- Review Job Aids 4–6 and 12 in the **Job Aids**.
- Review Worksheets 5.1 to 5.4 in the **Participant Workbook**.
- If possible, review data collection forms used in paediatric wards and reproductive and child health (RCH), prevention of mother-to-child transmission of HIV (PMTCT), care and treatment clinic (CTC) and home-based care (HBC) services.
- Make preparations for the site practice visit, following the guidelines in **Annex 4. Site Practice Visit Planning Guide**.
- Fill in and sign a course certificate for each participant.

- Show **Slide 5.1.**



OBJECTIVES (5 MINUTES)

- Present the module learning objectives on **Slide 5.2**.



REVIEW (20–60 MINUTES)

If participants have been trained in Modules 1 to 4, *review Module 4. Nutrition Support.*

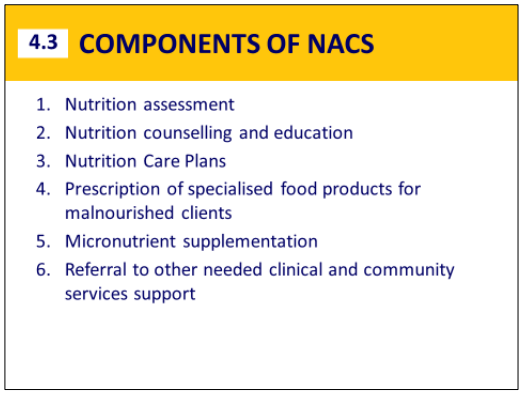
- Give each participant a folded piece of paper. Ask each participant to write a question about specialised food products for malnourished clients that a person might ask who does not understand what they are and what they are used for. Instruct the participants to turn the cards over so the questions cannot be seen and pass them to someone else.

- Ask the participants to continue passing the cards in random fashion until you say 'Stop!' (after about 15 seconds). Make sure everyone has a card.

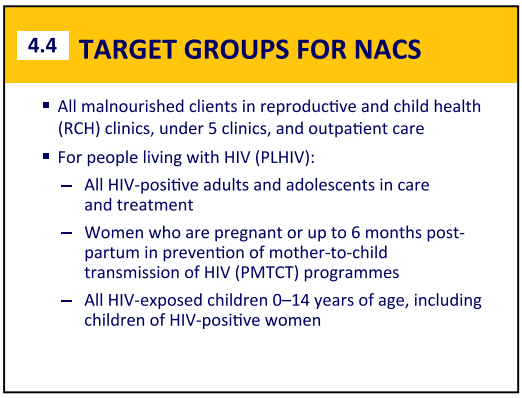
- Ask one participant to read the question on the card. Ask the participants who know the answer to raise their hands. Call on participants until someone gives the correct answer. If no one gives the correct answer, answer the question. Then select another participant to read another question until all questions are asked and answered.

- Skip down to **5.1 Purpose of Recording NACS Data** to continue training.

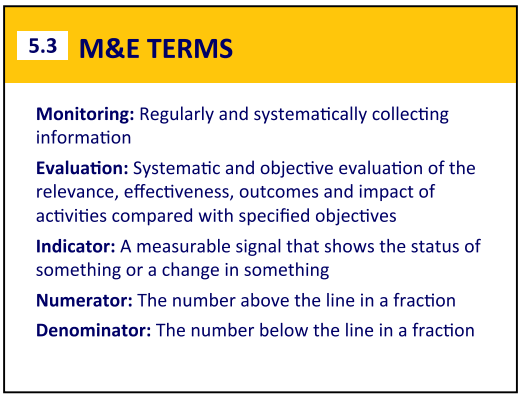
- Show **Slide 4.3** again to review the components of NACS.



- Show **Slide 4.4** again to review the target groups for NACS.



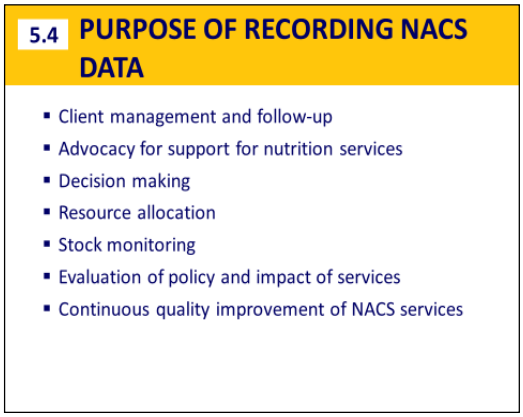
- Show Slide 5.3 and go over the basic M&E terms on the slide. Answer questions as needed.



5.1. PURPOSE OF RECORDING NACS DATA (10 MINUTES)

BRAINSTORM: Why is it important to record NACS data? How can health facilities use NACS data?

- Compare responses to the information on **Slide 5.4**.



5.2. NACS DATA COLLECTION FORMS (2 HOURS)

- Explain that health care providers should keep regular records on individual NACS clients to monitor their progress and to track clients between different services.

- Give each participant a copy of the **Nutrition Assessment and Management Form.** Remind participants that this form is used to assess and record clients' nutritional status and manage their follow-up in NACS services.

BRAINSTORM: Where does this information come from? Who fills it out?

- Compare responses to the correct answer. (*ANSWER*: The information comes from nutrition assessment of each client. Clinicians or nurses should fill out the form for each client on the first visit and every follow-up visit.)

- Explain that the form is kept in the client's file. Facilitate discussion and answer questions as needed.

- Tell participants that they will take these forms with them on the site practice visit later in the day to fill out for each client they work with.

- Next give each participant a copy of the **NACS Prescription Form**.

BRAINSTORM: Where does this information come from? Who fills it out?

- Explain that clinicians or nurses use this form to prescribe F-75, F-100, ready-to-use therapeutic food (RUTF) or fortified-blended food (FBF) to clients who are diagnosed with severe acute malnutrition (SAM) or moderate acute malnutrition (MAM). Facilitate discussion and answer questions as needed.

- Give each participant a copy of the **Daily Register of NACS Clients**.

BRAINSTORM: Where does this information come from? Who fills it out?

- Explain that the information comes from all the **Nutrition Assessment and Management Forms** and **NACS Prescription Forms** filled out during 1 day in the site, and the facility's NACS focal person fills it out. Facilitate discussion and answer questions as needed.

- Give each participant a copy of the **Daily Specialised Food Product Dispensing Register**.

BRAINSTORM: Where does this information come from? Who fills it out?

- Explain that the information comes from all the **NACS Prescription Forms** filled out during 1 day and that the pharmacist or storekeeper fills it out. Facilitate discussion and answer questions as needed.

- Give each participant a copy of the **Monthly Specialised Food Product Report and Request Form**.

BRAINSTORM: Where does this information come from? Who fills it out?

- Explain that the information comes from all the **NACS Prescription Forms** filled out during the month in the site and that the pharmacist or storekeeper fills it out.

PRACTICE: Filling in the Monthly Specialised Food Product Report and Request Form

- Refer participants to **Worksheet 5.1. Filling in the Monthly Specialised Food Product Report and Request Form**. Ask them to use the information on the first page to fill in the

Monthly Specialised Food Product Report and Request Form on the second page and answer the last question on the first page. Allow 15 minutes for this exercise.

- After 15 minutes, ask volunteers to share their results in plenary. Calculations and answers are shown in the following box. The form is filled out correctly on the next page. Make corrections and fill in gaps as needed. Facilitate discussion.

Worksheet 5.1. Filling in the Monthly Specialised Food Product Report and Request Form

The following data are summarised from the Mawingu CTC for each day adult clients received NACS services.

1. There were 4 cartons (each carton contains 150 packets) and 10 packets of RUTF and 9 bags of FBF at the site at the end of March.

EXPLANATION:

(4 x 150 = 600) + 10 = 610 packets of RUTF and 9 bags of FBF. Each bag of FBF contains enough supply for one adult for 22.5 days (9 Kg/400 g/day).

2. In March, the site saw 8 adult clients with SAM and 102 adult clients with MAM. For the purposes of this calculation, participants should pretend that April and June have 31 days.

EXPLANATION:

RUTF is only for clients with SAM. Each adult client with SAM needs 3 packets of RUTF and 400 g of FBF per day, which is the equivalent of 93 packets of RUTF (3 x 31 days) and 1.38 bags of FBF ([400 g x 31 days]/9 kg (or 9000 g)/bag) per client per 31-day month. Each adult client with MAM needs 400 g of FBF per day, the equivalent of 1.38 bags per client per 31-day month.

3. At the end of March, the site ordered 350 9 kg bags of FBF and 30 cartons of RUTF (1 carton contains 150 packets) to last to the end of June.

4. On April 9, the site received only 300 bags of FBF and all 30 cartons of RUTF.

5. Will the current supply last until the end of June? (Assume no damages or expired products, and that months consist of 31 days.) Why or why not?

EXPLANATION:

- The site saw 8 clients with SAM and 102 clients with MAM in March. For the MAM clients, the site needed 141 bags of FBF. For the SAM clients, the site needed 744 packets of RUTF (3 x 31 x 8) and 11 bags of FBF.
- The total amount of specialized food products dispensed during the month of April was therefore 744 packets of RUTF and 152 bags of FBF.

- The total amount needed for 93 days, or 3 months, assuming the same number of clients, is 2,232 packets of RUTF and 456 bags of FBF.
- The current supply of RUTF will last until the end of June, but the supply of FBF will not. In April, the site has 5,110 packets (610 + 4,500 [150 x 30]) of RUTF and 309 bags of FBF. If 2,232 packets of RUTF and 456 bags of FBF are needed for 3 months, the site will have more RUTF than needed but a deficit of 299 bags of FBF.

The United Republic of Tanzania

Ministry of Health, Community Development, Gender, Elderly and Children

Reporting period: Month [0][3] / Year 20[1][6]

Monthly Specialised Food Product Report and Request Form

Region_____ **District**_____ **Facility name**___Mawingu CTC_____ **Code** _____

MSD product code	Product	Unit	Total no. of clients receiving specialised food products during the month	Balance at beginning of month	Additional specialised food products received this month		Total in store this month *(A+B)*	Amount dispensed this month		Loss/ wastage*	Total dispensed + losses *(D+E)*	Ending balance (closing stock) *(C–F)*	Maximum stock quantity *(D x 2)*	Client needs for the site *(D x 3)*	Quantity requested *(I–G)* **Max: 2 Min: 1**
				A	From MSD	From other sites	C	To clients	To other sites	E	F	G	H	I	J
					B			D							
	F-75	102.5 g packet	0	0	0	0	0			0	0	0	0	0	0
	F-100	114.0 g packet	0	0	0	0	0			0	0	0	0	0	0
	RUTF	92.0 g packet	12	610	4,500	0	5,110	1,080		0	1,080	4,030	2,160	3,240	0
	FBF	4.5 kg bag	118	9	350	0	359	236		0	236	123	472	708	585

Remarks_____

_____

__

*Provide information on food losses (damaged, missing, theft, rodents or expired).

Prepared by (name) _____ **Signature**_____ **Date** _____

Submitted by (name) _____ **Signature**_____ **Date** _____ **Telephone** _____

- Give each participant a copy of the **Monthly Summary Form for NACS Services**. Ask participants to discuss aloud where they would get the information for this form and who fills out the form.

BRAINSTORM: Where does this information come from? Who fills it out?

- Compare responses to the correct answer. (*ANSWER:* The information comes from all the **Daily Registers of NACS Clients and Monthly Specialised Food Product Prescription Forms**. Usually the facility's NACS focal person fills it out.)

GROUP WORK

- Ask the participants to form groups of about six people each based on their workplaces or regions or by counting off numbers.

- Refer the groups to **Worksheet 5.2. Client Information from Mawingu CTC for April 2016**. Ask them to use this information collected in one health facility over a month to fill in the **Monthly Summary Form for NACS Services**.

- Explain that participants will not know the quantities of RUTF and FBF distributed during the month, so they can leave the section at the bottom of the form blank.

- Give 20 minutes for this exercise. Then ask volunteers to share their results in plenary. The answers are shown in the copy of the **Monthly Summary Form for NACS Services** on the next page. Make corrections, fill in gaps as needed and facilitate discussion.

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Monthly Summary Form for NACS Services

Reporting period: Month [0][4]

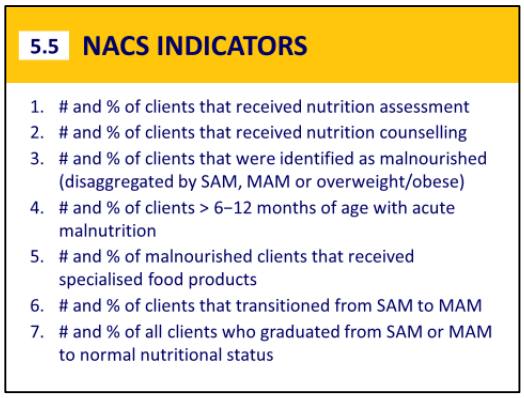
Region _____ **District**_____ **Facility name**___Mawingu CTC_____ **Facility code** _____

Client category	Sex	# of clients			Number of clients by nutritional and HIV status on entry																	Number of clients receiving specialised food products, by product				Number of clients exiting, by reason				
						HIV status (#)					HIV status (#)					HIV status (#)					HIV status (#)										
		Assessed	Counselled on diet	Counselled on IYCF	SAM	+	_	E	U	MAM	+	_	E	U	Normal	+	_	E	U	Overweight/	+	_	E	U	F-75 (packets)	F-100 (packets)	RUTF (packets)	FBF (bags)	Treatment failure[5]	Graduated[6]	Missed appointment	Lost to follow-up[7]	Died
0 to 6 months	F																															
	M																															
> 6 to 12 months	F	1			1				1																1	1		1					
	M									1																		1					
> 12 to 24 months	F	1			1		1																					1					
	M	1			1		1																										
> 24 to 59 months	F	1								1		1																					
	M	1			1		1																		1	1							
5 to 14 years	F																															
	M	1	1		1	1																					1					
15 to 17 years	F																															
	M	1								1	1																					
18+ years	F	1	1												1	1																	
	M	2	1																	2	1	1											
Pregnant	F	2	2		1	1									1	1											1						
< Up to 6 months post-partum	F																															
Total # of clients during the month	F	5	4		4	1	2		1	1		1			2										1	1	1	1					
	M	6	2		2	1			1	3	1			2						2					1	1	1	2					

5.3. NACS INDICATORS (30 MINUTES)

BRAINSTORM: What nutrition information should be reported to TFNC on NACS clients?

- Compare responses with the indicators on **Slide 5.5**.



- Refer the groups to **Worksheet 5.3. NACS Data Collection, Monitoring and Reporting**. Go over each indicator, explaining its numerator and denominator, where to find the information, how the reported data should be disaggregated and how often it should be reported.

1. # and % of clients that received nutrition assessment
   - **Numerator:** # of clients that received nutrition assessment
   - **Denominator:** # of clients that visited the health facility
   - **Source:** Monthly Summary Form for NACS Services
   - **Disaggregation:** Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum
   - **Frequency:** Monthly to TFNC, quarterly to PEPFAR

2. # and % of clients that received nutrition counselling
   - **Numerator:** # of clients that were identified as malnourished
   - **Denominator:** # of clients that received nutrition assessment
   - **Source:** Monthly Summary Form for NACS Services
   - **Disaggregation:** Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum
   - **Frequency:** Monthly to TFNC, quarterly to PEPFAR

3. # and % of clients that were identified as malnourished
   - **Numerator:** # of clients that were identified as malnourished
   - **Denominator:** # of clients that received nutrition assessment
   - **Source:** Monthly Summary Form for NACS Services
   - **Disaggregation:** Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum, SAM, MAM, overweight/obese

- **Frequency:** Monthly to TFNC, quarterly to PEPFAR

4. # and % of infants > 6−12 months of age with acute malnutrition
   - **Numerator:** # of children > 6–12-months of age that were identified as acutely malnourished
   - **Denominator:** # of children > 6–12-months of age that received nutrition assessment
   - **Source:** Monthly Summary Form for NACS Services
   - **Frequency:** Quarterly to PEPFAR

5. # and % of malnourished clients that received specialised food products
   - **Numerator**: # of clients that received specialised food products
   - **Denominator:** # of clients that were identified as malnourished
   - **Source:** Monthly Summary Form for NACS Services, Monthly Specialised Food Report and Request Form
   - **Disaggregation:** Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum
   - **Frequency:** Monthly to TFNC, quarterly to PEPFAR

6. # and % of clients that transitioned from SAM to MAM
   - **Numerator:** # of clients that transitioned from SAM to MAM
   - **Denominator:** # of clients that were identified as severely malnourished
   - **Source:** Monthly Summary Form for NACS Services
   - **Disaggregation:** Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum
   - **Frequency:** Quarterly

7. # and % of clients that graduated from SAM or MAM to normal nutritional status
   - **Numerator:** # of clients that graduated from SAM or MAM to normal nutritional status
   - **Denominator:** # of clients that were identified as severely malnourished
   - **Source:** Monthly Summary Form for NACS Services
   - **Disaggregation:** Under 18 years, 18 years and over, male and female, non-pregnant/post-partum and pregnant/post-partum
   - **Frequency:** Quarterly

GROUP WORK

- Ask the groups to fill out table 2 in **Worksheet 5.3. NACS Data Collection, Monitoring and Reporting** on who could collect and report the data on each indicator. Give the groups 10 minutes for this exercise.

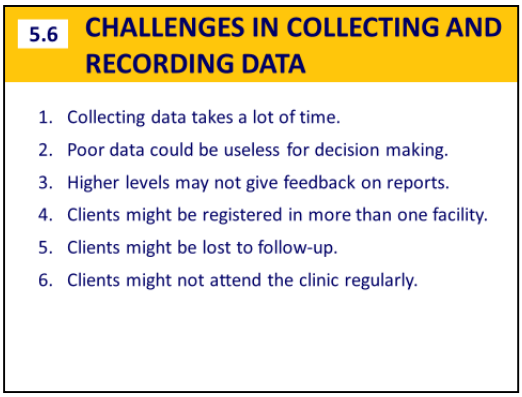
BRAINSTORM: Why is it important to collect information on these indicators?

Compare responses to the information in the box below. After 10 minutes, ask two groups to share their results in plenary.

- It measures the results of NACS services.
- The MOHCDGEC agrees that this information is necessary.
- The government requires this information for donor funding of supplies, equipment and capacity building.

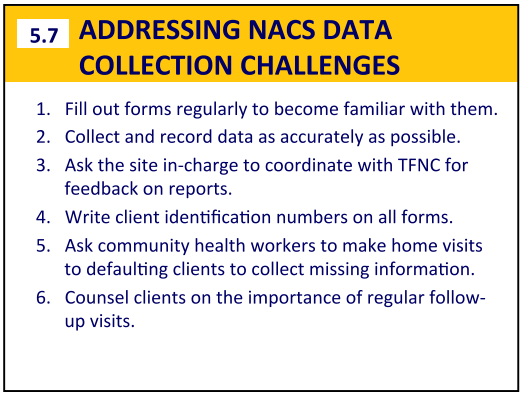
BRAINSTORM: What challenges might you face collecting and reporting NACS information?

- Compare responses with the information on **Slide 5.6**. Fill in gaps as needed and record constructive ideas from participants for future training.



BRAINSTORM: How could these challenges be addressed?

- Compare responses with the information on **Slide 5.7**.



5.4. SITE PRACTICE VISIT (4¾ HOURS)

- Explain that participants will visit health facilities to practice what they have learned about nutrition assessment, counselling and data collection. They will measure weight

and height, find body mass index (BMI) and weight-for-height z-score (WHZ), measure mid-upper arm circumference (MUAC) and complete a **Nutrition Assessment and Management Form** for each client they see.

- Divide participants into small groups depending on the number of sites to visit and assign each group to a unit in the site to be visited.

- Ask each group to select one person to take notes during the site visit and one person to present the results back in plenary after the site visit.

- Refer participants to **Worksheet 5.4. Site Practice Visit Report**. Go over the questions. Ask each group to select one person to fill out this worksheet based on the group´s discussion at the end of the visit before returning to the classroom. Go over the questions.

- Discuss the sites the participants will visit and explain the reason for choosing those sites, the length of the visit and the group leaders, if appropriate.

REVIEW

- If the participants have not been trained in Modules 2 to 4, provide brief training in the topics in the boxes below.

Measuring weight and height

- Refer participants to **Job Aid 4. How to Weigh Adults and Young Children**. Ask volunteers to read the information aloud.
- Refer participants to **Job Aid 5. How to Weigh Children up to 25 Kg**. Ask a volunteer to read the information aloud. Explain that children can also be weighed on a scale.
- Refer participants to **Job Aid 6. How to Measure Length and Height** and ask a volunteer to read the information aloud.

Measuring body mass index

Refer participants to **Job Aid 10. How to Find Body Mass Index (BMI) for Adults**. Explain the colour coding.

Measuring mid-upper arm circumference

- Refer the groups to **Job Aid 12. How to Measure Mid-Upper Arm Circumference (MUAC)**. Ask volunteers to read each step aloud. Explain that the job aid shows a person measuring the MUAC of a child, but the placement of the tape is the same as for adults.
- Distribute a set of MUAC tapes to each group to use to measure clients during the field visits.
- Show the four MUAC tapes for different groups (children 6−59 months, children 5–9 years, children 10−14 years, and adolescents 15–17 years and adults) and point out the labels, measurements and colour coding.
- Demonstrate measuring MUAC on a co-facilitator. Find the measurement and ask the groups to identify the nutritional status by colour.

Counselling using the GATHER approach

- Review **Reference 24. Nutrition Counselling**.
- With another facilitator, demonstrate counselling a client on the importance of monthly weighing to monitor nutritional status.

- Accompany participants on the site visits to introduce them to health facility staff and help them practice nutrition assessment and counselling and filling out NACS forms.

- Ask participants to be respectful of the health care providers and managers they will observe, as well as of the clients in the site. They should express any criticism back in the classroom rather than during the site practice visit.

- Explain that participants will be called on back in the classroom to present their observations.

GROUP WORK: ENERGISER

- If participants need re-energising when they return from the site visit, have them stand in two circles. Instruct the participants in each circle to count out loud around the circle. Each participant who gets a multiple of 3 (3, 6, 9, 12, etc.) or a number that ends with 3 (13, 23, 33, etc.) must say 'Boom!' instead of the number. The next participant should continue the normal sequence of numbers. Anyone who does not say 'Boom!' or makes a mistake with the number that follows has to sit down. The last two participants left are the winners.

DISCUSSION OF THE SITE PRACTICE VISIT (1 HOUR)

- Ask volunteers to read their answers to the questions on **Worksheet 5.4. Site Practice Visit Report** and share their observations during the field visit. Facilitate discussion.

- Refer participants to **Reference 31. NACS Site Quality Checklist**. Explain that implementing partner NACS focal persons will use this checklist to assess the readiness of health facilities to implement NACS services and to do continuous quality improvement. The assessment should be done quarterly.

5.5. ACTION PLAN (40 MINUTES)

GROUP WORK

- Ask participants to form small groups. Ask each group to think about what they learned in this training and write an action plan that explains what they will do to improve the quality of nutrition care in their workplaces. They can add the support they will need from the managers of their facilities, TFNC or district and regional health authorities to help them implement what they have learned. Give 30 minutes for this exercise.

- After 30 minutes, ask one or two groups to present their action plans. Facilitate discussion.

- Ask each facility represented to take a copy of this action plan to share with the managers of their facility.

- Explain that the participants need to practice the new skills and knowledge they have learned in the course as soon as they go back to their workplaces in order to gain confidence and proficiency. They also need to learn how to apply what they have learned in their workplaces.

DISCUSSION AND EVALUATION (10 MINUTES)

- Allow time for questions and discuss any issues that need clarification.

- Distribute copies of **Annex 3. Module Evaluation Form** for Module 5. Ask participants to fill them out and give them to you before they leave.

POST-TEST (10 MINUTES)

- Give each participant a copy of **Annex 1. Pre- and Post-Test**. Ask participants to write the date and their titles or professions (but not their names) at the top of the sheet. Give 10 minutes to complete the post-test.

- After 10 minutes, collect the post-tests. Correct them immediately using **Annex 2. Pre- and Post-Test Answer Key**. Tally the scores according to the table below. Write the results on a flipchart that all participants can see clearly.

Score	Pre-test (number of participants)	Post-test (number of participants)
Under 50 percent		
50–74 percent		
75 percent and over		

- Share the results with the participants. Explain that a regional or national NACS trainer will visit the participants in 1 to 3 months to follow up on the training and give participants a chance to discuss any problems they have had using the knowledge and skills gained in this course.

- Thank the participants for their contributions during the course and wish them well back in their workplaces.

- Give each participant a certificate of completion.

FINAL COURSE EVALUATION (10 MINUTES)

- Give each participant a copy of **Annex 5. Final Course Evaluation Form**. Ask participants to complete this form and give it to you before leaving.

RESOURCES

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ANNEX 1. PRE- AND POST-TEST

Date: _____ Position title: _____

Place of work (e.g., antenatal care, ART clinic, maternity ward, CTC): _____

Circle the correct answer.

1. Telling a client what to do is the surest way to change her or his behaviour.

   a) True b) False

2. People living with HIV are more vulnerable to malnutrition than other people.

   a) True b) False

3. HIV and frequent infections decrease the body's energy and nutrient requirements.

   a) True b) False

4. You can assess a client's nutritional status just by weighing her or him.
   a) True b) False

5. Which of the following nutrients do people living with HIV need most?
   a) Energy b) Protein c) Vitamins and minerals d) All of these

6. When does nutrition support have the greatest impact?

   a) In the early stage of HIV b) In the late stage of HIV c) At all stages of HIV

7. People living with HIV need to consume more energy every day than uninfected people of the same age, gender and level of physical activity.

   a) True b) False

8. Fermentation improves food quality because it aids digestion and absorption.
   a) True b) False

9. An HIV-positive mother should never breastfeed her child.
   a) True b) False

10. HIV-related symptoms can be managed only with medicines.
    a) True b) False

11. Body mass index (BMI) is the best indicator of the nutritional status of pregnant women.
    a) True b) False

12. People with oral thrush (candidiasis) should avoid eating spices and sugar.
    a) True b) False

13. Which statement is false?
    a) A person with diarrhoea should drink plenty of water.
    b) A person who is constipated should eat more refined foods.
    c) A person who has nausea should eat small, frequent meals.
    d) Green leafy vegetables are a source of iron.

14. What is the recommended energy intake for HIV-positive adults with secondary infections?
    a) 20 percent more than the recommended daily intake
    b) 50–100 percent more than the recommended daily intake

15. What are the additional energy requirements of HIV-positive children who have symptoms and are losing weight?
    a) 20–30 percent more than the recommended daily intake
    b) 50–100 percent more than the recommended daily intake

16. All people living with HIV who qualify for antiretroviral therapy (ART) and have a BMI less than 16 should begin ART immediately.
    a) True b) False

17. Eating large meals only a few times a day can help manage symptoms of nausea or vomiting.
    a) True b) False

18. Ready-to-use therapeutic food (RUTF) is an energy-dense food designed to treat people with severe acute malnutrition.
    a) True b) False

19. A child with a mid-upper arm circumference (MUAC) less than 11.5 cm is severely malnourished.
    a) True b) False

20. An HIV-positive woman's nutritional status can affect her risk of transmitting HIV to her infant.
    a) True b) False

21. Pregnant women need more energy than women who are up to 6 months post-partum.
    a) True b) False

22. The aim of nutrition assessment, counselling and support (NACS) is to improve household food security.
    a) True b) False

23. The symbols < and > mean ‘less than’ and ‘greater than’.
    a) True b) False

ANNEX 2. PRE- AND POST-TEST ANSWER KEY

1. Telling a client what to do is the surest way to change her or his behaviour.

   a) True b) False

2. People living with HIV are more vulnerable to malnutrition than other people.

   a) True b) False

3. HIV and frequent infections decrease the body's energy and nutrient requirements.

   a) True b) False

4. You can assess a client's nutritional status just by weighing her or him.

   a) True b) False

5. Which of the following nutrients do people living with HIV need the most?

   a) Energy b) Protein c) Vitamins and minerals d) All of these

6. When does nutrition support have the greatest impact?

   a) In the early stage of HIV b) In the late stage of HIV c) At all stages of HIV

7. People with HIV need to consume more energy every day than uninfected people of the same age, gender and level of physical activity.

   a) True b) False

8. Fermentation improves food quality because it aids digestion and absorption.

   a) True b) False

9. An HIV-positive mother should never breastfeed her child.

   a) True b) False

10. HIV-related symptoms can be managed only with medicines.

    a) True b) False

11. Body mass index (BMI) is the best indicator of the nutritional status of pregnant women.

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12. People with oral thrush (candidiasis) should avoid eating spices and sugar.

    a) True b) False

13. Which statement is false?

    a) A person with diarrhoea should drink plenty of water.
    b) A person who is constipated should eat more refined foods.
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    d) Green leafy vegetables are a source of iron.

14. What is the recommended energy intake for HIV-positive adults with secondary infections?

    a) 20 percent more than the recommended daily intake
    b) 50–100 percent more than the recommended daily intake

15. What are the additional energy requirements of HIV-positive children who have symptoms and are losing weight?

    a) 20–30 percent more than the recommended daily intake
    b) 50–100 percent more than the recommended daily intake

16. All people living with HIV who qualify for antiretroviral therapy (ART) and have a BMI less than 16 kg/m^2 should begin ART immediately.

    a) True b) False

17. Eating large meals only a few times a day can help manage symptoms of nausea or vomiting.

    a) True (b) False

18. Ready-to-use therapeutic food (RUTF) is an energy-dense food designed to treat people with severe acute malnutrition.

    (a) True b) False

19. A child with a mid-upper arm circumference (MUAC) less than 11.5 cm is severely malnourished.

    (a) True b) False

20. An HIV-positive woman's nutritional status can affect her risk of transmitting HIV to her infant.

    (a) True b) False

21. Pregnant women need more energy than women who are up to 6 months post-partum.

    a) True (b) False

22. The aim of nutrition assessment, counselling and support (NACS) is to improve household food security.

    a) True (b) False

23. The symbols < and > mean 'less than' and 'greater than'.

    (a) True b) False

ANNEX 3. MODULE EVALUATION FORMS

INTRODUCTORY SESSION EVALUATION FORM

Date: _____ Health facility: _____

Please rate each topic in the table using the scoring system below.

1 = Good 2 = Average 3 = Poor

	Length	Relevance to my work	Presentation	Support from facilitators	Materials	Comments
INTRODUCTORY SESSION						
1. Introductions and Overview						
2. Pre-test						
3. Expectations and Objectives						
4. Participant Roles						

General comments:

Were your expectations for this module met? (Circle one) Yes No

What additional information would help you in your work?

MODULE 1 EVALUATION FORM

Date: _____ Health facility: _____

Please rate each topic in the table using the scoring system below.

1 = Good 2 = Average 3 = Poor

	Length	Relevance to my work	Presentation	Support from facilitators	Materials	Comments
MODULE 1. OVERVIEW OF NUTRITION						
1.1. Key Nutrition Terms						
1.2. Importance of Nutrition						
1.3. Nutrient Requirements						
1.4. Effects of Infection on Nutrient Requirements						
1.5. Causes of Malnutrition						
1.6. Clinical Features of Malnutrition						
1.7. Consequences of Malnutrition						
1.8. Preventing and Managing Malnutrition						

General comments:

Were your expectations for this module met? (Circle one) Yes No

What additional information would help you in your work?

MODULE 2 EVALUATION FORM

Date: _____ Health facility: _____

Please rate each topic in the table using the scoring system below.

1 = Good 2 = Average 3 = Poor

	Length	Relevance to my work	Presentation	Support from facilitators	Materials	Comments
MODULE 2. NUTRITION ASSESSMENT, CLASSIFICATION AND CARE PLANS						
2.1. The Importance of Nutrition Assessment						
2.2. Clinical Assessment						
2.3. Physical Assessment						
2.4. Biochemical Assessment						
2.5. Dietary Assessment						
2.6. Nutrition Care Plan C: SAM						
2.7. Nutrition Care Plan B: MAM						
2.8. Nutrition Care Plan A: Normal Nutritional Status						

General comments:

Were your expectations for this module met? (Circle one) Yes No

What additional information would help you in your work?

MODULE 3 EVALUATION FORM

Date: _____ Health facility: _____

Please rate each topic in the table using the scoring system below.

1 = Good 2 = Average 3 = Poor

	Length	Relevance to my work	Presentation	Support from facilitators	Materials	Comments
MODULE 3. NUTRITION EDUCATION, COUNSELLING AND REFERRAL						
3.1. Nutrition Education						
3.2. Definition of Counselling and Required Skills						
3.3. Nutrition Counselling Using the GATHER Approach						
3.4. Nutrition Counselling Messages						
3.5. Providing Nutrition Services along the Continuum of Care						

General comments:

Were your expectations for this module met? (Circle one) Yes No

What additional information would help you in your work?

MODULE 4 EVALUATION FORM

Date: _____ Health facility: _____

Please rate each topic in the table using the scoring system below.

1 = Good 2 = Average 3 = Poor

	Length	Relevance to my work	Presentation	Support from facilitators	Materials	Comments
MODULE 4. NUTRITION SUPPORT						
4.1. Components of NACS						
4.2. NACS Client Flow and Staff Roles						
4.3. Specialised Food Products to Treat Malnutrition						
4.4. Entry and Exit Criteria for Specialised Food Products						
4.5. Managing Clients on Specialised Food Products						

General comments:

Were your expectations for this module met? (Circle one) Yes No

What additional information would help you in your work?

MODULE 5 EVALUATION FORM

Date: _____ Health facility: _____

Please rate each topic in the table using the scoring system below.

1 = Good 2 = Average 3 = Poor

	Length	Relevance to my work	Presentation	Support from facilitators	Materials	Comments
MODULE 5. NACS MONITORING AND REPORTING						
5.1. Purpose of Recording NACS Data						
5.2. NACS Data Collection Forms						
5.3 NACS Indicators						
5.4. Site Practice Visit						
5.5. Action Plan						

General comments:

Were your expectations for this module met? (Circle one) Yes No

What additional information would help you in your work?

ANNEX 4. SITE PRACTICE VISIT PLANNING GUIDE

1–4 weeks before the visit	
Request and organise a visit to a health facility that provides NACS services.	▪ Write the facility manager requesting permission for the visit. Include a brief description of the training, participants, objectives, proposed date and length of the visit. ▪ Contact as many staff as possible with whom the participants will interact.
Send a confirmation letter 1–4 weeks before the visit.	▪ Write a confirmation letter reminding/informing the staff of the date and length of the visit, objectives, number of participants, departments to visit and what participants will observe.
Week of the visit	
Confirm the visit.	▪ Telephone or write another letter to confirm. Also confirm the number of participants.
Select a team leader, prepare name tags and set a time for debriefing.	▪ Have at least one trainer accompany each group of participants. Groups may select a team leader. ▪ Ask participants to wear their name tags. ▪ Remind participants of the return time.
At the site	
Pay a courtesy call to the facility manager and brief the health care providers.	▪ Explain the purpose of the visit and introduce the participants. ▪ Ask the health care providers to explain what they do. ▪ Remind participants to make their planned observations.
Thank the health care providers.	▪ Thank each health care provider at the end of each observation. ▪ Thank the manager at the end of the visit, if appropriate.
Back in plenary	
Debrief.	▪ Ask participants to discuss the challenges they saw in providing NACS services and ways to address these challenges. ▪ Discuss services and activities the participants think they could implement in their own facilities. ▪ Discuss what could be improved.
1 week after the visit	
Send a thank-you note.	▪ Write the health facility manager to express your appreciation.

ANNEX 5. FINAL COURSE EVALUATION FORM

Please answer the questions below.

1. Did the course meet your expectations? (Circle one) Yes No

If not, which expectations were not met?

2. What would you recommend to improve the way the facilitators taught the course?

3. What would you recommend to improve the logistics and administration of the course?

4. What do you think about the length of the course? (Circle one)

a) Just right
b) Too short (how many days would you recommend?)
c) Too long (how many days would you recommend?)

5. What useful skills and knowledge did this course give you?
I learned:

I realised (about myself):

I was surprised that:

I was disappointed that:

6. Which topics should have been given more time and why?

7. Which topics should have been given less time and why?

8. How will you use the knowledge, skills or materials provided during this course in your job?

Fill out the table below, rating each criterion by giving a score and comment.
1 = Excellent 2 = Very good 3 = Average 4 = Poor 5 = Very poor

Criterion	Score	Comments/suggestions
1. I received enough information about the course beforehand.		
2. The venue was appropriate.		
3. The teaching methods and materials were appropriate.		
4. The course was logical and flowed well.		
5. The facilitators were knowledgeable and communicated the information well.		
6. The practical sessions were interesting and useful.		
7. My questions were answered to my satisfaction.		
8. The content was practical for my work and not too theoretical.		
9. I acquired skills that will improve my work.		
10. I would recommend this course to someone else.		

Tick one.	**1 Strongly disagree**	**2 Disagree**	**3 Neither agree nor disagree**	**4 Agree**	**5 Strongly agree**
The training achieved its objective of giving me the knowledge and skills needed to implement NACS in my workplace.					