THE REPUBLIC OF UGANDA

Ministry of Health

INTEGRATING NUTRITION ASSESSMENT, COUNSELLING, AND SUPPORT INTO HEALTH SERVICE DELIVERY

Training Course for Facility-Based Health Providers

FACILITATORS' MANUAL

2016

Foreword

Malnutrition is a major public health concern in Uganda, affecting all regions of the country and most segments of the population. According to the three most recent Uganda Demographic and Health Surveys (2001, 2006, 2011), key nutrition indicators for young children and their mothers have improved. However, more improvement is needed to attain our full health, education, and economic potential. As a result, the Government of Uganda has prioritized nutrition as a key factor in human development and economic productivity, as reflected in the draft National Development Plan II (2015/16–2019/20), Uganda Vision 2040, Health Sector Strategic and Investment Plan (HSSIP) (2010–2014), and the Uganda Nutrition Action Plan (2011–2016).

The Ministry of Health and development partners have provided targeted nutrition interventions to selected districts and health facilities using the nutrition assessment, counselling, and support (NACS) approach in services for people living with HIV (PLHIV). However, to sustain and scale up nutrition interventions, there is a need to refocus and strengthen nutrition care and quality improvement in targeted districts and health facilities.

The NACS approach aims to improve the nutritional status of individuals and populations by integrating nutrition into policies, programmes, and the health service delivery infrastructure. The approach strengthens the capacity of facility- and community-based health care providers to deliver nutrition-specific services while linking clients to nutrition-sensitive interventions provided by the health, agriculture, food security, social protection, education, and rural development sectors. The NACS approach also strengthens the broader health system by improving technical capacity that can be applied to other nutrition interventions, identifying referral pathways, establishing protocols for supervision and commodity management, improving client flow within health services, and improving data management.

As part of strengthening the NACS approach, the Ministry of Health, working in partnership with stakeholders, has developed this training manual, *Integrating Nutrition Assessment, Counselling, and Support into Health Service Delivery*. The course covers basic nutrition, maternal nutrition, infant and young child feeding, management of malnutrition, and the interaction between nutrition and infectious diseases including HIV and tuberculosis. The content covers the entire continuum of care—promotion, prevention, and treatment—at all health service delivery points.

It is my sincere hope that the users of this manual will find it a useful reference material in their daily work.

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Acknowledgements

The *Integrating Nutrition Assessment, Counselling, and Support into Health Service Delivery* course is shaped by the guidelines for integrated management of acute malnutrition (2010); infant and young child feeding (2012); maternal nutrition (2011); nutrition care and support for people living with HIV (2005); and the integrated guidelines on antiretroviral therapy, prevention of mother-to-child transmission of HIV, and infant and young child feeding (2010).

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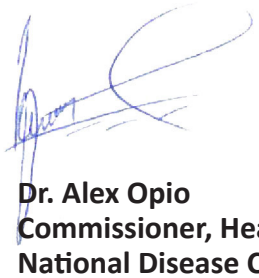

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Acronyms

AIDS	Acquired immunodeficiency syndrome
AMC	Average monthly consumption
ART	Antiretroviral therapy
ARV	Antiretroviral
BFHI	Baby-Friendly Hospital Initiative
BMI	Body mass index
CAM	Complementary and alternative medicines
CSB	Corn-soya blend
FBF	Fortified blended food
GMP	Growth monitoring and promotion
HAART	Highly active antiretroviral therapy
HAZ	Height-/length-for-age z-score
HC	Health centre
HFA	Height for age
HIV	Human immunodeficiency virus
HMIS	Health management information system
HSD	Health sub-district
IMAM	Integrated management of malnutrition
ITC	Inpatient therapeutic care
ITN	Insecticide-treated nets
IYCF	Infant and young child feeding
JMS	Joint Medical Stores
kcal	Kilocalorie
MAM	Moderate acute malnutrition
MCH	Maternal and child health
MOH	Ministry of Health
MTCT	Mother-to-child transmission
MUAC	Mid-upper arm circumference
NACS	Nutrition assessment, counselling, and support
NMS	National Medical Stores
OIs	Opportunistic infections
OPD	Outpatient department
ORS	Oral rehydration solution
OTC	Outpatient therapeutic care
PDSA	Plan, do, study, act
PLHIV	People living with HIV
PMTCT	Prevention of mother-to-child transmission
QI	Quality improvement
QIF	Quality Improvement Framework
RUTF	Ready-to-use therapeutic food
SAM	Severe acute malnutrition
SD	Standard deviation
SFP	Supplementary feeding programme
TASO	The AIDS Support Organization
TB	Tuberculosis
UNICEF	United Nations Children's Fund
WASH	Water, sanitation, and hygiene
WFA	Weight for age
WFH	Weight for height
WHO	World Health Organization
WHZ	Weight for height z-score

INTRODUCTION TO THE COURSE

COURSE OVERVIEW

The Ministry of Health's *Integrating Nutrition Assessment, Counselling, and Support into Health Service Delivery Training Course for Facility-Based Providers* aims to strengthen health systems for delivery of quality nutrition services in the country. This course is a revision of the 2009–2012 *Comprehensive Nutrition Care for People Living with HIV/AIDS* course. It covers basic nutrition, management of malnutrition, maternal nutrition, infant and young child feeding, nutrition and infectious diseases including HIV and tuberculosis (TB), nutrition education and counselling, management of nutrition commodities and supplies, and monitoring and reporting on nutrition indicators. The content is based on Uganda's 2012 *Integrated Management of Acute Malnutrition (IMAM) Guidelines*; 2012 *Policy Guidelines on Infant and Young Child Feeding*; 2012 *Integrated National Guidelines on Antiretroviral Therapy, Prevention of Mother-to-Child Transmission of HIV and Infant and Young Child Feeding*; 2010 *Guidelines on Maternal Nutrition in Uganda*; and 2005 *Nutritional Care and Support for People Living with HIV: Guidelines for Service Providers*.

The course focuses on improving the capacity of health service providers at all levels to integrate nutrition assessment, counselling, and support (NACS) into all health service delivery points, including antenatal, maternity, postnatal, young child clinics, family planning, HIV, inpatient wards and outpatient clinics, and community outreach and village health team activities. An important aspect of this course is its increased focus on preventive nutrition services at both facility and community levels. Efforts have been put in place to strengthen linkages between health facilities and communities for increased uptake of and adherence to nutrition services, follow-up of patients, and two-way referrals between clinics and community support services.

The content has been broadened to cover the entire continuum of care—from prevention to treatment to promotion—at all health service delivery points. The course emphasizes quality improvement, and mentoring and coaching are provided 1 month after the course to ensure that participants are effectively implementing what they have learned.

How to Use This Manual

This Facilitator's Manual, which provides guidance on how to facilitate each session of the course, is accompanied by a set of PowerPoint presentations and a Reference Guide. Note that additional technical information is included in the 'notes' section of the PowerPoint slides, as well as in the Reference Guide for training participants. We recommend that you review the PowerPoint notes in advance of each session and print the notes pages if necessary.

The manual uses the following symbols:

Symbol	Interpretation
	Session purpose
	Session objectives
	Session time
	Teaching materials
	Preparation
	Notes for the facilitator
	Demonstration/role play
	Group work

Course Aim

This course is designed to train health care providers to integrate NACS into health service delivery. The course will:

- Help providers appreciate the importance of nutrition in promoting good health and development
- Equip providers with knowledge, techniques, and skills to:
  - Assess clients' nutrition status at both facility and community levels
  - Provide counselling and appropriate support on nutrition actions to all clients, including pregnant and lactating women
  - Apply quality improvement principles in implementing NACS
  - Collect, monitor, report, disseminate, and use NACS data
  - Foster linkages among the health facility, community, and other services for improved food security and economic advancement

Course Organization

This course is divided into four units and 22 sessions to be covered in 6 days.

Facilitators

This course requires at least four facilitators for a class of 25 participants to support the practice sessions, demonstrations, small group discussions, and role-plays. Of the four facilitators, one should be a nutritionist and one should have a medical background. One of these two facilitators should be the team leader.

The facilitators should have been trained by national NACS facilitators and should:

- Understand nutrition
- Be familiar with the health care system and relevant service delivery protocols
- Have experience in nutrition service delivery
- Have experience using adult learning methods and participatory training techniques
- Have counselling and communication skills
- Understand HIV/AIDS (e.g., modes of transmission, disease progression, prevention interventions, and care/treatment support for people living with HIV)

Training Setting

This course can be conducted in two different settings:

- **Central training setting:** The training is conducted at a central training venue and will run for 6 consecutive days.
- **Health facility training setting:** The training is conducted at a health facility where some or all of the participants work. Training is conducted in intervals so participants can study for a while and use the rest of the time to visit patients.

Selection of training setting will depend on a number of factors, such as programme objectives and the timeframe of the training.

Participants

The course is intended for doctors, nutritionists, clinical officers, nurses, midwives, pharmacists, social workers, counsellors, district health team members, and tutors. Data officers and nursing assistants can be targeted during mentorship and coaching sessions.

Training Preparation

Before the training, collect the following materials:

Stationery and equipment

- Writing pads, pens, and name tags for all participants
- Flip charts, paper cards, boxes of markers, and masking tape
- LCD projector, computer, and power extension cables
- Course certificates

Training forms (for all participants)

- Copies of pre-test and post-test (page 93)
- Copies of daily evaluation forms (page 102)
- Copies of course evaluation form (page 106)

Job aids (for all participants)

- A set of infant and young child feeding counselling cards
- *Integrating Nutrition Assessment, Counselling, and Support into Health Service Delivery—National Counselling Cards for People Living with HIV/AIDS and/or Tuberculosis*
- *Integrating Nutrition Assessment, Counselling, and Support into Health Service Delivery—Facility-Level Job Aids*

The following flyers/brochures:

- *How to Breastfeed Your Baby*
- *How to Feed Your Child after the Age of 6 Months*
- *Nutrition during Pregnancy and Breastfeeding*
- *Feeding a Sick Child*
- *How to Hand-Express Breast Milk*

Nutrition assessment equipment

- At least four weighing scales (adult and Salter scales)
- At least four height boards (adult and child)
- At least four pairs of weighing pants
- Optional: four portable mountable measuring tapes
- Dolls for practice
- Colour-coded age-appropriate mid-upper arm circumference (MUAC) tapes
- Growth reference tables and growth charts:
    - Children under 5: Height for age; weight for age; weight for height
    - Children 5–18: BMI for age
    - Adults 18+: BMI

Food-related supplies and data collection forms

Item	Description, Type, or Quantity
Therapeutic food	• F-75 • F-100 • Ready-to-use therapeutic food (RUTF) • Fortified blended food (FBF)
Cooking utensils	• 2 large sauce pans • 8 aluminium tiffin boxes • 4 mingling sticks with a flat bottom • 4 teaspoons and 4 tablespoons • 4 knives • 6 melamine plates • 4 10-litre buckets • 2 chopping boards • Food varieties
Samples of locally available foods from the three food groups	• Energy-giving ('GO') group (cereals, tubers) • Body-building ('GROW') group (animal-source products [poultry, meat, fish, eggs, dairy], edible insects, legumes, seeds, nuts) • Body protection ('GLOW') group (fruits, vegetables, iodised salt) • Water
Nutrition data collection and reporting forms (one hard copy each)	• Integrated nutrition register • Outpatient therapeutic care (OTC) ration card • Health management information system (HMIS) forms for monthly and quarterly reporting • Stock card • Dispensing log • Bi-monthly nutrition order form

Copies of national policy documents/guidelines (for all participants)

- Integrated management of acute malnutrition guidelines
- Baby-Friendly Hospital Initiative implementation guidelines
- Infant and young child feeding policy guidelines (2012)
- Maternal nutrition guidelines (2010)
- Integrated national guidelines on ART, PMTCT, and IYCF (2012)
- Health Sector Quality Improvement Framework and Strategic Plan 2010/11–2014/15
- Nutrition care and support for PLHIV guidelines (2009)
- Improving the Quality of Life through Nutrition: A Guide for Feeding PLHIV (2006)
- Uganda Nutrition Action Plan 2011–2016
- National micronutrients guidelines (2013)

INTRODUCTORY SESSION (CLIMATE SETTING)

Purpose

To introduce participants to the course and create an environment conducive to learning.

Session Objectives

By the end of the session, participants should:	Duration
Know each other and complete the registration form	25 min.
Understand course expectations, identify 'leaders' that provide support for the training (e.g., timekeepers, leaders of energizers, coordination of groups, etc.), and determine course norms	30 min.
Understand nutrition trends in Uganda and identify key government efforts to combat malnutrition	15 min.

Estimated Time/Duration *(includes 5-minute wrap-up)* 75 minutes

Training Methods

Brainstorm, group discussions, and presentation

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Course Introduction: The Nutrition Situation in Uganda**

Advance Preparation

Before the session, prepare the following materials:

- Participant registration forms
- Daily sign-in sheet
- Participant training materials

Plan for participant introductions

1. Introduction and Registration

25 minutes

- Course registration forms

- Welcome participants to the training and introduce yourself.
- Ask participants to introduce themselves with the names they prefer to be called during the training.
- Distribute the course registration forms and ask participants to write their names. Inform participants that they will sign in daily.

2. Course Expectations, Norms, and Support

30 minutes

- Flip chart, marker, and tape

- Ask participants individually or in pairs to state their expectations for the training course and any fears they may have about participating.
- Record all participants' expectations on one flip chart and participant's fears on another.
- Facilitate discussion about participants' expectations using the course goals, objectives, and training agenda.
- Next, guide the participants in identifying norms (rules) for the training. Record the agreed course norms on a flipchart.
- Next, guide the selection of leaders who will help run the course. Record names and positions, duties, and responsibilities of selected team leaders and post on the wall.

3. Introduction to Nutrition in Uganda

15 minutes

- PowerPoint **Course Introduction: The Nutrition Situation in Uganda**
- Page 4 in Reference Manual

- Explain the nutrition situation in Uganda and current government efforts to address nutrition.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main key points.

5 minutes

1 UNIT

NUTRITION ASSESSMENT, COUNSELLING, AND SUPPORT

The unit contains the following sessions:

Session 1.1	Introduction to Nutrition	90 min.
Session 1.2	Malnutrition	100 min.
Session 1.3	Overview of the NACS Approach	40 min.
Session 1.4	Determing Nutritional Status of Individuals	275 min.
Session 1.5	Management of Acute Malnutrition	210 min.
Session 1.6	Counselling Skills for Nutrition	150 min.
Session 1.7	Nutrition and Health Education	100 min.
Session 1.8	Clinical Practice I (Nutrition Assessment)	210 min.

TOTAL DURATION **19 hours**

1.1 SESSION

INTRODUCTION TO NUTRITION

Purpose

To enhance participants' knowledge of basic nutrition and foods rich in specific nutrients.

Session Objectives

By the end of the session, participants should be able to:	Duration
Define common nutrition terms	15 min.
Explain the importance of adequate nutrition for health	20 min.
Describe essential nutrients needed by the body and their roles	30 min.
Identify food sources of specific nutrients	20 min.

Estimated Time/Duration *(includes 5-minute wrap-up)* 90 minutes

Training Methods

Brainstorm, lecture, group discussion, and presentation

Training Materials

- Markers, masking tape, and flip chart
- Flip charts with the seven key nutrition terms listed
- Flip charts with drawings or pictures of locally available foods (optional)
- Visualization in Participatory Programmes (VIPP) cards (i.e., multicoloured paper cards of different shapes and sizes)
- Computer, LCD projector
- PowerPoint presentation **Session 1.1: Introduction to Nutrition**
- Printouts of slides (for reference) for each facilitator
- Reference Manual (or print-outs of appropriate sections) for each facilitator and participant

Facilitator's Notes

Key Points

- Good nutrition is essential for healthy growth, development, physical fitness, and fighting illness and infection.
- Good nutrition means eating a balanced diet that includes animal-source foods (meat, poultry, fish, eggs, dairy), beans and nuts, a variety of fruits and vegetables, cereals, roots, tubers, and grains; and consuming plenty of water.

1. Key Nutrition-Related Terms

15 minutes

- Slides 1–6 of **PowerPoint 1.1 Introduction to Nutrition**
- Page 8 in Reference Manual

- Introduce the session using slides 1 and 2.
- In plenary, brainstorm the meaning of the seven terms (slide 3).
- Write responses on the flip charts.
- Fill in gaps in participants' responses as needed (slides 4–6 and page 8 in Reference Manual).

2. Importance of Nutrition

20 minutes

- Slide 7
- Page 8 in Reference Manual

- Lead a brainstorm session on the importance of nutrition (slide 7). Ask participants the following questions in plenary:

  'Why is nutrition important for health?'

  'What could happen to someone who has poor nutrition?'
- Discuss responses and fill in gaps as needed (page 8 of Reference Manual).

3. Essential Nutrients

30 minutes

- Slides 8–14
- Pages 9–11 in Reference Manual

- In plenary, ask participants to name essential nutrients.
- Write responses on VIPP cards and post on wall.
- Discuss and come to agreement on essential nutrients.
- Ask participants to categorize them into macronutrients and micronutrients (group VIPP cards together on wall).
- Discuss the roles of these nutrients (slides 8–14; pages 9–11 of Reference Manual).

4. Foods Rich in Specific Nutrients (Food Groups)

20 minutes

- Slides 15–20
- Pages 11–12 in Reference Manual

- Discuss the three broad food groups:
  - 'Go' foods (energy foods)
  - 'Grow' foods (body-building foods)
  - 'Glow' foods (body-protecting foods)
- Post labels with 'Go', 'Grow', and 'Glow' on the wall.

Option 1

Provide pictures/drawings of commonly available foods. Ask participants to categorize the different foods by pasting the pictures under the appropriate food group labels.

Option 2

Ask participants to write names of locally available foods on VIPP cards and post them under the appropriate food group labels.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main key points.

5 minutes

1.2 SESSION

MALNUTRITION

Purpose

To enhance participants' knowledge of the causes and consequences of malnutrition.

Session Objectives

By the end of the session, participants should be able to:	Duration
Explain the meaning of 'malnutrition'	5 min.
Explain the types of malnutrition	10 min.
Discuss the causes, consequences, and prevention of undernutrition	60 min.
DDiscuss the causes, consequences, and prevention of overnutrition	20 min.

Estimated Time/Duration *(includes 5-minute wrap-up)* **100 minutes**

Training Methods

Brainstorm, group discussion, presentation, gallery walk

Training Materials

- Markers, masking tape, and flip chart
- Computer, LCD projector
- PowerPoint presentation **Session 1.2: Malnutrition**
- Pictures/photos of malnourished adults and children (optional)

Facilitator's Notes

Key Points

- Malnutrition can be undernutrition or overnutrition.
- Undernutrition includes acute malnutrition, chronic malnutrition, and micronutrient deficiencies.
- Undernutrition has immediate causes (inadequate food intake and illness), underlying causes (household food insecurity; inadequate maternal and child care practices; and poor access to health, water, and sanitation services), and basic causes (suboptimal political, economic, and social policies and systems).
- Consequences of malnutrition include increased illness and death, poor growth and development, lower labour productivity, poorer educational attainment, and noncommunicable disease like diabetes and hypertension.
- Undernutrition occurs across the life cycle and can pass from one generation to another. It is important to break this cycle through interventions to promote nutritional status of adolescent girls and women of reproductive age, and from pregnancy through 24 months of age.

1. Meaning of 'malnutrition'

5 minutes

- Slides 1–4 of **PowerPoint 1.2 Malnutrition**
- Page 14 in the Reference Manual

- Slide 3: Plenary discussion. Ask participants:
  'What is malnutrition?'
  'What do you think of when you hear the term malnutrition?'
- Facilitate an open discussion, clarifying/correcting where necessary.
- Show slide 4 (meaning of malnutrition).
- Ask for questions to clarify.

2. Types of Malnutrition

10 minutes

- Slides 5–16
- Page 14 in Reference Manual

- Present the different types and categories of malnutrition (slide 5).
- Plenary discussion: choose an option below (slide 6).

Option 1	Option 2
Gallery walk: Place pictures of malnourished patients on a table or wall and ask participants to walk around to identify each of them and write their answers down.	Flash slides 7–17 and ask participants to identify the types of malnutrition shown.

- Review the types of malnutrition identified and let participants discuss the groups most affected (age group, sex, region).

3. Undernutrition: Causes, Consequences, and Prevention

60 minutes

- Slides 17–27
- Pages 15–17 in Reference Manual

- Divide participants into four groups and ask each group to review the causes, consequences, at-risk groups and prevention of undernutrition; and present in plenary (slide 18). (15 min).

  Group 1 – Individual level

  Group 2 – Household level

  Group 3 – Community

  Group 4 - National level
- Ask the groups to present in plenary and invite other participants to add or ask questions (15 min).
  - Briefly introduce the conceptual frame work and guide the participants to align their points along the levels of causes (slide 20).
  - Discuss the consequences; identify the immediate, long-term and permanent causes from the plenary discussion (slides 21–24).
- Discuss the at-risk groups (slides 25–26).
- Discuss how undernutrition can be prevented (slide 27).

4. Overnutrition: Causes, Consequences, and Prevention

20 minutes

- Slides 28–31
- Pages 19–21 in Reference Manual

- Interactive discussion: Show and discuss slides 28–31.
- In plenary, discuss the causes, consequences, and prevention of overnutrition (slide 32); capture the points on a flip chart and summarize (slides 33–35).

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main key points.

5 minutes

1.3 SESSION

OVERVIEW OF THE NACS APPROACH

Purpose

To introduce participants to the nutrition assessment, counselling, and support (NACS) approach.

Session Objectives

By the end of the session, participants should be able to:	Duration
Explain the NACS approach and describe its components	25 min.
Discuss elements of NACS that can help achieve better health and nutrition outcomes	5 min.
Explain the supporting elements for NACS	5 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

40 minutes

Training Methods

Brainstorm, group discussion, presentation, gallery walk

Training Materials

- Markers, masking tape, and flip chart
- Computer, LCD projector
- PowerPoint presentation **Session 1.3: Overview of the NACS Approach**

Facilitator's Notes

Key Points

- NACS includes: nutrition assessment, nutrition counselling, nutrition support.
- NACS is applicable to all health service delivery contact points and to people of all ages. In Uganda, the primary target groups are children under 2 years, pregnant and lactating mothers, children over 2 years with evidence of growth faltering, and adults in care and treatment programs.
- Each NACS component is important. Nutrition assessment guides nutrition counselling and treatment of SAM and MAM. Counselling and treatment should also be connected to appropriate complementary nutrition-sensitive services including WASH and economic strengthening programs.
- Successful implementation of NACS requires adequate human resources; capacity building of staff; continuous quality improvement; policies, strategies and guidelines; adequate funding; supply chain management; functioning referral systems; and robust monitoring and evaluation.

1. Explanation of the NACS Approach and its Components

25 minutes

- Slides 1–8 of **PowerPoint 1.3 Overview of the NACS Approach**
- Pages 23–24 in the Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants to define the acronym 'NACS'.
- Record and facilitate discussion of participants' responses. Fill in gaps as needed.
- Present the components of NACS approach (slides 3–8).

2. Elements of NACS That Can Help Achieve Better Health and Nutrition Outcomes

5 minutes

- Slides 9–11
- Page 25 in Reference Manual

- Explain why water, sanitation, and hygiene (WASH) promotion and economic strengthening/livelihoods are necessary for effective NACS implementation (slides 9–11).

3. Supporting Elements for NACS

5 minutes

- Slide 12
- Page 26 in Reference Manual

- Discuss the supporting elements of NACS (slide 12).

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main key points.

5 minutes

1.4 SESSION

DETERMINING NUTRITIONAL STATUS OF INDIVIDUALS

Purpose

To equip participants with the knowledge and skills to conduct nutritional assessments and classify nutritional status.

Session Objectives

By the end of the session, participants should be able to:	Duration
Demonstrate ability to use common anthropometric equipment to take accurate measurements	90 min.
Use a combination of anthropometric measurements to determine nutrition status of individual	90 min.
Appreciate the use of anthropometric indices in growth monitoring and promotion of infants, 0–2 years	30 min
Describe common clinical signs associated with severe acute malnutrition	60 min.

Estimated Time/Duration *(includes 5-minute wrap-up)* 275 minutes

Training Methods

Brainstorm, group discussion, group exercises, practice, and presentation

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 1.4: Assessment and Classification of Nutritional Status**

- Length/height boards; mid-upper arm circumference (MUAC) tapes of appropriate sizes for children and adults; weighing scales for infants, children, and adults; and rope for hanging Salter scales
- Dolls for practicing weighing and measuring
- WHO growth curves and field tables (available at *www.who.int/childgrowth/standards/en/*)
- BMI and BMI for age look-up tables (available at *www.fantaproject.org/tools/bmi-look-up-tables*)
- BMI wheel for adults and children (5 years to <19 years)

1. Anthropometric Equipment

20 minutes

- Slides 1–6 of **PowerPoint Session 1.4: Assessment and Classification of Nutritional Status**
- Page 28 in Reference Manual

- Introduce the session using slides 1 and 2.
- Define the term 'anthropometry' and introduce commonly used weighing scales, height/length board and MUAC tapes (slides 3–6).

2. Anthropometric Measurements

90 minutes

- Slides 7–18
- Pages 28–38 in Reference Manual

- Explain and demonstrate how to take accurate weights (slides 7–12).
- Explain and demonstrate how to take accurate length/height (slides 13–14).
- Explain and demonstrate how to take accurate MUAC (slides 15–17).
- Introduce group work (slide 18). Pair up the participants. Let each pair practice taking weight, height/length, and MUAC. Each pair should record the measurements for use in the next session.
- Practice: Divide participants into groups and have them practice measuring weight, height, and MUAC.

Group Work: Measuring MUAC, Weight, and Height (30 minutes)

- Show slide 18 on MUAC Cut-off Points for Children and Adults
- Divide participants into groups and have the groups use dolls to practice measuring the following (slide 18):

  MUAC

  Weight of children 25 kg or less and children greater than 25 kg

  Height of children under 2 years and children 2 years and older

3. Anthropometric Indices and Classification of Nutritional Status

85 minutes

- Slides 19–37
- Pages 39–50 in Reference Manual

- Introduce the building blocks for indices (slides 19–20).
- Discuss BMI and how to calculate BMI (slides 21-22).
- Discuss classification of nutrition status using z-scores and use of WHO field tables and charts; make reference to available charts and tables (slides 23–27).
- Discuss classification of nutrition status using cut-offs (slides 28–33).
- Group work (slide 34).
- Practice: Have participants practice calculating BMI.
- Practice: Have participants practice use of MUAC cut-offs, BMI wheel to determine nutrition status
- Practice: Have participants practice using WHO charts and field tables to determine z-scores and nutrition status.

  NB: When using the BMI wheel, 'severe underweight' means SAM, 'moderate underweight' means MAM, and 'mild underweight' means at-risk for malnutrition
- All facilitators should support the participants as they practice.
- Summarize (slides 35–37).

Group Work: Classify Nutritional Status Using Z-Scores

Use the weight for length/height growth curves/charts and tables to find the z-scores for the following children and classify their nutritional status.	ANSWERS
A boy 1 year with a length of 62 cm and weight of 5 kg	< -3 z-score, SAM (tables)
A girl 3 years with weight of 7.6 kg and height of 70 cm	-1 z-score, at risk/mild malnutrition

Use the weight for age growth curves/charts and tables to find the z-scores for the following children and classify their nutritional status.	ANSWERS
A boy 4 years, 8 months, who weighs 11.8 kg	< -3 z-score, severely underweight
A girl 8 months, who weighs 7.2 kg	> -1 z-score and <0 z-score/median, normal weight

Use the height/length for age growth curves/charts and tables to find the z-scores for the following children and classify their nutritional status.	ANSWERS
A girl who is 2 years, 4 months and is 92 cm	> 0 z-score and < +1-score, normal status
A boy who is 1 year, 5 months and 74 cm	< -2 z-score and > -3-score, moderately stunted

Group Work: Find BMI

Find BMI on the BMI table for the following clients.	ANSWERS
A man weighing 60 kg with a height of 154 cm	25.3
A woman weighing 86 kg with a height 160 cm	33.6
A woman weighing 45.6 kg with a height of 159 cm	18

Use the BMI wheel to find BMI and nutritional status.	BMI	Nutritional status
An adult weighing 52 kg with a height of 184 cm	15.4	Severe acute malnutrition
An adult weighing 40 kg with a height 148 cm	18.3	Moderate malnutrition
An adult weighing 68 kg with a height of 190 cm	18.8	Normal
An adult weighing 94 kg with a height of 172 cm	31.8	Obese

Group Work: Use BMI for Age to Classify Malnutrition

Calculate the BMI and then use the BMI for age charts to find the BMI for age z-score and the malnutrition classification for the following children.	ANSWERS
A boy 6 years with a height of 94 cm and weight of 10.5 kg	BMI of 11.9, BMI for age < -3 z-score, SAM
A girl 10 years with a height of 105 cm and weight of 20.7 kg	BMI of 18.8, BMI for age > +1 z-score, overweight

Use the BMI wheel to find BMI and nutritional status.	BMI	Nutritional status
A man 17 years, 3 months weighing 43.2 kg with a height of 160 cm	16.9	Moderate acute malnutrition
A girl 14 years, 7 months weighing 38 kg with a height 145 cm	18.1	Normal
A boy 8 years, 4 months weighing 19 kg with a height of 125 cm	12.2	Severe acute malnutrition
A girl 7 years, 6 months weighing 23 kg with a height of 110 cm	19	Overweight
A boy 16 years, 0 months, weighing 88 kg with a height of 190 cm	24.5	Overweight

4. Group Exercises: Classifying Nutritional Status

30 minutes

Have participants classify nutritional status of the following patients based on anthropometric assessment, including WHZ, BMI, BMI for age, and bilateral pitting oedema.

Exercise 1.

Use the appropriate reference tables and charts to determine the z-scores and degree of malnutrition for the clients below. See annex.	ANSWERS
Boy, 2 years, 70 cm long, weighing 7.8 kg (use the weight for length chart)	-1 z-score, at risk
Girl, 13 years, 157 cm tall, weighing 30 kg (use the BMI for age chart)	< -3 z-score, SAM
Man, 174 cm tall, weighing 75 kg (use the BMI chart)	BMI 24.7, normal
Nonpregnant/nonpostpartum woman, 156 cm tall, weighing 40 kg (use the BMI chart)	BMI 16.2, MAM

Exercise 2.

Use the appropriate reference tables and charts to complete the missing information in the table below. Refer to annex.

	ANSWERS				
Client	**Weight for height z-score**	**BMI**	**BMI for age z- score**	**Bilateral pitting oedema**	**Classification**
Girl, 2 years, 82 cm long, weighing 8.6 kg	< -2	n/a	n/a	Absent	MAM
Boy, 1 year, 74 cm long, weighing 7.2 kg	< -3	n/a	n/a	Absent	SAM
Girl, 6 months, 55 cm long, weighing 3.9 kg	< -1	n/a	n/a	Absent	At risk/mild malnutrition
Girl, 1.5 years, 102 cm long, weighing 12 kg	-3	n/a	n/a	++	SAM
Girl, 10 years, 3 months, 150 cm tall, weighing 26.3 kg	n/a	11.6	< -3	++	SAM
Man, 20 years, 174 cm tall, weighing 47 kg	n/a	15.5	n/a	Absent	SAM
Woman, 50 years, 179 cm tall, weighing 82 kg	n/a	25.6	n/a	Absent	Overweight
Man, 45 years, 162 cm tall, weighing 36 kg	n/a	13.7	n/a	++	SAM (if other medical conditions ruled out)
Man, 19 years, 154 cm tall, weighing 35 kg	n/a	14.8	n/a	Absent	SAM
Pregnant girl, 16 years, 154 cm tall, weighing 40 kg	n/a	n/a	n/a	+	SAM (if other medical conditions ruled out). Should be assessed with MUAC.
Lactating woman, 157 cm tall, weighing 70 kg	n/a	n/a	n/a	Absent	Not enough information. Should be assessed with MUAC.

5. Use of Weight for Age in Growth Monitoring and Promotion

25 minutes

- Slides 38–42
- Pages 51–53 in Reference Manual

- Introduce and explain the benefits of GMP and the (slides 38–40).
- Discuss the use of the Child Health Card (slide 41).
- Group work (slide 42).

Denis was born with 2.7 kg on 12 June 2009. He presented with the following monthly weights.

	2009						2010							
Month	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	April	May	June	July	Aug
Weight (kg)	3.0	3.2	3.5	3.9	4.2	5.1	5.1	4.8	5.2	5.6	6.2	6.8	7.3	7.6

Plot Denis' growth pattern on the growth promotion card.

Angella was born in December 2014 with a weight of 3.6 kg. During 2015, her weights have varied as indicated below.

	2015											
Month	Jan	Feb	Mar	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Weight (kg)	3.8	3.8	4.2	5.2	6.0	7.0	7.2	7.8	8.5	9.0	9.2	9.5

Plot Angella's growth pattern on the growth promotion card.

Interpretation/Discussion

Denis is born at a normal weight for age. Because he does not gain as much weight as we would expect a healthy boy to gain his growth falters within the first month. He crosses z-score lines. By the second month he is well under -3 z-score (severely underweight) and continues to have a low weight for age. Starting between 8 and 9 months, his growth rate increases and by 1 year, 1 month, he is moderately underweight, but still well below – 2 z-score. If his rapid growth trajectory continues he may eventually enter the normal range.

Angella is born at a normal weight for age and falters in the first few months and she becomes moderately underweight (<-2 z-score). However, her growth rate increases between 3 and 4 months of age and she is in the normal category by age 4 months. She maintains rapid growth – a faster pace than the normal growth trajectory. By 10–12 months, she has a positive z-score and her growth is a normal pace, parallel with the median.

6. Clinical Assessment of Nutritional Status

20 minutes

- Slides 43–50
- Pages 54–57 in Reference Manual

- Explain clinical assessment of nutritional status (slides 43–47).
- Explain bilateral pitting oedema, its grades, and how to check for it (slides 48–50).
- Refer the participants to the Reference Manual (Table 1.4.4). Let the participants read the clinical signs in turns.

Wrap-up

Answer participants' questions, and summarize session by objectives, highlighting main key points.

5 minutes

1.5 SESSION

MANAGEMENT OF ACUTE MALNUTRITION

Purpose

To enhance participants' knowledge of the concept and protocols of comprehensive outpatient therapeutic care (OTC) for children, adults, and pregnant and lactating women.

Session Objectives

By the end of the session, participants should be able to:	Duration
Describe common types of therapeutic and supplementary foods used in nutrition care	20 min.
Describe types of care in management of acute malnutrition	40 min.
Discuss the protocols of comprehensive OTC	120 min.
Describe discharge criteria/outcomes of OTC	25 min.

Estimated Time/Duration *(includes 5-minute wrap-up)* 210 minutes

Training Methods

Brainstorm, modified lecture, group discussion and presentations, demonstration, group work

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 1.5: Management of Acute Malnutrition**
- Samples of therapeutic and supplementary foods: F-75, F-100, ready-to-use therapeutic food (RUTF), and fortified blended food, such as corn-soya blend (CSB)

Facilitator's Notes

Key Points

- In addition to the necessary supplies and equipment, appropriately trained health workers are necessary for successful management of acute malnutrition.
- To prevent relapse, a client's social and medical problems need to be addressed.
- The current classification of acute malnutrition recommends three different levels of care:

  Inpatient therapeutic care (ITC): Clients with severe acute malnutrition (SAM) and medical complications, clients with moderate acute malnutrition (MAM) and medical complications

  Outpatient therapeutic care (OTC): Clients with SAM who pass an appetite test and have no medical complications, clients with MAM and HIV

  Supplementary feeding: Clients with MAM and no medical complications
- SAM is managed with therapeutic foods, including ready-to-use therapeutic food (RUTF) and milk-based F-75 and F-100, which are used in inpatient care only.
- MAM without HIV or medical complications is managed with fortified blended food, such as CSB.
- Traditional ITC manages all clients with SAM for all phases of care. The current ITC involves stabilizing clients with medical complications and then discharging them to OTC when their condition has stabilized and their appetite returns.
- OTC includes nutrition and health education, nutrition/anthropometric assessment, clinical assessment, appetite test, counselling, and provision of routine medicines and RUTF for all qualified clients.
- OTC clients return every 2 weeks for follow-up visits (they may return sooner if their condition deteriorates).

1. Introduction to Types of Care

40 minutes

- Slides 1–12
- Pages 59–61 in Reference Manual

- Introduce session using slides 1–2.
- Explain classification of acute malnutrition, type of care recommended and advantages of integrated care plan (slides 3–5).
- Brainstorm on the meaning of therapeutic and supplementary foods and let participants give examples of these foods (slide 6).
- Discuss therapeutic foods (slides 7–10) and supplemental foods (slides 11–12).
- Show commonly used samples of F-75, F-100, RUTF, and fortified blended food. Pass samples around; allow participants to taste them if they like. Discuss consistency, taste, packaging, and acceptability by age group.

2. Inpatient Therapeutic Care

15 minutes

- Slides 13–15
- Page 61 in Reference Manual

- Describe current ITC (slide 13).
- Briefly discuss the two phases of the ITC management protocol and the objective of each phase (slides 14–15).

3. Outpatient Therapeutic Care

80 minutes

- Slides 16–25
- Pages 62–70 in Reference Manual

- Define OTC and explain the key factors required for OTC (slide 16).
- Discuss requirements for integrating OTC into health care services (slide 17).
- Describe how clients are referred to OTC, and management protocol for OTC (slides 18–22).
- Discuss follow-up of OTC clients, itransfer of clients to ITC, and what to do if clients do not respond while in OTC (slides 23–25).
- Discuss the role of community resource persons (slide 26).

4. Discharge Criteria/Outcomes for OTC

25 minutes

- Slides 27–30
- Pages 70–71 in Reference Manual

- Explain discharge criteria/outcomes for OTC (slides 27–28).
- Brainstorm on causes of default (slide 29).
- Show and discuss program admission case scenario (slide 30).
- Divide participants into four groups and ask each group to discuss and present their responses for exercise 1 and 2 (slide 30).

Group Work: Malnutrition Status and Programme Admission/Discharge

45 minutes

- Slides 31–32 and page 72 in reference manual

Determining malnutrition status and programme admission

Divide participants into groups of two or three. Have the groups determine the degree of malnutrition (if present) of each client in the examples below and the ideal programme admission for the client (OTC, inpatient care, or neither). For example:

Robert: 15-month-old male, MUAC 105 mm, weight 9.2 kg, HIV negative, with no bilateral pitting oedema and no other complications.

Answer: The client has SAM without oedema and should be admitted into OTC.

Remind participants that:

- If the client is moderately or severely malnourished and her/his HIV status is unknown, the client should be encouraged to go for HIV testing.
- If the client is moderately malnourished, she/he must also be HIV positive to be admitted into OTC.

Determining whether to discharge and how to classify discharge

Still working in groups, have participants determine whether to discharge the following clients and how to classify the discharge (cured, default, death, non-respondent, medical transfer, transfer to ITC, transfer to other OTC).

Determining malnutrition status and programme admission	ANSWERS
Jemma: 24-month-old girl, MUAC 11.0 cm, HIV negative, no bilateral pitting oedema, no other complications	SAM without oedema; admit to OTC
Alice: 12-month-old girl, MUAC 12.0 cm, HIV positive, no bilateral pitting oedema, no other complications, has appetite	MAM with HIV; enroll in OTC and link caregiver to livelihood programs/SFP where they exist
Violet: 4-month-old girl, weight for height z-score < -3, HIV negative, no bilateral pitting oedema	Too young for OTC; refer to inpatient care
Lemlem: 18-month-old girl, MUAC 12.9 cm, weight 7.5 kg, HIV status unknown, bilateral pitting oedema grade ++, no other complications, has appetite	SAM with oedema; admit to OTC and refer for HIV testing
Isaac: 7-year-old boy, MUAC 13.2 cm, HIV negative, bilateral pitting oedema +++	SAM with oedema +++; admit to ITC
Miriam: 21-year-old woman, MUAC 18.0 cm, HIV negative, pregnant, no bilateral pitting oedema	SAM, admit to OTC
Determining whether to discharge and how to classify discharge	**ANSWERS**
Esther: 3 years of age, was admitted with MUAC of 11.2 cm. She has been enrolled 8 weeks, returning every 2 weeks for follow-up. She is HIV negative. She has gained 2.2 kilos. Her MUAC is now 12.7 cm, and she has no oedema or medical conditions.	Discharge cured
Patricia: 18 months of age, was admitted with MUAC of 10.8 cm and no oedema. She is HIV negative. She has been in the program for 4 weeks and gained 0.5 kilo. She returned for a follow-up visit. Her MUAC is now 11.0 cm, and she has developed oedema +.	Transfer to inpatient care, oedema is developing/ worsening

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points.

5 minutes

1.6 SESSION

COUNSELLING SKILLS FOR NUTRITION

Purpose

To enhance participants' knowledge and skills in counselling and communicating with clients and caregivers about nutrition.

Session Objectives

By the end of the session, participants should be able to:	Duration
Explain the importance of counselling in nutrition	10 min.
Describe counselling skills	20 min.
Demonstrate the ability to counsel in nutrition	115 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

150 minutes

Training Methods

Brainstorm, modified lecture, group discussion, and role plays

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 1.6: Counselling Skills for Nutrition**
- Counselling cards for nutrition care and support for people living with HIV (PLHIV) and infant and young child feeding (IYCF)

Facilitator's Notes

Key Points

- Counselling is an interpersonal communication through which a person is helped to assess his/her current situation and explore his/her feelings in order to come up with a solution or a way to cope with the problem. Effective counselling respects the client's own thoughts, beliefs, and culture and does not force the client to accept certain ideas or solutions.
- GATHER—Greet, Ask, Tell, Help, Explain, Reassure/Return/Refer—encompasses the characteristics of effective counselling.
- Active listening includes techniques such as using nonverbal communication, asking 'open' questions, 'reflecting back' what the client says, showing empathy, and using nonjudging words.

1. Definition of Counselling and Its Importance in Nutrition

10 minutes

- Slides 1–7 of **PowerPoint 1.6 Counselling Skills for Nutrition**
- Page 74 in Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants to explain the term 'counselling,' key practices for effective counselling, and what practices to avoid during counselling (slide 3).
- Explain what counselling is and what counselling is not (slides 4–6).
- Discuss the importance of counselling in nutrition (slide 7).

2. The GATHER Approach to Counselling

15 minutes

- Slide 8
- Pages 75–76 in Reference Manual

- Explain the GATHER approach to counselling clients in nutrition.

3. Counselling Skills: Active Listening

35 minutes

- Slides 9–10
- Pages 77–81 in Reference Manual

- Discuss active listening skills (slide 9).
- Role plays: Divide participants into small groups to perform role plays on active listening using accompanying case scenarios (slide 10).

4. Counselling Skills: Confidence-Building and Support

75 minutes

- Slides 11–12
- Pages 82–84 in Reference Manual

- Discuss confidence-building and supportive counselling skills (slide 11).
- Role plays: Divide participants into small groups to perform role plays on confidence-building and supportive skills using accompanying case scenarios (40 minutes; slide 12).

5. Preparing for the Counselling Session

10 minutes

- Slide 14
- Pages 85 in Reference Manual

- Discuss steps for preparing for a counselling session.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points.

5 minutes

1.7 SESSION

NUTRITION AND HEALTH EDUCATION

Purpose

To equip participants with knowledge and skills to plan, conduct, and evaluate nutrition and health talks.

Session Objectives

By the end of the session, participants should be able to:	Duration
Define 'nutrition and health education'	10 min.
Describe the benefits of effective nutrition and health education	10 min.
Describe channels for providing nutrition and health education to communities	10 min.
Describe the qualities of effective nutrition and health talks	20 min.
Identify steps for organizing and facilitating a nutrition and health talk	45 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

100 minutes

Training Methods

Brainstorm, group discussions, presentation, group work

Training Materials

- Markers, masking tape, and flip chart
- **Handout 1.7.1: Health Talk Observation Checklist**
- Computer, projector, and PowerPoint presentation **Session 1.7: Nutrition and Health Education**

Note: Parts of this session have been adapted from PATH/IYCN. 2011. *Strengthening Health Talks Training Manual*. Washington, DC: PATH. Accessible at http://iycn.wpengine.netdna-cdn.com/files/IYCN_Strengthening-Health-Talks-Manual_0311.pdf.

Facilitator's Notes

Key Points

- Nutrition and health education is an interactive meeting in which a health worker or community volunteer talks with a group of individuals in a community on a topic relevant to the health issues of that community. It is designed to help individuals and communities improve their nutrition and/or health.
- Planning nutrition and health talks involves clearly defining the audience, determining the best way for them to learn, and identifying the key messages they need to learn.
- The health talk facilitator should create rapport with participants during the talk, encourage discussion and participation, keep the discussion focused, and ensure that participants understand the key points.
- Facilitators of talks should work with participants to solve problems with practical solutions, be sure to provide accurate information, and refer people to resources as needed.

1. Nutrition and Health Education: Definition, Benefits, and Channels

30 minutes

- Slides 1–7 of **PowerPoint 1.7 Nutrition and Health Education**
- Pages 87–88 in Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants what they understand about nutrition and health education talks, and record their responses (slide 3).
- Help participants refine their responses to come up with the definition of nutrition and health education (slide 4).
- Discuss the benefits of effective nutrition and health education talks in communities (slide 5).
- Ask participants to describe ways nutrition and health education is provided (slide 6). Refer to 'Channels for providing nutrition and health education' (slide 7).

2. Qualities of Effective Nutrition and Health Education Talks

20 minutes

- Slide 8
- Pages 87–88 in Reference Manual

- Brainstorm about the qualities of effective nutrition and health talks with these questions:
  - What is the health talk facilitator's role when giving a talk?
  - What are the qualities of a good health talk?
  - What are the challenges to facilitating health talks well?
  - How can these challenges be overcome?
- Distribute copies of **Handout 1.7.1: Health Talk Observation Checklist** and review the criteria with the group.
- Ask a few participants to share their experiences with giving/observing health talks based on the checklist. Ask how well most health talks would be rated using this checklist, and why.

3. Organizing and Facilitating Effective Nutrition and Health Talks

15 minutes

- Slides 9–13
- Pages 88–89 in Reference Manual

- Ask participants to share how they prepare for nutrition and health talks, including the tools they use and anything that helps them feel better prepared (slide 9). Summarize the main points raised by participants.
- Review the steps for organizing and facilitating a talk below. Ask participants to comment on any steps they feel are missing or should be modified and to note their suggestions on a flip chart. Ask participants:
  - Which steps are most important?
  - 1) Before the talk (slides 10–11)
  - 2) During the talk (slide 12)
  - 3) After the talk (slide 13)

Group Work: Case Scenario

30 minutes

- Slide 14
- Handout 1.7.1: Health Talk Observation Checklist

- Divide participants into three groups.
- Ask each group to read the case scenario below and write down the steps one should follow to organize and facilitate a nutrition and health education session for the scenario. Participants should draw on their experience and use the **Handout 1.7.1: Health Talk Observation Checklist** as needed.
- Have each group present its work in turn while the rest of the groups use the Health Talk Observation Checklist to document the discussion.
- Encourage participants to provide feedback that is as specific as possible, reminding them that some participants might have less experience facilitating health talks and could learn from their experience. Invite other participants to provide suggestions based on their own experience.

Case Scenario

You need to hold a nutrition and health education talk in Kingingo, a village that is 25 km from your health facility in Nakasongola district, to discuss the advantages of proper nutrition for PLHIV. The audience will be mainly busy farmers, who would really appreciate a talk that is specific, concrete, and fun. What steps will you take before, during, and after the talk?

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points.

5 minutes

1.8 SESSION

CLINICAL PRACTICE I NUTRITION ASSESSMENT

Purpose

To practice nutrition assessment and categorization skills and explore how nutrition can be integrated into routine health services.

Session Objectives

By the end of the session, participants will be able to:
Practice measuring weight, height/length, and MUAC
Identify clinical signs of acute malnutrition
Conduct appetite test when RUTF is available
Categorize clients' nutritional status
Identify contact points where nutrition can be/is being integrated
Document their work on the **Clinical Practice Report Form**

Estimated Time/Duration

210 minutes

Advanced Preparations

- Obtain permission from the selected health facilities to conduct the clinical practice.
- Make sure participants have adequate knowledge and skills in clinical signs, anthropometric assessment, and classification of acute malnutrition; the WHO growth standards; and integrated management of acute malnutrition (IMAM).
- Arrange for transport if necessary.

- Arrange for each group of participants to have a tutor who mentors/supervises them in the clinical practice.
- Ensure that each group has the following basic anthropometric equipment and that the equipment is assembled and tested before the practice:
  - Height/length boards
  - MUAC tapes
  - Weighing scales for children and adults
  - Rope for hanging Salter scale
  - Facility-level job aids
  - Copies of the accompanying clinical practice report form

Clinical Practice

150 minutes

- Page 92 in Reference Manual

- Divide the participants into groups of three to four; make sure each group has a tutor, leader, and rapporteur.
- Have the groups visit different contact points at the clinic where they can:
  - Practice measuring weight, height/length, and MUAC
  - Identify clinical signs of acute malnutrition, including conducting appetite test where RUTF is available
  - Categorize clients' nutritional status
  - Identify contact points where nutrition can be/is being integrated
  - Observe and participate in the nutrition activities

Discussion

60 minutes

- After returning to the classroom/training area, have each group present the following in plenary:
  - What they were able to accomplish
  - Challenges faced
  - Lessons learnt
- Respond to challenges raised, discuss how they can incorporate nutrition into their own work, and plan a way forward for future clinical practice.

2 UNIT

MATERNAL AND YOUNG CHILD NUTRITION

This unit discusses maternal nutrition and health, as well as infant and young child feeding (IYCF) practices such as breastfeeding and complementary feeding. The unit is guided by the *Uganda Maternal Nutrition Guidelines* (2010), *Infant and Young Child Feeding Policy Guidelines* (2012 edition), and Baby-Friendly Health Facility Initiative implementation guidelines. The unit comprises the following sessions:

Session 2.1	Maternal Nutrition	65 min.
Session 2.2	Optimal Breastfeeding Practices	75 min.
Session 2.3	Complementary Feeding Practices	120 min.
Session 2.4	Feeding Children during Illness, Recovery, and Other Difficult Circumstances	70 min.
Session 2.5	Clinical Practice 2 (Breastfeeding Assessment Skills)	100 min.

TOTAL DURATION **7 hours, 10 minutes**

2.1 SESSION

MATERNAL NUTRITION

Purpose

To empower health workers with the knowledge and skills to deliver integrated maternal nutrition services at all contact points.

Session Objectives

By the end of the session, participants should be able to:	Duration
Explain the importance of maternal nutrition	10 min.
Explain the causes and consequences of maternal malnutrition	30 min.
Discuss interventions and strategies to break the cycle of maternal malnutrition	20 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

65 minutes

Training Methods

Brainstorm, group discussions, and presentation

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector
- PowerPoint presentation: **Session 2.1 Maternal Nutrition**
- *Guidelines on Maternal Nutrition in Uganda* (MOH 2010)
- *Policy Guidelines on Infant and Young Child Feeding* (MOH 2009)

Facilitator's Notes

Key Points

- Maternal nutrition is about all women of reproductive age.
- A woman's nutritional status before and during pregnancy and lactation influences the baby's and her own health.
- Pregnancy and lactation increase the body's demand for energy, protein, and other nutrients.
- Maternal malnutrition, including both underweight and overweight, increases risk of poor birth outcomes and illness and death of mother and child.
- There is an intergenerational cycle of malnutrition, which must be broken with key, age-appropriate interventions targeting adolescent girls, women of reproductive age, pregnant and lactating women, newborn babies, and children.

1. Definition and Importance of Maternal Nutrition

10 minutes

- Slides 1–4 and page 95 in the Reference Manual

- Introduce the session using slides 1 and 2.
- Brainstorm: Ask participants to define 'maternal nutrition' (slide 3). Record and process participants' responses on a flip chart.
- In pairs, ask participants to discuss why maternal nutrition is important. Allow each pair to contribute in plenary.
- Fill in any information gaps in the discussion (slide 4).

2. Causes and Consequences of Maternal Malnutrition

30 minutes

- Slides 5–6
- Pages 95–96 in Reference Manual

- Ask participants to identify the causes and consequences of maternal malnutrition.
- In a presentation, provide additional information or clarification on the causes and consequences of maternal malnutrition (slide 5).
- Discuss with participants the nutritional status of women in Uganda (slide 6).

3. Interventions and Strategies to Break the Cycle of Maternal Malnutrition

20 minutes

- Slides 7–10
- Pages 96–102 in Reference Manual

- Explain the intergenerational cycle of maternal malnutrition (slide 7)
- Divide participants into four groups and ask each group to discuss one point in the malnutrition cycle. Ask each group to suggest strategies to break the cycle at that point. Each group will present its work in plenary (slide 8).
- Summarize the interventions per critical stage (slides 9–10). Refer participants to the respective content in reference manual (pages 97–102) for details.

Wrap-up

Conclude the session by emphasizing the importance of nutrition at all levels to break the malnutrition cycle.

5 minutes

2.2 SESSION

OPTIMAL BREASTFEEDING PRACTICES

Purpose

To equip participants with knowledge and skills on optimal breastfeeding practices.

Session Objectives

By the end of the session, participants should be able to:	Duration
Describe optimal breastfeeding practices	10 min.
Describe the breast milk production process	30 min.
Examine factors and conditions that can affect breastfeeding	30 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

75 minutes

Training Methods

Brainstorm, group discussions, and presentation

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 2.2 Optimal Breastfeeding Practices**
- Dolls, model breasts, breastfeeding job aids
- Baby Friendly Hospital Initiative policy chart, BFHI health facility self-appraisal tools, and BFHI booklets (in draft as of December 2014, not yet publically available)

Facilitator's Notes

Key Points

- Breast milk is the ideal food for infants, containing all the energy, nutrients, and water needed for the first 6 months of life and for protecting the infant from disease. In addition, it is easily digested, and helps a baby's development.
- National guidelines in Uganda recommend exclusive breastfeeding starting within 1 hour of birth and continuing for the first 6 months of life followed by continued breastfeeding to 2 years of age or beyond.

  Infants born to HIV-positive mothers should also be exclusively breastfed starting within the first hour of birth and continuing through 6 months of age. For HIV-positive infants, breastfeeding should continue for 2 years or more. For HIV-negative infants, breastfeeding should continue for the first year. HIV-positive mothers should receive lifelong ARV treatment starting in pregnancy; infants should begin NVP/AZT prophylaxis for the first 4–6 weeks of life and be tested for HIV by 6 weeks of age.
- Breast milk production involves both maternal and infant processes. Milk production in the breast involves hormonal control (prolactin and oxytocin), and milk removal from the breast requires infant reflexes (rooting, sucking, and swallowing).
- Prolactin stimulates milk-secreting cells in the alveoli to produce milk; oxytocin causes the muscle cells around the alveoli to contract, causing milk to flow ('oxytocin reflex').
- The vast majority of women can produce sufficient breast milk for their infant. The more an infant suckles, the more milk a mother will produce. It is critical to support a woman's confidence in her ability to breastfeed her infant.
- Breast milk changes to meet the needs of the growing and developing infant. Colostrum is the first milk produced and is rich in antibodies, growth factors, protein, and vitamin A to provide the infant's 'first immunization'. It is essential that babies receive colostrum. By the second week of life, colostrum has transitioned to mature milk.
- Formula milk is generally made from cow's milk and other ingredients (soya, vegetable oils) and is processed to be similar to breast milk, but it will never be equivalent, nor will other animal milks. Breast milk varies from other animal milks and formula in the quantity of macro- and micronutrients it contains, as well as the bioactive compounds that are unique to breast milk.
- Optimal breastfeeding requires appropriate *positioning* and *attachment* to allow the baby to suckle effectively and avoid breast problems for the mother.
- To be positioned correctly for breastfeeding, a baby's head and body should be aligned in a straight line; the baby held close to and facing the mother's body, which is in a comfortable, relaxed and supported position; the baby's entire body supported; the baby's nose approaches the nipple, with the chin touching (or almost touching) the breast.
- Proper attachment should allow the infant to take a large mouthful of breast, with more of the areola visible above the baby's top lip. Signs of good attachment to the breast include baby's mouth being wide open, and the lower lip turned outward; baby taking slow, deep suckles followed by visible or audible swallows; baby's cheeks being full and round during a feed; no clicking or smacking noises; mother is not in pain; baby finishes a feed by him/herself and seems satisfied.

Key Points (continued)

- Women may have or develop breast conditions that make breastfeeding more challenging and may require additional support or treatment. These include flat/inverted nipples, engorgement, blocked ducts, mastitis, sore nipples, and candida of the breast. As part of managing all of these conditions, health workers should support and build a woman's confidence in her ability to breastfeed.

1. Breastfeeding Terms, Advantages, and Recommendations

25 minutes

- Slides 1–14 of PowerPoint Session 2.2 Optimal Breastfeeding Practices
- Pages 104–106 in Reference Manual

- Introduce the session using slides 1 and 2.
- Explain key terms used in infant and young child feeding (slide 4).
- Describe the advantages of breast milk and breastfeeding (slide 5).
- Divide the participants into two groups. Ask each group to discuss the good and harmful breastfeeding practices (slide 6).
- Discuss the good and harmful breastfeeding practices they see in their community (slide 7).
- Explain the national recommendations on infant and young child feeding (slide 8). Refer participants to the Reference Manual for details.
- In small groups (slide 9), discuss the similarities and differences in recommendations for children of HIV-positive and HIV-negative mothers.
- Present the national recommendations for feeding infants of HIV-infected mothers (slides 10–11).

2. Breast Milk Production

15 minutes

- Slides 12–18
- Pages 103–107 in Reference Manual

- Explain the breast milk production process, anatomy of the breast, hormonal control and the oxytocin reflex, as well as infant reflexes that allow effective milk removal.
- Discuss how health care workers can support a mother's milk supply and build her confidence in her ability to breastfeed.

3. Composition of Breast Milk

10 minutes

- Slides 19–23
- Page 112 in Reference Manual

- Explain the types of breast milk (colostrum and mature milk), and the important qualities of colostrum (slides 20–21).
- Large group discussion: Colostrum, differences between human and animal milk (slide 22).
- Partner discussion: How to counsel a mother who wishes to provide modified animal milk to her child instead of breast milk (slide 23).

4. Factors that Affect Breastfeeding: Positioning, Attachment, and Breast Conditions

20 minutes

- Slides 24–30
- Pages 113–118 in Reference Manual

Positioning and attachment of the baby during breastfeeding (10 min.)

- Discuss the four points of good positioning and signs of good attachment.
- Demonstrate different ways of positioning and attaching the baby to the breast.
- Show a few selected slides on good and poor positioning and attachment. Let participants discuss and agree on good positioning and attachment and then correct any mistakes.

Breast conditions that affect breastfeeding (10 min.)

Explain the following breast conditions and their management:

- Flat and inverted nipples: using a model breast, demonstrate how inverted nipples can be corrected using a syringe
- Engorged breast
- Blocked ducts and mastitis
- Sore nipple
- Candida of the breast

Wrap-up

Using slide 31, end the session by asking participants if they have any questions. Clarify any concerns or inaccuracies.

5 minutes

2.3 SESSION

COMPLEMENTARY FEEDING PRACTICES

Purpose

To equip participants with knowledge and skills on complementary feeding practices.

Session Objectives

Session Objectives

By the end of the session, participants should be able to:	Duration
Describe what complementary feeding is and why it is needed	10 min.
Describe nutrition gaps in breast milk after 6 months and appropriate foods to fill the gaps	15 min.
Describe principles for optimal complementary feeding, including optimal hygiene practices	30 min.
Demonstrate ability to use locally available foods for complementary feeding	60 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

120 minutes

Training Methods

Brainstorm, modified lecture, group discussion, demonstration

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 2.3 Complementary Feeding Practices**
- Locally available foods for complementary feeding and a table to display them
- Utensils and tools for preparation of complementary foods: bowls, plates, utensils, and tools for preparation of kitomero

Facilitator's Notes

Key Points

- Starting at 6 months of age, children need more nutrients tha breast milk alone can provide. Therefore, feed them complementary foods in addition to breastfeeding them.
- Continue breastfeeding until child is at least 2 years of age.
- Start with 1 to 2 spoonfuls of mashed food twice a day and gradually increase frequency, amount, and texture of food as child gets older.
- Provide a variety of foods (not just the staple food), including animal and plant foods in a range of colours to ensure the child is getting a variety of nutrients.
- Actively engage the child while feeding to encourage him or her to eat.
- Practice good hygiene, including good food hygiene.
- Wash hands with soap and flowing/poured water before preparing food and feeding.
  - Treat drinking water and water for washing or mixing into foods that will not be cooked further.
  - Store treated water in a covered container with a small mouth. Serve water by pouring or using with a clean ladle.
  - Cover food with a cloth, net, or lid and avoid contamination of cooked food with raw food.
  - Cook and reheat food thoroughly (heat to steaming).
- Promote WASH practices: water, sanitation, hygiene.

1. Introduction to Complementary Feeding

10 minutes

- Slides 1–5 of PowerPoint Session 2.3 Complementary Feeding Practices
- Page 121 in Reference Manual

- Introduce the session using slides 1–3.
- Define 'complementary feeding' (slides 4–5).
- Explain why children after 6 months require complementary feeding.

2. Nutrient Gaps in Breast Milk after 6 Months

15 minutes

- Slides 6–24
- Pages 121–123 in Reference Manual

- Ask participants to discuss potential nutrient gaps in breast milk after 6 months.
- Identify complementary foods to bridge nutrient gaps in breast milk after 6 months.

3. Principles for Optimal Complementary Feeding

30 minutes

- Slides 25–43
- Pages 124–129 in Reference Manual

- Explain the FATVAH principles and how the different principles contribute to complementary feeding.
- Discuss importance of WASH during complementary feeding and key WASH practices for nutrition care.

4. Group Work: Use Locally Available Foods to Prepare Complementary Feeds

60 minutes

- Slide 44

- Prepare a demonstration table of locally available foods in groups: Energy giving (Go), Body building, (Grow), Protective (Glow), and water.
- Use a combination of fresh, perishable, and dry foods in various forms: whole, powder, paste, liquid, semi-liquids, shredded, minced.
- Divide participants into small groups and let the groups prepare complementary feeds (Kitobero) for children.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slides 45–47).

5 minutes

2.4 SESSION

FEEDING CHILDREN DURING ILLNESS, RECOVERY, AND OTHER DIFFICULT CIRCUMSTANCES

Purpose

To equip participants to support and promote continued feeding of children under 2 during children's illness, recovery, and other difficult circumstances.

Session Objectives

By the end of the session, participants should be able to:	Duration
Explain the importance of feeding children during illness and recovery	15 min.
Discuss feeding practices for children during illness and recovery	20 min.
Discuss feeding options for children in difficult circumstances	30 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

70 minutes

Training Methods

Brainstorm, group discussions, and presentations

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector and PowerPoint presentation **Session 2.4 Feeding Children During Illness, Recovery, and Difficult Circumstances**
- *Infant and young child feeding policy guidelines*
- *Integrated National Guidelines on ART, PMTCT and IYCF, 2010*

1. Importance of Feeding Children during Illness and Recovery

15 minutes

- Slides 1–5 of PowerPoint Session 2.4 Feeding Children during Illness, Recovery, and Other Difficult Circumstances
- Page 131 in Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants to identify reasons why children may fail to eat during illness and recovery. Discuss participants' responses and record on a flip chart (slide 3).
- Ask participants why it is important to encourage sick children to eat during illness and recovery. Discuss participants' responses and record on a flip chart (slides 4–5).
- Supplement or correct participants' responses with the Powerpoint presentation.

2. Feeding Practices during Illness and Recovery

20 minutes

- Slides 6–13
- Pages 131–134 in Reference Manual

- Ask participants to identify appropriate feeding practices during illness and recovery. Discuss and record participants' responses on a flip chart (slide 6).
- As needed, review the details of feeding practices during illness and recovery on slides 7–13.

3. Feeding Options for Children in Difficult Circumstances

30 minutes

- Slides 14–28
- Pages 134–138

- Describe the categories of children in difficult circumstances:
  - Low birth weight babies
    - Who are able to suckle
    - Who cannot suckle
  - HIV-exposed infants and children
  - HIV-positive children
  - Children who are orphaned, abandoned, or in emergency situations (orphans and vulnerable children)
- Discuss feeding options for each category of children. Use combination of fresh, perishable, and dry foods in various forms: whole, powder, paste, liquid, semi-liquids, shredded, minced.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slides 29–31).

5 minutes

2.5 SESSION

CLINICAL PRACTICE 2 BREASTFEEDING ASSESSMENT SKILLS

Purpose

To practice helping mothers adopt optimal breastfeeding practices for infants.

Session Objectives

During the practicum, participants will be able to:
Help a mother to position her baby at the breast
Explain the benefits of breastfeeding to the mother
Identify and assist with challenges related to breastfeeding
After the practicum, participants will:
Discuss challenges related to assisting and counselling breastfeeding women

Estimated Time/Duration 100 minutes

Advanced Preparations

- Obtain permission from the selected health facilities to conduct the clinical practice (postnatal clinic, young children's clinic, early infant diagnosis, or other appropriate clinic).
- Arrange for transport if necessary. If you have to travel to another facility, hold the preparatory session in the classroom before you leave. This can be done on the evening or morning before the clinical practice.
- Arrange for each group of participants to have a mentor who will provide support and guidance to participants.

- Make copies of handouts for participants and mentors. These include counselling guidance, breastfeeding observation form, and counselling skills observations form for participants and mentors.

Materials Needed

- Uganda IYCF national counselling cards, especially cards 3, 4, and 5 and introductory section on 'positive counselling skills'.
- If possible, provide dolls for each group.

Preparation

10 minutes

- Pages 140–145 in Reference Manual

- Introduce the clinical practice session, objectives, and facilities to be visited.
- Discuss group expectations for the clinical practice session.
- Introduce the breastfeeding and counselling skills observation forms and distribute to participants.
- Review Handouts 1–4 (pages 140–145 of the Reference Manual) in advance.
- Divide the participants into groups of 3–4 participants; make sure each group has a mentor.

Groups will be visiting several different wards and clinics to observe and practice the skills they have learned in optimal breastfeeding practices to help mothers with breastfeeding, explain the benefits of breastfeeding, and explore challenges related to breastfeeding. When helping and counselling mothers it is important to remember several things:

- Observe the mother breastfeeding before you offer to help. Offer to help only if there is a difficulty.
- Help as much as possible in a 'hands off' manner so that mother learns to attach her own baby. If you need to show the mother, try to demonstrate first with your hand on your own body. You may need to use your hand to gently guide her, but ask her permission first before touching her.
- Talk about the key points a mother can see when breastfeeding—in line, close, supported, and facing—so that the mother can be confident and effective on her own.
- Some mothers and babies will need a longer time to learn. The health worker needs to observe and listen to the mother so that practical help and psychological support are provided appropriately.
- Note: Mentors should discuss Handouts 1–4 (pages 140–145 of the Reference Manual) with the participants before they interact with patients in the ward.

Clinical Practice

70 minutes

- Pages 140–145 in Reference Manual

Groups should visit the following wards/clinics: postnatal, young children's clinic, children's ward, and early infant diagnosis.

At the ward, participants should use knowledge learnt in the sessions on maternal health and nutrition; optimal breastfeeding practices; feeding children during illness, recovery, and in difficult circumstances; as well as how to support and build a mother's confidence in breastfeeding to practice to:

- Help a mother to position her baby at the breast
- Explain the benefits of breastfeeding to the mother
- Identify and assist with challenges related to breastfeeding

In the Ward

Participants should take turns talking to a mother, assessing how she breastfeeds, and helping her position and attach her baby if she needs help. The other group members should observe using the breastfeeding and counselling skills observation forms. A mentor will be with each group to assist as needed.

If you are the mentor:

- Demonstrate a counselling session for participants/counsellors to observe.
- Allow participants to practice counselling mothers.
- Provide guidance and support to the participants/counsellors as needed.
- Provide feedback to participants/counsellors after the session is over.

If you are the counsellor:
(Seek support from the mentor as needed while interacting with the mother)

- Introduce yourself and the group to the mother and ask her permission to talk to her.
- Explain your interest in how babies feed and ask permission to observe the mother feeding her baby.
- Establish rapport with the mother.
- Observe quietly at first, and offer help only if a problem arises or if there is a request for assistance.
- Assess positioning and attachment.
- Practice confidence and support skills.
- Thank the mother.

If you are the observer:

- Stand in the background, being as still and quiet as possible.
- Use the breastfeeding observation form and counselling skills observation form to guide you
- Make general observations about the mother and baby. For example, does she look happy? How does she interact with her baby?
- Make general observations about the conversation between the mother and the counsellor.
- Make specific observations about the counsellor's counselling skills.
- Notice in what aspects the counsellor could improve, for example, if she/he uses a judging word or asks a lot of 'closed' questions (questions to which the mother answers 'yes' and 'no').
- When a mother breastfeeds, note specific observations on the breastfeeding observation form about positioning and attachment.
- When the observation is over, thank the mother.

Note: Be discreet when writing on observation forms so that mothers do not feel intimidated.

Group Work: Sharing Field Experience

20 minutes

After returning the classroom/training area, have each group present the following in plenary:

- What they were able to accomplish
- Challenges faced assisting breastfeeding mothers as well as using appropriate counselling skills
- Any interesting or unique situations they observed among the mothers and babies and how they were dealt with
- Lessons learnt

Respond to challenges raised and plan a way forward for future clinical practice by summarizing:

- Common challenges the group faced in assisting breastfeeding mothers and how they can be addressed areas where counselling skills could be improved and strengthened

3 UNIT

NUTRITION CARE AND SUPPORT FOR PEOPLE LIVING WITH HIV AND/OR TUBERCULOSIS

The unit discusses nutrition assessment, counselling, and support for people living with HIV/AIDS (PLHIV) and/or tuberculosis (TB). The unit highlights drug-food interactions for the patients and related nutrition care. The last session is clinical practice in HIV/AIDS and TB care service points to assess, categorize, counsel, and support malnourished clients. The unit comprises the following sessions:

Session 3.1	Interaction between HIV and Nutrition	105 min.
Session 3.2	Nutrition Care and Support for Clients with Active Tuberculosis	80 min.
Session 3.3	Using Diet to Manage Drug Interactions and Side Effects from Common HIV/AIDS and Tuberculosis Therapies	75 min.
Session 3.4	Clinical Practice (Nutrition Care and Support for PLHIV and TB)	225 min.
TOTAL DURATION		**8 hours**

Note: In these sessions, facilitators and participants are advised to refer to the following guidelines for more specific information:

Integrated National Guidelines on Antiretroviral Therapy, Prevention of Mother to Child Transmission of HIV and on Infant & Young Child Feeding

Improving the Quality of Life through Nutrition: A Guide for Feeding People Living with HIV/ AIDS

Nutritional Care and Support for People Living with HIV/AIDS in Uganda: Guidelines for Service Providers

3.1 SESSION

INTERACTION BETWEEN HIV AND NUTRITION

Purpose

To provide participants with information about the relationship between nutrition and HIV/AIDS.

Session Objectives

By the end of the session, participants should be able to:	Duration
Explain the relationship between undernutrition and HIV	25 min.
Describe how HIV/AIDS affects nutrition among PLHIV	15 min.
Discuss the benefits of good nutrition for PLHIV	20 min.
Explain recommendations for nutrition assessment, counselling, and support for PLHIV	40 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

105 minutes

Training Methods

Brainstorm, group discussions, and presentations

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 3.1 Interaction between HIV and Nutrition**
- Counselling cards: Nutrition care and support for people living with HIV

Facilitator's Notes

Key Points

- There is a synergistic and cyclical relationship between HIV and undernutrition.
- HIV impairs nutritional intake, absorption, and utilization and increases losses. PLHIV suffer weight loss—both muscle mass and body fat—and also develop vitamin and mineral deficiencies.
- Poor nutritional status is associated with faster HIV disease progression and death.
- Improving and maintaining good nutrition may prolong health and delay HIV disease progression.
- Nutritional assessment and counselling should start early in the course of the HIV infection, even before other disease symptoms are observed.

1. Relationship between HIV and Undernutrition

25 minutes

- Slides 1–6
- Pages 148–149 in Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants to identify how HIV/AIDS affects nutritional status; record responses on a flip chart and discuss (slides 3).
- Explain the relationship between HIV and undernutrition and display the figure showing the cycle of HIV and undernutrition (slides 4–6).

2. Effects of Undernutrition on HIV/AIDS

15 minutes

- Slides 7–10
- Page 150 in Reference Manual

- In a brainstorming session, have participants identify effects of undernutrition on HIV/AIDS. Record responses on a flip chart and discuss (slides 7–9).
- Identify some of the common effects of HIV and undernutrition (slide 10).

3. Group Discussion: Benefits of Good Nutrition Among People Living with HIV

20 minutes

- Slides 11–12

- Divide participants into small groups and ask them to discuss benefits of good nutrition among people living with HIV (10 min.) (slide 11).
- Have the groups present their findings in plenary (10 min.).
- Fill in any gaps as needed (slide 12).

POTENTIAL RESPONSES

Good nutrition is important for people living with HIV and AIDS for several reasons:

- Prevents malnutrition and wasting
- Helps body fight opportunistic infections
- Helps achieve and maintain optimal body weight
- Helps build and maintain muscle mass
- Improves the effectiveness of medications
- Helps prolong good health
- Improves quality of life

4. Nutritional Management of HIV Patients

40 minutes

- Slides 13–25
- Pages 151–154 in Reference Manual

- Present on the overall objectives of nutritional management of HIV (slide 13).
- In small groups discuss recommendations for nutrition assessment, counselling, and support of patients with HIV.

Small Group Work: (slide 14)

- Break into three groups by topic: assessment, counselling, and support. Provide instructions (5 min.).
- Each group should develop recommendations for their topic and write on a flip chart (15 min.).
  - What nutrition assessments should be done for PLHIV?
  - When/how frequently should they be done?
  - What are key nutrition counselling messages that should be given to PLHIV?
  - What kind of nutrition support should be provided to PLHIV?
- Present to plenary and receive feedback (15 min.).
  - Note to facilitator: encourage participants to present in creative ways, such as skits, role plays.
- Facilitator fill in other ideas as needed (5 min.) (slides 15–25, as needed).

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slide 26).

5 minutes

3.2 SESSION

NUTRITION CARE AND SUPPORT FOR CLIENTS WITH ACTIVE TUBERCULOSIS

Purpose

To equip participants with the knowledge and skills to provide nutrition care and support for patients living with tuberculosis (TB).

Session Objectives

By the end of the session, participants should be able to:	Duration
Describe the interaction between nutrition and TB and TB-HIV co-infections	30 min.
Describe nutrition management for people with active TB	45 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

80 minutes

Training Methods

Brainstorm, group discussions, and presentations

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 3.2 Nutrition Care and Support for Clients with Active Tuberculosis**

Facilitator's Notes

Key points

- Undernutrition increases risk of TB infection and the likelihood that latent TB infection will become active TB disease.
- Because of decreased appetite, increased dietary needs, altered metabolism, and nutrition losses through diarrhoea and vomiting, TB increases risk of undernutrition and makes existing malnutrition worse.
- Good nutrition can strengthen immunity, prevent weight loss, reduce tissue damage, and counteract drug side effects.
- All TB patients should receive appropriate nutrition assessment and counselling at diagnosis.
- Undernourished people with TB should receive the same treatment as other undernourished people with the same condition. There are no TB-specific guidelines for managing undernutrition.
- Pregnant women and children with TB are at greater risk for undernutrition and require extra attention.

1. The Interaction between Undernutrition and Tuberculosis

30 minutes

- Slides 1–14
- Pages 156–157 in Reference Manual

- Introduce the session using slides 1 and 2.
- Using slides 3–14, facilitate a discussion on how undernutrition and TB affect each other using the questions below. Record key responses and ideas on a flip chart. Fill in any key information as needed.

  What is the relationship between undernutrition and tuberculosis infection? How does undernutrition influence the course of active TB infection? How does TB influence nutritional status? What are the implications of TB-HIV co-infection on nutrition?

  Can nutritional support affect recovery in TB patients?

  Can raising nutritional status of the general population influence the burden of TB in the population? What are differences between tuberculosis mortality rates in communities with low socioeconomic status and communities with higher socioeconomic status?

  What are the advantages of good nutrition for clients with active TB?

2. NACS for Patients with Active TB

45 minutes

- Slides 15–26
- Pages 158–160 in Reference Manual

- Discuss recommendations for nutritional assessment, counselling, and support for clients with active TB.
- Discuss special considerations for children and pregnant women with TB.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slides 27–29).

5 minutes

3.3 SESSION

USING DIET TO MANAGE DRUG INTERACTIONS AND SIDE EFFECTS FROM COMMON HIV/AIDS AND TUBERCULOSIS THERAPIES

Purpose

To enhance participants' knowledge of dietary management of drug–food interactions and drug side effects for HIV/AIDS and TB clients.

Session Objectives

By the end of the session, participants should be able to:	Duration
Identify common therapies used by people living with HIV and TB	15 min.
Discuss drug–food interactions and side effects related to HIV and TB therapies	40 min.
Discuss drug–food interactions and side effects related to complementary and alternative medicines	15 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

75 minutes

Training Methods

Brainstorm, group discussion, and presentations

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 3.3 Using Diet to Manage Drug Interactions and Side Effects from Common HIV/AIDS and Tuberculosis Therapies**
- A copy of *Nutrition Care and Support for People Living with HIV/AIDS in Uganda: Guidelines for Service Providers*
- *Integrated National Guidelines on Antiretroviral Therapy, Prevention of Mother to Child Transmission of HIV, Infant and Young Child Feeding*

Facilitator's Notes

Key Points

- The following recommendations can guide service providers in addressing food and nutrition implications of HIV and AIDS therapy. These recommendations can be supplemented by national guidelines.
- Service providers should be particularly attentive to any side effects and nutrition implications of ARVs among undernourished clients and pregnant and lactating women with HIV.
    - Undernourished clients initiating treatment are at increased risk of death and should be monitored more closely. Food insecurity can be one factor that prevents PLHIV from following optimal food and nutrition recommendations. Service providers should help clients identify alternative responses that are feasible in the circumstances and, when possible, seek options to improve food security.
    - Pregnant and lactating women with HIV have increased nutrition needs. Therefore, it is important to ensure that drug and food interactions do not reduce their food intake or nutrient absorption. Timely management of drug–food interactions is needed to protect the health of the mother and infant. Managing drug–food interactions for pregnant and lactating women is similar to that for other PLHIV.
- If a client is taking several drugs, consider the interactions of each drug and possible drug–drug interactions. The nutrition implications of a drug combination may differ from the implications of the drugs individually.
- Because different drugs have different food interactions, recommendations should be drug-specific. Understand the specific interactions of each drug used and counsel accordingly.
- Recognize that all clients will not have the same response to medications. Clients taking the same drugs should not be treated the same. Stay attentive and responsive to client-specific reactions.
- If the client is taking traditional therapies, pay attention to their side effects and nutrition implications. While some side effects of traditional medicines are known, there may be other side effects or nutrition implications that are not known. Help clients who are using traditional therapies to identify side effects and interactions, as well as dietary responses that can help address them.
- Involve the client fully in understanding interactions, identifying feasible responses, and adjusting or improving responses as needed.
- When possible, make sure that recommended dietary actions build on the client's practices and preferences.
- Some side effects of medications are similar to symptoms of OIs. It is important to try to distinguish between side effects and OI symptoms that may require referral for treatment.

1. Common Therapies Used by PLHIV

15 minutes

- Slides 1–10
- Pages 163–164 in Reference Manual

- Introduce the session using slides 1–4.
- Use slides 5–10 to guide the discussion.
- Brainstorm: Ask participants to identify common modern and traditional therapies used by PLHIV.
- Describe common therapies used by people living with HIV:
  - Traditional therapies
  - Modern therapies
- Discuss common modern therapies (antiretroviral therapy) used by PLHIV.
- Discuss recommendations for nutritional assessment, counselling, and support for clients with active TB.
- Discuss special considerations for children and pregnant women with TB.

2. Modern Therapies: Drug–Food Interactions and Side Effects and their Dietary Management

40 minutes

- Slides 11–27
- Pages 165–167 in Reference Manual

- Discuss drug–food interactions and side effects using Nutrition Care and Support for People Living with HIV.
  - Impact of food on drug efficacy
  - Impact of drugs on nutrition
  - Common drug–drug interactions
- Ask participants to share how these issues have affected their clients in the past, and what solutions were applied.
- Review with participants Table 3.3.3 at the end of the session in the reference manual. Point out commonly used medications and their food interactions.

3. Complementary, Alternative, and Traditional Medicine: Interactions and Side Effects

15 minutes

- Slides 28–30
- Pages 168–177 in Reference Manual

- In a presentation, discuss complementary and alternative medicines and their interactions and side effects.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slides 31–33).

5 minutes

3.4 SESSION

CLINICAL PRACTICE 3 NUTRITION CARE AND SUPPORT FOR HIV AND/OR TB PATIENTS

Purpose

To practice identifying and supporting malnourished PLHIV and/or TB in service points.

Session Objectives

During the practicum, participants will be able to work with clients who are HIV-positive and/or have TB to:

Assess clients' nutritional status.
Provide counselling and support based on nutritional assessment and the client's treatment plan/medication regimen.
Group Work: sharing field experience

Estimated Time/Duration

225 minutes

Advanced Preparations

- The trainer should lead the preparatory session and note key issues.
- Obtain permission from the selected health facilities to conduct the clinical practice.
- Arrange for transport if necessary. If you have to travel to another facility for the practical session, hold the preparatory session in the classroom before you leave. This can be done on the evening or the morning before the clinical practice.

Materials Needed

- Nutrition care and support counselling cards

Preparation

15 minutes

- Introduce the clinical practice, objectives, and facilities to be visited.
- Divide the participants into groups of two to three participants.
- Answer any questions.

Clinical Work

180 minutes

- Page 175 in Reference Manual

At the HIV and TB service points, participants should work in groups of two to three. For each client, one participant will assess and counsel and the others will observe and provide feedback as needed.

Group Work: Sharing Field Experience

30 minutes

After returning to the classroom/training area, have each group present the following in plenary:

- What they are able to accomplish
- Challenges faced
- Any interesting situations they observed among the clients
- Lessons learnt

Respond to challenges raised and plan a way forward for future clinical practice.

4 UNIT

SYSTEM STRENGTHENING

This unit enhances participants' knowledge of strengthening health systems. The unit comprises the following sessions:

Session 4.1	Using Quality Improvement to Integrate NACS into Routine Health Services	120 min.
Session 4.2	Health Facility–Community Linkages for Nutrition Care and Support	55 min.
Session 4.3	NACS Supplies and Logistics Management	85 min.
Session 4.4	NACS Monitoring and Reporting	95 min.
TOTAL DURATION		**5 hours, 55 minutes**

4.1 SESSION

USING QUALITY IMPROVEMENT TO INTEGRATE NACS INTO ROUTINE HEALTH SERVICES

Purpose

To equip participants with knowledge and skills to use quality improvement to integrate NACS into routine health services.

Session Objectives

By the end of the session, participants will be able to:	Duration
Explain the concept of quality improvement	75 min.
Describe how the steps of quality improvement can be used to integrate NACS into routine health services	15 min.
Develop a plan for integrating the seven steps of NACS implementation within their care systems	25 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

120 minutes

Training Methods

Brainstorm, group discussions, and presentations

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 4.1 Using Quality Improvement to Integrate NACS into Routine Health Services**
- Copies of Uganda Ministry of Health. 2011. Health *Sector Quality Improvement Framework and Strategic Plan 2010/11–2014/15.* http://health.go.ug/docs/HSQIFS.pdf
- Copies of action plan template and documentation journal, p. XXX in Reference Guide

Facilitator's Notes

Key Points

- Quality is the extent to which health care services, systems, and programmes conform to national or international standards, requirements, or specifications. According to the Institute of Medicine, quality health care is safe, effective, patient-centred, timely, efficient, and equitable.
- Quality improvement (QI) is a management approach to improving and maintaining quality that emphasizes internally driven and continual assessment of progress.
- Quality improvement has four key principles: client focus, focus on systems and processes, testing changes and emphasizing the use of data, and teamwork.
- The four steps in QI are identify the problem, analyse the problem, develop possible solutions (changes), and test/implement the possible solution.
- The two models used to implement QI in Uganda are:
  - 5-S: sort, set, shine, standardize, sustain (used to improve the health care environment)
  - PDSA: plan, do, study, act (used to improve systems and processes)
- Tools to implement QI include:
  - Cause-and-effect diagrams
  - Five whys
  - Brainstorming
  - Flow chart/process map
  - Time-series charts
  - Documentation journal
- Using QI to implement the seven steps of NACS can help (1) identify how to integrate or improve nutrition services into health care and (2) develop an action plan for improvement.

1. Quality Improvement: Key Terms and Principles

10 minutes

- Slides 1–6 from PowerPoint Session 4.1 Using Quality Improvement to Integrate NACS into Routine Health Services
- Pages 182–184 in Reference Manual

- Introduce the session using slides 1–3.
- Ask participants to brainstorm the meaning of the term 'quality' (slide 4). Record responses and fill in gaps as needed.
- Present slides 5 and 6, discussing quality and and the four key principles of QI.

Note: This session is not an exhaustive discussion of the entire QI approach, but rather it is meant to equip site teams with the basic skills required for QI. Subsequent coaching and mentoring sessions with the teams after the training are needed to build these skills further.

2. Health Sector Quality Improvement Framework

15 minutes

- Slides 7–8
- Pages 184–185 in Reference Manual

- Give participants copies of the Health Sector Quality Improvement Framework and Strategic Plan 2010/11–2014/15.
- Ask participants to turn to the executive summary on page v. Ask two volunteers to read the last two paragraphs.
- Present slide 8.
- In groups of four to five, discuss how the framework has affected or could affect their work as nutrition care providers (5 min).

3. Steps in Quality Improvement

20 minutes

- Slides 9–16
- Pages 185–188 in Reference Manual

- Show slide 10 and discuss the model for improvement.
- Explain the four steps of QI (slides 11–16).
- Explain the two QI models used in Uganda: the 5-S model and the PDSA cycle.

4. Quality Improvement Tools

30 minutes

- Slides 17–26
- Pages 189–191 in Reference Manual

- Present on the six QI tools (15 min) (slides 17–26).
- Break participants into six groups. Each group will implement one of the tools, based on a scenario or problem they choose (5 min).

Note: There is an example of the documentation journal in the reference manual to help participants learn to use this tool while implementing the seven steps of NACS integration into routine health services.

5. Using QI to Integrate NACS into Routine Health Services

15 minutes

- Slides 27–28
- Pages 192–195 in Reference Manual

- Discuss the seven steps of NACS implementation.
- Discuss the role of QI in integrating NACS into routine services.
- Ask participants to brainstorm about how to integrate NACS into routine services using QI.

Group Exercise: Developing NACS and QI Action Plans (slides 29–30)

25 minutes

- Explain to participants the need for an action plan to successfully implement NACS in their clinics.
- Ask participants to form small groups from their own facility.
- Ask each group to think about what they learned in this training and write an action plan that explains how nutrition services can be integrated or improved in their workplaces. They can include the support they will need to help them implement what they have learned.

  While developing the action plan, ask the groups to reflect on two steps, nutrition assessment and classification, and think about how and where they can introduce them into the client flow, who will do the assessment, when will it be done, and how it will be recorded. (See guidance questions below.)
- Ask one or two groups to present their action plans. Lead a discussion about their plans.
- Collect all action plans and ask each facility represented to share their action plan with their facility's managers.

Questions that can guide discussion

- Ask the groups to define quality for the seven NACS steps, using the following questions:
  - What are we trying to accomplish? (e.g., 100 percent assessment of all clients)
  - What changes could be made to achieve this goal?
  - How will we know the change has led to improvement?

Now, based on this brainstorming, ask the groups to discuss the following:

- What might this improvement look like in their facilities?
- What specific intervention could be done in the next 2 weeks to improve nutrition assessment and classification?
- Who will be responsible for the different activities involved in each step?
- How will the teams know that the change they have introduced is working (documentation)?

- Collect all the action plans and ask the teams to choose a focal person who will be responsible for their plans.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slides 31–32).

5 minutes

4.2 SESSION

HEALTH FACILITY–COMMUNITY LINKAGES FOR NUTRITION CARE AND SUPPORT

Purpose

Enhance participants' knowledge of facility–community linkages.

Session Objectives

By the end of the session, participants will be able to:	Duration
Identify available community structures for nutrition care and support	10 min.
Explain the role of community volunteers in nutrition care and support	10 min.
Explain the importance of linking health facilities to communities for nutrition care and support	15 min.
Explain the process of linking health facilities to the communities	15 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

55 minutes

Training Methods

Brainstorm, group discussion, and presentations

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 4.2 Health Facility–Community Linkages for Nutrition Care and Support**

Facilitator's Notes

Key Points

- Facility–community linkages connect clients to other support services in the community to create a continuum of care that leads to better nutrition care and support.
- Community volunteers and resource people can promote good nutrition and mobilize the community; identify, refer, and follow up on malnourished or at-risk individuals; and ensure that those at risk of malnourishment receive complementary social support services.
- Facilities can provide assessment, treatment, counselling, and referral within the health facility and refer back to the community for follow-up and complementary social services.

1. Community Structures and the Role of Community Volunteers in Nutrition Care and Support

20 minutes

- Slides 1–5 of PowerPoint Session 4.2 Health Facility–Community Linkages for Nutrition Care and Support
- Pages 198–199 in Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants to identify community structures that can facilitate nutrition care and support (slide 3). Record responses and fill in gaps as needed (slide 4).
- Ask participants to explain the roles of community volunteers in nutrition care and support (slide 5). Supplement their responses as needed.

2. Importance of Linking the Health Facility to the Community

15 minutes

- Slides 6 and 7
- Page 199 in Reference Manual

- In pairs, let participants discuss the importance of linking the facility to the community. Have them share their ideas with the larger group. Record their responses and fill in gaps as needed (slide 7).

3. Process of Creating Facility–Community Linkages

15 minutes

- Slides 8 and 9
- Pages 199–200 in Reference Manual

- Explain how to link the health facility to the community and vice versa.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slide 10).

5 minutes

4.3 SESSION

NACS SUPPLIES AND LOGISTICS MANAGEMENT

Purpose

To provide participants with basic knowledge on how to order, receive, and store NACS supplies.

Session Objectives

By the end of the session, participants will be able to:	Duration
Explain the logistics system	30 min.
Identify essential nutrition items for NACS	10 min.
Describe logistics management tools for ordering, receiving, storing, and distributing NACS supplies	30 min.
Describe considerations for storing NACS supplies	10 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

85 minutes

Training Methods

Brainstorm, group discussions, presentations, and exercises

Training Materials

- Computer, projector, and PowerPoint presentation **Session 4.3 NACS Supplies and Logistics Management**
- Reference manual, stock cards, and dispensing logs for exercises

Facilitator's Notes

Key Points

- Logistics systems are used for procuring, managing, and dispensing supplies.
- The logistics management information system (LMIS) captures, processes, and reports information that is needed to make decisions in areas that affect the logistics system, including forecasting, procurement, product selection, pipeline monitoring, storage, and distribution.
- Key tools used in logistics management are the stock card, dispensing log, and order form, which must be filled in correctly to ensure proper management of supplies.
- Safety of nutrition supplies is critical; stores must pay particular attention to supplies' shelf life and expiry dates.
- An ideal store is secure against theft and pests. The store should have a strong door and concrete floor, secure roof to protect against rain, and adequate ventilation. It should be readily accessible, and its staff must keep complete records.

1. The Logistics System

30 minutes

- Slides 1–9 of PowerPoint Session 4.3 NACS Supplies and Logistics Management
- Pages 202–204 in Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants to define 'logistics system'. Record responses and fill in gaps as needed (slide 3).
- Describe the 'seven rights' of a logistics system (slide 3).
- Explain the logistics cycle and the purpose of an LMIS (slides 4–6).
- Define key logistics terms (slides 7–8).
- Describe key facility-based components of a logistics system (slide 9).

2. Essential Nutrition Items for NACS

10 minutes

- Slide 10
- Page 204 in Reference Manual

- Discuss essential nutrition items for NACS.

3. Tools for Ordering, Receiving, and Distributing NACS Supplies

30 minutes

- Slides 11–15
- Pages 204–209 in Reference Manual

- Explain the logistics management tools used for ordering, receiving, storing, and distributing NACS supplies (slide 11):
  - Stock card (slides 12–13)
  - Dispensing log (slide 14)
  - Order form (slide 15)
- Conduct group exercises: Have participants practice filling out a stock card and a dispensing log (20 min.).

Group Exercise: Managing Ready-to-Use Therapeutic Food Supplies

Filling Out a Stock Card

- Divide participants into groups of two or three. Have them use the information below to fill out a stock card.

  Pharmacist Mafabi Jackman manages the store at Ntara HCIV in Kamwenge District, health unit code 461.

  On 31 December 2014, Mafabi conducted a physical count and found 100 sachets of ready-to-use therapeutic food (RUTF) in the facility. He sent an order form to NMS on 1 January 2015.

  On 10 January, Ntara HCIV received 10 boxes of RUTF (with 150 sachets per box) from National Medical Stores (NMS). The voucher number was N 000254, and the expiry date was November 2016.

  On 14 January, Mafabi gave 400 sachets to outpatient therapeutic care (OTC).

  On 16 January, Mafabi sent 500 sachets to Kichwamba HCII because it had run out and had not received supplies from NMS.

  On 18 January, Mafabi gave 200 sachets to the inpatient therapeutic care (ITC) ward after a request from the unit's in-charge.

  On 21 January, Ntara HCIV received 60 sachets from a local project, expiry date December 2015.

  On 27 January, during a routine inspection, Mafabi noticed 50 sachets had been opened by rats in the store. He declared them contaminated and removed them for disposal.

  On 11 February, Mafabi dispensed another 400 sachets to OTC.

  On 20 February, the facility received five boxes of RUTF from NMS, voucher number 00257. On the same day, Mahyoro HCIII returned 140 sachets, expiry date October 2015 after the district health officer noticed during supervision that Mahyoro was overstocked.

  On 26 February, Mafabi gave another 400 sachets to the OTC.

  On 28 February, Mafabi conducted a physical count and found 250 sachets in the facility.

- Ask participants:
  - What is the balance on hand?
  - Is there a difference between the balance on hand and the physical count? Explain your answer and give reasons for the difference, if any.

4. Storage of NACS Supplies

10 minutes

- Slides 16–18
- Pages 210–211 in Reference Manual

- Describe the characteristics of an ideal store.
- Explain the importance of monitoring the shelf life and safety of supplies.
- Discuss staff roles regarding storage.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points (slide 19).

5 minutes

4.4 SESSION

NACS MONITORING AND REPORTING

Purpose

To equip participants with knowledge and skills in monitoring and reporting of NACS implementation.

Session Objectives

By the end of the session, participants should be able to:	Duration
Explain monitoring and reporting and their importance	30 min.
Identify indicators for monitoring and reporting of NACS	20 min.
Demonstrate how to fill out data collection tools	40 min.

Estimated Time/Duration *(includes 5-minute wrap-up)*

95 minutes

Training Methods

Brainstorm, group discussion, and presentations

Training Materials

- Markers, masking tape, and flip chart
- Computer, projector, and PowerPoint presentation **Session 4.4 NACS Monitoring and Reporting**
- Copies of Republic of Uganda. Ministry of Health. 2014. *Health Management Information System: Health Unit and Community Procedure Manual. Volume 1.* Kampala: Ministry of Health Resource Centre
- Data collection and management tools: HMIS Form 077 (Integrated Nutrition Register)
- National Reporting forms: HMIS Form 105 (Health Unit Outpatient Monthly Report); HMIS Form 106a (Health Unit Quarterly Report)

1. Definition of Monitoring, Evaluation, and Reporting

20 minutes

- Slides 1–6 of PowerPoint Session 4.4 Monitoring and Reporting
- Page 213 in Reference Manual

- Introduce the session using slides 1 and 2.
- Ask participants to define monitoring, evaluation, and reporting. Record responses and fill in gaps as needed (slides 3–5).
- Explain key differences between monitoring and evaluation (slide 6).

2. Importance and Benefits of Monitoring, Evaluation, and Reporting

10 minutes

- Slides 7 and 8
- Page 214 in Reference Manual

- Discuss the importance and benefits of monitoring, evaluation, and reporting.

3. Nutrition Data Management Tools

60 minutes

- Slides 9–10
- Pages 214–222 in Reference Manual

- Briefly introduce the HMIS Manual tools used for monitoring and reporting on NACS (or nutrition) activities (integrated nutrition register and registers for pre-ART, ART, antenatal, maternity, postnatal, TB, child health, and HIV-exposed infant services).
- Explain how to fill out the integrated nutrition register.
- Conduct group exercise on filling out the forms.

Group Work: Filling Out Data Tools (40 min.)

Divide participants into groups of three. Using the case scenarios and client information table on page 222, ask participants to:

1. Fill out the integrated nutrition register for each client.
2. Calculate each client's target weight.
3. Comment on the outcome of the nutrition therapy for each client (under the assumption that the fourth visit was the last visit).
4. Determine how many clients were cured, were categorized as nonresponding, defaulted, or were referred out. Explain each answer.
5. Determine how many clients were referrals from the community.
6. Calculate how many sachets of RUTF each client received per week.
7. Enter the information for January 2013 on the monthly report.

Answers: Client Information for Subsequent Visits

	Jane Namali	Kaboto Kellenson	Baby Kellenson	Toma Kalenke	Jimmyman Bakareeba	Kallon Mashiyo
Second Visit						
Weight (kg)	49.9	42	8	10.5	55	43
MUAC	Red	Red	Green	Yellow	Yellow	Red
Therapeutic food	RUTF	RUTF	F-75 (ITC)	RUTF	RUTF	RUTF
Counselling	1,3	1,2	N/A	1	2,3	None
Third Visit						
Weight	49.8	44	9	11	56	44
MUAC	Red	Yellow	Green	Yellow	Yellow	Yellow
Therapeutic food	RUTF	RUTF	RUTF	RUTF	RUTF	RUTF
Counselling	1,3	1,2	3, 4	1	2,3	None
Fourth Visit						
Weight	49.9	45	9.5	12	56.7	45
MUAC	Red	Yellow	Green	Green	Yellow	Yellow
Therapeutic food	RUTF	RUTF	RUTF	RUTF	RUTF	RUTF
Counselling	2,1	2	3	1	2	None (Referred to Kicheche HC III)

Counselling codes: Write '1' for optimal dietary practices for adults, including pregnant and lactating women ; '2' for use of therapeutic foods; '3' for IYCF; '4' for WASH; '5' for ARV adherence; and '6' for other.

Wrap-up

Answer participants' questions and summarize session by objectives, highlighting main points.

5 minutes

Course Forms

Pre-Test and Post-Test for Course Participants

Answers to Pre-Test and Post-Test for Course Participants

Daily Evaluation Forms

Course Evaluation Form

Pre-Test and Post-Test for Course Participants

Part A

Instructions: If you find the statement TRUE, write T in the box after the question. If you find the statement FALSE, write F.

	True (T) or False (F)
Nutrition Assessment, Counselling, and Support	
1. Malnutrition is categorized as either undernutrition or overnutrition.	
2. Deficiencies of iron, vitamin A, zinc, and iodine are a type of undernutrition.	
3. Z-scores and BMI are anthropometric measurements used to determine an individual's nutritional status.	
4. Bilateral oedema on only the feet and legs is classified as grade +++.	
5. Therapeutic food and referral are components of patient support.	
Maternal and Young Child Nutrition	
1. Pregnant and lactating mothers and women who are sick, especially with HIV, are at a higher risk of malnutrition and mortality.	
2. Undernutrition weakens a woman's ability to survive childbirth and give birth to a healthy baby.	
3. A healthy mother is the first defence for a child against death, malnutrition, and the cycle of poverty and sickness.	
4. Girls with low birth weight may eventually become stunted women and perpetuate the cycle of malnutrition among women.	
5. Early initiation of breastfeeding (within the first hour of birth) and exclusive breastfeeding from 0–6 months is key to child survival.	
Nutrition Care and Support for People Living with HIV and Tuberculosis (TB)	
1. HIV and TB infection does not affect energy requirements for people who have HIV or TB.	
2. The side effects of antiretroviral (ARV) and TB medication do not affect food consumption.	
3. Malnutrition increases progression of TB infection to TB disease.	
4. People with TB infection are at an increased risk of malnutrition.	
5. Nutrition care is important for people living with HIV but not people with TB.	
System Strengthening	
1. Health care quality improvement has three key principles.	
2. Monitoring is more important than evaluation in quality improvement.	
3. Quality improvement may mean applying appropriate methods to close the gap between current and expected level of quality/performance as defined by standards.	
4. Periodic assessment of the change in expected results that can be attributed to program intervention is called monitoring.	
5. Routine tracking of key elements of programme performance, like inputs and outputs, is called evaluation.	

Part B

Instructions: Select the best answer for each question below.

1. Which of the following is an underlying cause of malnutrition?
   a) Inadequate care and feeding practices
   b) Inadequate health services
   c) Food insecurity
   d) All of the above

2. The following are body measurements that are used as a proxy for determining the nutritional status of individuals:
   a) Weight
   b) Height
   c) Mid-upper arm circumference
   d) All of the above

3. How should physicians treat patients who they suspect are incapable of keeping follow-up appointments?
   a) Encourage patients to educate themselves and take responsibility for their health
   b) Establish a system of penalties to increase retention rate
   c) Disregard patients' incapacities and fit them into the schedule
   d) Discuss the importance of personal responsibility before administering follow-up care

4. What is one reason that NACS is important for people living with HIV?
   a) Nutrition support can improve adherence to antiretroviral therapy (ART)
   b) Can slow progression of HIV
   c) Helps to manage side effects
   d) All of the above

5. Which of the following is an appropriate approach to feeding ill children?
   a) Reduce the amount of fluid given until diarrhoea subsides
   b) Continue feeding as much or more than they did before and provide more fluid
   c) Feed only matooke to the child
   d) Stop breastfeeding

Part C

Instructions: Fill in the correct answer for each question below.

1. List the three components of the NACS approach.

_____

_____

_____

2. List three groups of essential macronutrients needed by the body.

_____

_____

_____

3. List two groups of essential micronutrients needed by the body.

_____

_____

_____

4. Define the term anthropometry.

_____

_____

_____

5. List three body measurements used to determine the nutritional status of individuals.

_____

_____

_____

6. List four anthropometric indices used to determine nutritional status of individuals.

_____

_____

_____

7. List the three types of care options for clients with acute malnutrition.

_____

_____

_____

8. What are five exit outcomes of patients enrolled in an outpatient therapeutic care (OTC) programme.

_____

_____

_____

9. List the four key principles of health care quality improvement.

_____

_____

_____

10. What does the abbreviation 'PDSA' in quality improvement stand for.

_____

_____

_____

11. List three nutrition supplies necessary for effective management of acute malnutrition.

_____

_____

_____

12. List three tools used in logistics management of NACS supplies.

_____

_____

_____

13. List the '7 Rights' of a logistics management system.

_____

_____

_____

14. Mention two counselling skills.

_____

_____

_____

15. Mention three indicators of NACS services that are reported in the monthly or quarterly health management information system (HMIS) reporting form.

_____

_____

_____

16. Give two reasons why documentation and collecting data are important components of NACS programmes.

_____

_____

_____

17. Give three reasons why it is important to link health facilities to communities when providing nutrition care for people living with HIV.

_____

_____

_____

18. How can health workers support community volunteers in their work to strengthen nutrition when caring for clients with HIV or TB?

_____

_____

_____

Answers to Pre-Test and Post-Test for Course Participants

Answers to Part A

	True (T) or False (F)
Nutrition Assessment, Counselling, and Support	
1. Malnutrition is categorized as either undernutrition or overnutrition.	T
2. Deficiencies of iron, vitamin A, zinc, and iodine are a type of undernutrition.	T
3. Z-scores and BMI are anthropometric measurements used to determine an individual's nutritional status.	F
4. Bilateral oedema on only the feet and legs is classified as grade +++.	F
5. Therapeutic food and referral are components of patient support.	T
Maternal and Young Child Nutrition	
1. Pregnant and lactating mothers and women who are sick, especially with HIV, are at a higher risk of malnutrition and mortality.	T
2. Undernutrition weakens a woman's ability to survive childbirth and give birth to a healthy baby.	T
3. A healthy mother is the first defence for a child against death, malnutrition, and the cycle of poverty and sickness.	T
4. Girls with low birth weight may eventually become stunted women and perpetuate the cycle of malnutrition among women.	T
5. Early initiation of breastfeeding (within the first hour of birth) and exclusive breastfeeding from 0–6 months is key to child survival.	T
Nutrition Care and Support for People Living with HIV and Tuberculosis (TB)	
1. HIV and TB infection does not affect energy requirements for people who have HIV or TB.	F
2. The side effects of antiretroviral (ARV) and TB medication do not affect food consumption.	F
3. Malnutrition increases progression of TB infection to TB disease.	T
4. People with TB infection are at an increased risk of malnutrition.	T
5. Nutrition care is important for people living with HIV but not people with TB.	F
System Strengthening	
1. Health care quality improvement has three key principles.	F
2. Monitoring is more important than evaluation in quality improvement.	F
3. Quality improvement may mean applying appropriate methods to close the gap between current and expected level of quality/performance as defined by standards.	T
4. Periodic assessment of the change in expected results that can be attributed to program intervention is called monitoring.	F
5. Routine tracking of key elements of programme performance, like inputs and outputs, is called evaluation.	F

Answers to Part B

1. Which of the following is an underlying cause of malnutrition?
   a) Inadequate care and feeding practices
   b) Inadequate health services
   c) Food insecurity
   d) All of the above

   Answer: (d)

2. The following are body measurements that are used as a proxy for determining the nutritional status of individuals:
   a) Weight
   b) Height
   c) Mid-upper arm circumference
   d) All of the above

   Answer (d)

3. How should physicians treat patients who they suspect are incapable of keeping follow-up appointments?
   a) Encourage patients to educate themselves and take responsibility for their health
   b) Establish a system of penalties to increase retention rate
   c) Disregard patients' incapacities and fit them into the schedule
   d) Discuss the importance of personal responsibility before administering follow-up care

   Answer: (d)

4. What is one reason that NACS is important for people living with HIV?
   a) Nutrition support can improve adherence to antiretroviral therapy (ART)
   b) Can slow progression of HIV
   c) Helps to manage side effects
   d) All of the above

   Answer: (d)

5. Which of the following is an appropriate approach to feeding ill children?
   a) Reduce the amount of fluid given until diarrhoea subsides
   b) Continue feeding as much or more than they did before and provide more fluid
   c) Feed only matooke to the child
   d) Stop breastfeeding

   Answer: (b)

Answers to Part C

1. List the three components of the NACS approach.
   Nutrition assessment, nutrition counselling, nutrition support
2. List three groups of essential macronutrients needed by the body.
   Carbohydrates, proteins, fats
3. List two groups of essential micronutrients needed by the body.
   Vitamins, minerals
4. Define the term anthropometry.
   The measurement of the human body.
5. List three body measurements used to determine the nutritional status of individuals.
   Mid-upper arm circumference (MUAC), weight, height
6. List four anthropometric indices used to determine nutritional status of individuals.
   Weight-for-height, weight-for-age, height-for-age, BMI-for-age, BMI
7. List the three types of care options for clients with acute malnutrition.
   Outpatient therapeutic care (OTC), inpatient therapeutic care (ITC), supplementary feeding programme (SFP)/nutrition counselling
8. What are five exit outcomes of patients enrolled in an outpatient therapeutic care (OTC) programme.
   Cured, death, defaulter, non-respondent, medical transfer, transfer to inpatient care, transfer to other OTC
9. List the four key principles of health care quality improvement.
   Client focus, teamwork, focus on systems and processes, testing changes and emphasising the use of data
10. What does the abbreviation 'PDSA' in quality improvement stand for.
    Plan, do, study, act
11. List three nutrition supplies necessary for effective management of acute malnutrition.
    Ready-to-use therapeutic food (RUTF); F-75; F-100
12. List three tools used in logistics management of NACS supplies.
    Stock card, dispensing log, order form
13. List the '7 Rights' of a logistics management system.
    Right quantities, right goods, right place, right time, right condition, right cost, right person
14. Mention two counselling skills.
    Listening, eye contact, encouraging, giving time, asking 'open' questions, reflecting back, use of nonjudging words, giving relevant information, empathy

15. Mention three indicators of NACS services that are reported in the monthly or quarterly health management information system (HMIS) reporting form.

    No. of clients who received nutrition assessment on each clinic visit using colour-coded MUAC tapes

    No. of clients who received nutritional assessment and have malnutrition

    No. of newly identified malnourished clients who received nutrition counselling

    No. of HIV-positive pregnant mothers in care who are assessed for malnutrition

    No. of HIV-positive pregnant mothers in care who are assessed for malnutrition and found to have malnutrition

    No. of HIV-exposed infants reported to be exclusively breastfed for the first 6 completed months during the reporting period

    No. of malnourished clients referred from the community

    No. of all acutely malnourished clients who received treatment according to recommended protocol and who improved

    No. of HIV-positive children in care who were assessed for malnutrition at least once in 3 months

    No. of HIV-positive adults in care who were assessed for malnutrition at least once in 3 months

    No. of HIV-positive clients in care assessed for malnutrition within the last 3 months and found with acute malnutrition

    No. of HIV-positive acutely malnourished clients in care who received treatment according to recommended protocol and who improved

16. Give two reasons why documentation and collecting data are important components of NACS programmes.

    Generates information and knowledge, tells us where we are, helps planning and projection, helps keep track of performance

17. Give three reasons why it is important to link health facilities to communities when providing nutrition care for people living with HIV.

    (1) Timely identification and referral for treatment and care, which can reduce cases of moderate and severe acute malnutrition (MAM and SAM); (2) provides follow-up mechanisms between health workers and community volunteers for clients on ARVs; (3) increases access to services such as HIV testing and treatment of opportunistic infections for clients who come to the health facility for nutrition services, thus increasing recovery rates

18. How can health workers support community volunteers in their work to strengthen nutrition when caring for clients with HIV or TB?

    Warmly receive clients referred by community volunteers and refer them to relevant departments for further assessment

    Counsel and provide treatment for enrolled patients (as needed) and refer them back to the community for continued support from the community volunteers

    Screen, identify, and refer individuals for malnutrition care through other routine services at the facility, including antenatal care and the young child clinic

    Meet with community coordinators monthly to share progress, determine what areas need improvement, and build on existing opportunities

UNIT 1: Nutrition Assessment, Counselling, and Support

Venue_____ **Date**_____

Instructions: Please rate each session's content, methodology, and facilitation by circling the appropriate option based on the following scale:

1 – Very poor **2 – Poor** **3 – Satisfactory** **4 – Very good** **5 – Excellent**

Session No./Title	Content					Methodology					Facilitation					Comments
Session 1.1 Introduction to Nutrition	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Session 1.2 Malnutrition	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Session 1.3 Overview of the NACS Approach	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Session 1.4 Assessment and Classification of Nutritional Status	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Session 1.5 Management of Acute Malnutrition	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Session 1.6 Counselling Skills for Nutrition	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Session 1.7 Nutrition and Health Education	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	
Session 1.8 Clinical Practice I Nutrition Assessment	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	

UNIT 2: Maternal and Young Child Nutrition

Venue_____ **Date**_____

Instructions: Please rate each session's content, methodology, and facilitation by circling the appropriate option based on the following scale:

1 – Very poor **2 – Poor** **3 – Satisfactory** **4 – Very good** **5 – Excellent**

Session No./Title	Content	Methodology	Facilitation	Comments
Session 2.1 Maternal Nutrition	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 2.2 Optimal Breastfeeding Practices	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 2.3 Complementary Feeding Practices	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 2.4 Feeding Children During Illness, Recovery, and Difficult Circumstances	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 2.5 Clinical Practice 2 Breastfeeding Assessment Skills	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	

UNIT 3: Nutrition Care and Support for People Living with HIV and/or TB

Venue_____ **Date**_____

Instructions: Please rate each session's content, methodology, and facilitation by circling the appropriate option based on the following scale:

1 – Very poor **2 – Poor** **3 – Satisfactory** **4 – Very good** **5 – Excellent**

Session No./Title	Content	Methodology	Facilitation	Comments
Session 3.1 Interaction between HIV and Nutrition	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 3.2 Nutrition Care and Support for Clients with Active TB	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 3.3 Using Diet to Manage Drug Interactions and Side Effects from Common HIV and TB Therapies	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 3.4 Clinical Practice 3: Nutrition Care and Support for PLHIV and TB	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	

UNIT 4: System Strengthening

Venue_____ **Date**_____

Instructions: Please rate each session's content, methodology, and facilitation by circling the appropriate option based on the following scale:

1 – Very poor **2 – Poor** **3 – Satisfactory** **4 – Very good** **5 – Excellent**

Session No./Title	Content	Methodology	Facilitation	Comments
Session 4.1 Using QI to Integrate NACS into Routine Health Services	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 4.2 Health Facility-Community Linkages for Nutrition Care and Support Services	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 4.3 NACS Supplies and Logistics Management	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	
Session 4.4 NACS Monitoring and Reporting	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	

Course Evaluation Form

Venue_____ **Start Date** _____ **End Date** _____

Instructions: For each question, check the box that best suits your reaction on the training.

	Disagree Completely (1)	Disagree (2)	Neither Agree or Disagree (3)	Somewhat Agree (4)	Fully Agree (5)
Content					
1. I feel the content and experiences provided were relevant to the topic					
2. The training met my expectations					
3. The training was responsive to my training needs					
4. The training objectives were met					
Methodology					
1. The training was presented in a professional manner					
2. The facilitator encouraged participation and questions					
3. I felt comfortable with the support material that was received as part of the training					
Schedule					
1. Topics were adequately addressed					
2. Allotted time was adequate for the training					

GENERAL

1. What did you like best about the training and why?

_____

_____

_____

2. What did you find least useful in this training?

_____

_____

_____

3. What concrete feedback do you have regarding the training?

_____

_____

_____

4. What parts of the training would you improve?

_____

_____

_____

5. What specific improvements would you make?

_____

_____

_____

6. Do you feel that the content of this training material may be valuable to your organization/facility?

_____

_____

_____

If so how will you introduce the material?

_____

_____

_____

Supplementary Questions

1. What concerns do you have about your role as a trainer for comprehensive nutrition care?

_____

_____

_____

2. What do you feel is the biggest challenge in training on the topic?

_____

_____

_____

3. Overall comments

_____

_____

_____

Thank you for participating

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