



Government of Malawi  
Ministry of Health

# NUTRITION CARE, SUPPORT, AND TREATMENT (NCST) FOR ADOLESCENTS AND ADULTS

Training for Facility-Based  
Service Providers

## **PARTICIPANT'S MANUAL** **Module 5: NCST Monitoring** **and Reporting**



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## ABBREVIATIONS AND ACRONYMS

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>	greater than
≥	greater than or equal to
<	less than
AIDS	Acquired Immunodeficiency Syndrome
ANC	antenatal care
ART	antiretroviral therapy
ARV	antiretroviral drug
BMI	body mass index
BUN	blood urea nitrogen
cm	centimetre(s)
CMV	combined mineral and vitamin mix
CNA	Critical Nutrition Actions
CMAM	community-based management of acute malnutrition
CSB	corn-soya blend
dL	decilitre(s)
ES/L/FS	economic strengthening/livelihood/food security
FANTA	Food and Nutrition Technical Assistance III Project
FAO	Food and Agriculture Organization of the United Nations
g	gram(s)
Hb	haemoglobin
HIV	human immunodeficiency virus
HTS	HIV Testing Services
IU	international unit(s)
kcal	kilocalorie(s)
kg	kilogram(s)
L	litre(s)
µg	microgram(s)
mL	microlitre(s)
mg	milligram(s)
ml	millilitre(s)
mm	millimetre(s)
MOH	Ministry of Health
MUAC	mid-upper arm circumference
NCST	nutrition care, support, and treatment
OPD	outpatient department
PDSA	plan-do-study-act
PLHIV	person or people living with HIV
PMTCT	prevention of mother-to-child transmission of HIV
QA	quality assurance
QI	quality improvement
RDA	recommended daily allowance
RUTF	ready-to-use therapeutic food
TB	tuberculosis

## MODULE 5

# Contents and Duration



The **NCST Monitoring and Reporting** module takes about 8 hours to complete.

#	Description	Duration
5.0	Module Introduction	30 minutes
	Review (20 minutes)	
	Module Objectives (10 minutes)	
5.1	Purpose of Recording NCST Data	20 minutes
5.2	NCST Data Collection and Reporting Tools	3 hours
5.3	Coordinating Data and Reports from ART, ANC/PMTCT, TB, and OPD Service Delivery Points	30 minutes
5.4	NCST Indicators	45 minutes
5.5	Using District Health Information System—Version 2 (DHIS-2) to Report on NCST Service Delivery	2 hours
5.6	Data Analysis	1 hour
5.7	Routine Data Quality Assessment	3 hours
5.6	Discussion and Module Evaluation	10 minutes

### Learning Objectives

By the end of this module, participants will be able to:

1. Understand how to use NCST data collection tools
2. Report on NCST service delivery
3. Understand the definition of NCST indicators
4. Enter NCST data in the District Health Information System—Version 2 (DHIS-2) software
5. Understand the principles and processes of NCST data analysis
6. Understand how to conduct routine data quality assessments (RDQA)

## Reference 5.0: NCST Competencies and Standards for Monitoring and Reporting of NCST Service Delivery

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Competence can be defined as the ability to apply knowledge and skills to produce a required nutrition outcome.

Competency standards are the range of skills that are needed to achieve a desired nutrition outcome.

Competency	Minimum Standards
Monitor and report on adolescents and adults receiving nutrition assessment, counselling, and support	Record client data in the adult and adolescent nutrition register
	Monitor severely and moderately undernourished clients using the client management forms
	Prepare and submit the NCST monthly report



## Reference 5.2: How to Use the NCST for Adolescent and Adult Register

Instructions on what should be recorded	
<b>Month</b>	Month in which information is recorded
<b>Year</b>	Year in which the information/data are recorded
<b>No.</b>	The client's registration number
<b>Programme # (ART/ANC/PMTCT/TB etc.)</b>	The client's programme specific number (e.g., if at an ART clinic, the ART number; if at a TB clinic, the TB number)
<b>Date</b>	The date on which nutrition services are provided
<b>Client name</b>	The client's first name and surname
<b>Sex</b>	Write M for male or F for female
<b>Adolescent (15–18 years)</b>	Tick (✓) if the client is 15–18 years of age
<b>Adult</b>	Tick (✓) if the client is 19 years or older
<b>Pregnant/lactating up to 6 months postpartum</b>	Tick (✓) if the client is a pregnant or lactating woman up to 6 months postpartum
<b>Bilateral pitting oedema</b>	Write <b>(0)</b> if the client has no bilateral pitting oedema; <b>(+)</b> if the client has oedema on both feet and ankles; <b>(++)</b> if oedema is in both feet plus lower legs, hands, and/or lower arms; <b>(+++)</b> if oedema is generalized, including both feet, legs, arms, and face
<b>Weight</b>	Write the client's weight in kg to one decimal point (e.g., 25.7 kg)
<b>Weight loss or gain</b>	Write the client's weight change in kg since the last visit. If client has gained weight, indicate change with a + sign (e.g., +1.3 kg); if client has lost weight indicate with a – sign (e.g., –2.2 kg)
<b>Height</b>	Write height in cm to one decimal point (e.g., 165.8 cm)
<b>Body mass index (BMI)</b>	Write the BMI of the adult client (≥19 years) who is not pregnant or lactating up to 6 months postpartum (e.g., 25.6)
<b>BMI-for-age</b>	Write the colour that the BMI-for-age of the adolescent client (15–18 years) is within (e.g., red, orange, green or purple)
<b>Mid-upper arm circumference (MUAC)</b>	Write the MUAC in cm (e.g., 23.5 cm). MUAC should only be measured for pregnant women, lactating women up to 6 months, or adult and adolescent clients who are too ill to have their height taken.
<b>Complications</b>	Write <b>Y</b> (yes) if the client has complications and <b>N</b> (no) if client has no medical complications
<b>Counselled on diet</b>	Write <b>Y</b> (yes) if the client received nutrition counselling and <b>N</b> (no) if client did not receive nutrition counselling
<b>Referred for therapeutic or supplementary food?</b>	Write <b>Y</b> (yes) if the client was referred for therapeutic or supplementary food and <b>N</b> (no) if client was not referred for therapeutic or supplementary food
<b>HIV status</b>	Tick (✓) on the appropriate box: positive (+), negative (–), or unknown
<b>Classification of nutritional status</b>	Tick (✓) on the appropriate box, based on the client's nutritional status: severe, moderate, normal, or overweight/ obese
<b>Next appointment</b>	Write the client's next appointment date, which should be on the same date as the next HIV, TB, or ANC/PMTCT appointment
<b>Totals</b>	Total of data entered on a particular page



## Exercise 5.1: NCST for Adolescent and Adult Register—ART Clinic at Mbera Health Centre

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Use the information below on the clients seen during the month of July 2016 at Mbera Health Centre's ART clinic to fill in the NCST register.

1. Chifundo Phiri, HIV-positive woman, attends ART clinic on July 5, age 27, height is 166.0 cm, weighs 72.4 kg, MUAC 29.6 cm, no bilateral pitting oedema or other medical complications, lost 1 kg since the last visit. Received nutrition counselling.
2. Stanley Chimwemwe, HIV-positive man, attends the ART clinic on July 7, age 46, height is 160.0 cm, weighs 60.0 kg, no weight change since the last visit, MUAC 25.0 cm, no bilateral pitting oedema or other medical complications.
3. Elizabeth Mphatso, HIV-positive woman, attends the ART clinic on July 7, age 19, height is 164.0 cm, weighs 45.0 kg, gained 0.5 kg since the last visit, MUAC 20.5 cm, no bilateral pitting oedema or other medical complications. Received nutrition counselling.
4. Blessings Moyo, HIV-positive man, attends the ART clinic on July 7, age 26, height is 178.0 cm, weighs 84.0 kg, gained 1 kg since the last visit, MUAC 24.0 cm, no bilateral pitting oedema or other medical complications. Received nutrition counselling.
5. David Banda, HIV-positive man, age 19, height is 157.0 cm, weighs 38.5 kg, no weight change since the last visit, MUAC 18.3 cm, no bilateral pitting oedema or other medical complications. Received nutrition counselling.



## Reference 5.4: How to Use the NCST Undernourished Client Register

1) Information recorded on the day of admission to treatment of undernutrition	
Name	The client's first name and surname
Type of service (entry point)/referred from	The service or point from which the client was referred (e.g., ART, pre-ART, TB, ANC/PMTCT, Teens Club)
Client #	The client's number from the programme where he/she was referred from
Sex	Tick (✓) M for male and F for female
Age	Tick (✓) the client's age category
Pregnant or lactating up to 6 months postpartum	Tick (✓) as appropriate if client is pregnant or lactating up to 6 months post-partum
Village	Name of the village and landmark if possible for easy client tracing
Date admitted to treatment/nutrition support	Write the date when the client starts to receive treatment for severe or moderate undernutrition
2) Information recorded during each client visit	
Date	Write the date when the nutrition services are provided to the client
Weight	Write the client's weight in kg to one decimal point (e.g., 25.7 kg)
Amount of weight lost since last visit	If the client lost any weight, write the amount of weight lost since the last visit in kg to one decimal point (e.g., 1.3 kg); if the client did not lose any weight, write 0
Amount of weight gained (per month) since last visit	If the client gained weight, write the average amount of weight gained per month since the last visit in kg to one decimal point (e.g., 0.9 kg); if the client did not gain any weight, write 0
Height	Write height in cm to one decimal point (e.g., 165.8 cm)
Body mass index (BMI)	Write the BMI of the adult client ( $\geq 19$ years) who is not pregnant or lactating up to 6 months post-partum (e.g., 25.6)
BMI-for-age	Write the BMI-for-age range for the adolescent client (15–18 years) (e.g., $<14.4$ , 13.2–14.3, 20.8–24.9, $\geq 28.2$ , etc.)
Mid-upper arm circumference (MUAC)	Write MUAC in cm (e.g., 23.5 cm). MUAC should only be measured for pregnant women, lactating women up to 6 months post-partum, or adult and adolescent clients who are too ill to have their height taken.
Does client have appetite?	Write <b>Y</b> (yes) if the client has appetite and <b>N</b> (no) if client has no appetite; make sure you conduct an RUTF appetite test if a client is severely undernourished
Bilateral pitting oedema	Write <b>(0)</b> if the client has no bilateral pitting oedema; <b>(+)</b> if the client has oedema on both feet and ankles; <b>(++)</b> if oedema is in both feet plus lower legs, hands, and/or lower arms; <b>(+++)</b> if oedema is generalized, including both feet, legs, arms, and face
Medical complications	Write <b>Y</b> (yes) if the client has complications and <b>N</b> (no) if client has no medical complications
Dietary assessment conducted	Write <b>Y</b> (yes) if a dietary assessment was done and <b>N</b> (no) if a dietary assessment was not done
Counselled on diet	Write <b>Y</b> (yes) if the client received nutrition counselling and <b>N</b> (no) if client did not receive nutrition counselling
Referred for economic strengthening, livelihoods, and food security (ES/L/FS) support?	Write <b>Y</b> (yes) if the client was referred for ES/L/FS and <b>N</b> (no) if client was not referred for ES/L/FS
Classification of nutritional status	Tick (✓) on the appropriate box, based on the client's nutritional status: severe (inpatient), severe (outpatient), moderate, normal, or overweight/obese
Therapeutic or supplementary food given at each visit	Write the amount of therapeutic and/or supplementary food given to the client at each visit, e.g., RUTF, Likuni Phala or CSB++, vegetable oil
3) Information recorded when the client exits from treatment of severe or moderate undernutrition	
Exit reason	Tick (✓) the client's reason for exit. Definitions of exit reasons: <ul style="list-style-type: none"> <li>- <b>Recovered (transitioned to another care plan):</b> Client reached the target BMI, BMI-for-age z-score, or MUAC and moved to another care plan</li> <li>- <b>Defaulted (lost to follow-up):</b> Client did not return for two consecutive visits after the last appointment</li> <li>- <b>Died:</b> Client died while receiving NCST services</li> </ul>

	<ul style="list-style-type: none"> <li>- <b>Non-recovered (treatment failure):</b> Client failed to attain the targeted transition BMI, BMI-for-age z-score, or MUAC within 4 months</li> <li>- <b>Transferred out:</b> Client left the health facility to continue with care at another facility</li> </ul>
<b>Date of exit from treatment/nutrition support</b>	Write the date when the client exits from treatment of moderate undernutrition; clients admitted with severe undernutrition should exit from treatment after they recover from moderate undernutrition



## Reference 5.6: NCST Report Form

Indicator	Pre-ART/ART	TB	ANC/PMTCT	OPD	Other
1) Total who received health services (HIV, TB, ANC/PMTCT, OPD):					
2) Total who received nutrition assessment at contact point:					
a) Of those assessed # with <b>severe undernutrition</b>					
b) Of those assessed # with <b>moderate undernutrition</b>					
c) Of those assessed # with <b>normal nutritional status</b>					
d) Of those assessed # who are <b>overweight/obese</b>					
3) Total who received nutrition counselling at contact point:					

	Total at the start of the month (Old cases) (A)	New Admissions (B)	Total in treatment (Old + New) (C)=A+B	EXITS						Total at the end of the month (J)	Total who received therapeutic and/or supplementary food
				Recovered (transitioned) (D)	Default (lost to follow-up) (E)	Died (F)	Non-recovered (treatment failure) (G)	Transferred out (H)	TOTAL Exits (I) = D+E+F+G+H		
<b>Severe Undernutrition</b> in Adolescents (15–18 years) and Adults (19 years or older)	Adolescents 15–18 years										
	Adults 19 years or older										
	Pregnant/lactating women*										
	<b>TOTAL</b>										
<b>Moderate Undernutrition</b> in Adolescents (15–18 years) and Adults (19 years or older)	Adolescents 15–18 years										
	Adults 19 years or older										
	Pregnant/lactating women*										
	<b>TOTAL</b>										

	Commodity	Packaging and unit	Stock on the first day of the month	Deliveries received in the month	Quantity distributed to beneficiaries	Quantity used for cooking demonstration	Quantity lost**	Stock on the last day of the month	Request for the following month
<b>Therapeutic and Supplementary Food Supplies</b>	RUTF	Sachets							
	F-75	Sachets/tins							
	F-100	Sachets/tins							
	CSB+/Likuni Phala	Kg							
	Vitameal	Kg							
	Vegetable oil	L (litres)							
	Other specify _____								

\* Up to 6 months post-partum

## Reference 5.7: Definitions of NCST Monthly Report Indicators

### General NCST Indicators

To report on the nutrition indicators listed in this section, you will need to use the adolescent and adult nutrition registers. The number of clients who receive health services can be found in the respective HIV, TB, or ANC/PMTCT monthly registers or reports.

Indicator	Definition
<b>Total number who received health services (HIV, TB, ANC/PMTCT)</b>	The number of adolescent and adult clients who received HIV, TB, or ANC/PMTCT services at any point during the reporting month.
<b>Total who received nutrition assessment at contact point</b>	The number of adolescent and adult clients in care and treatment who were nutritionally assessed during the reporting period.  Nutrition assessment means anthropometric measurement, which includes calculation of BMI for non-pregnant adults, BMI-for-age z-score for adolescents, and MUAC and weight gain for pregnant women.
<b>Total who received nutrition counselling at contact point</b>	The number of clients in care and treatment who were nutritionally assessed and also received nutrition counselling at any point during the reporting period.  Nutrition counselling is individual, active, one-on-one counselling in which a service provider and client discuss the client's individual dietary practices, preferences, constraints, and options; ask and answer questions; and identify feasible actions to improve dietary practices.

### 2) Indicators to Monitor Treatment of Severe and Moderate Undernutrition

To report on severely and moderately undernourished client indicators listed in this section, you will need to use the undernourished client management forms.

Indicator	Definition
<b>Total at the start of the month</b>	Total number of clients who are receiving treatment for severe (inpatient or outpatient) or moderate undernutrition on the first day of the reporting month. Total at the start of the month = total at the end of the month of the previous month.
<b>New admissions</b>	Clients who meet the criteria for severe or moderate undernutrition and begin treatment in a particular month. Admissions also include clients who are <b>'transferred in'</b> from another health facility where they were receiving treatment and clients within the same healthy facility who have transitioned either from severe undernutrition to moderate undernutrition or from moderate undernutrition to severe undernutrition.
<b>Exits</b>	Clients who leave treatment for severe or moderate undernutrition. Clients exiting from treatment are classified as <b>recovered</b> (transitioned to another care plan), <b>defaulted</b> (lost to follow-up), <b>died, non-recovered</b> (treatment failure), or <b>'transferred out'</b> to another facility.
<b>Recovered (transitioned to another care plan)</b>	Clients who exit from treatment for severe or moderate undernutrition after reaching the target BMI, BMI-for-age z-score, or MUAC. If a patient recovers from severe undernutrition and moves to the care plan for moderate undernutrition, he or she is considered an admission in the care plan for moderate undernutrition.
<b>Defaulted (lost to follow-up)</b>	Clients who have not returned for NCST services and are not known to have been transferred to another facility or to have died. A client is defined as a defaulter if she or he does not return for services for two consecutive visits/appointments.
<b>Died</b>	There is a reliable report of the NCST client's death, regardless of the cause.
<b>Non-recovered (treatment failure)</b>	A client exits from treatment for severe or moderate undernutrition after failing to reach the targeted BMI, BMI-for-age z-score, MUAC, or weight gain, as appropriate, within 4 months. Before treatment is considered as failed, all social, economic, and medical factors should have been considered and addressed.
<b>Transferred</b>	<b>'Transferred out'</b> refers to clients who have left the facility for another facility where they will continue to receive therapeutic and/or supplementary food. <b>'Transferred out'</b> also includes

	<p>moderately undernourished clients whose condition deteriorates and are transferred to treatment for severe undernutrition. 'Transferred out' clients should be considered as exits.</p> <p>'<b>Transferred in</b>' clients come to the facility from another facility where they received therapeutic and/or supplementary food. 'Transferred in' clients should be considered admissions in the facility where treatment is continued.</p>
<b>Total at the end of the month</b>	Total number of clients who are receiving treatment for severe or moderate undernutrition on the last day of the reporting month. Total at the end of the month = total at the start of the month + admissions – exits.
<b>Total who receive therapeutic or supplementary food</b>	<p>The number of severely or moderately undernourished adolescent and adult clients who received therapeutic and/or supplementary food at any point during the reporting month.</p> <p>'Therapeutic foods' are foods designed for the management of severe undernutrition, including RUTF (also known as Chiponde), an energy-dense, fortified peanut-based paste locally produced in Malawi. RUTF is nutritionally equivalent to F-100 therapeutic milk.</p> <p>'Supplementary foods', used to manage mild and moderate undernutrition, are primarily fortified blended foods (e.g., CSB, commonly known as Likuni Phala or CSB ++).</p>



## Exercise 5.2: NCST Monthly Report for Mbonera Health Centre

Indicator	Pre-ART/ART	TB	ANC/PMTCT	OPD	Other
<b>1) Total who received health services (HIV, TB, ANC/PMTCT, OPD):</b>	75	5	15	201	0
<b>2) Total who received nutrition assessment at contact point:</b>	66	4	15	60	0
a) Of those assessed # with <b>severe undernutrition</b>	10	2	0	1	0
b) Of those assessed # with <b>moderate undernutrition</b>	20	1	1	55	0
c) Of those assessed # with <b>normal nutritional status</b>	30	1	14	3	0
d) Of those assessed # who are <b>overweight/obese</b>	6	0	0	1	0
<b>3) Total who received nutrition counselling at contact point:</b>	75	4	13	17	0

	Total at the start of the month (Old cases) (A)	New Admissions (B)	Total in treatment (Old + New) (C)=A+B	EXITS						Total at the end of the month (J)	Total who received therapeutic and/or supplementary food
				Recovered (transitioned) (D)	Default (lost to follow-up) (E)	Died (F)	Non-recovered (treatment failure) (G)	Transferred out (H)	TOTAL Exits (I) = D+E+F+G+H		
<b>Severe Undernutrition</b> in Adolescents (15–18 years) and Adults (19 years or older)											
Adolescents 15–18 years	3	7	10	2	1	0	0	0	3	7	10
Adults 19 years or older	21	6	27	16	0	0	0	0	16	11	27
Pregnant/lactating women*	1	0	2	0	0	0	0	0	0	1	0
<b>TOTAL</b>	<b>23</b>	<b>13</b>	<b>36</b>	<b>18</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>19</b>	<b>36</b>
<b>Moderate Undernutrition</b> in Adolescents (15–18 years) and Adults (19 years or older)											
Adolescents 15–18 years	4	20	24	1	0	0	0	0	1	23	0
Adults 19 years or older	24	56	80	20	0	0	0	0	20	60	0
Pregnant/lactating women*	2	1	3	0	0	0	0	0	0	3	0
<b>TOTAL</b>	<b>30</b>	<b>77</b>	<b>107</b>	<b>21</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>86</b>	<b>0</b>

	Commodity	Packaging and unit	Stock on the first day of the month	Deliveries received in the month	Quantity distributed to beneficiaries	Quantity used for cooking demonstration	Quantity lost**	Stock on the last day of the month	Request for the following month
<b>Therapeutic and Supplementary Food Supplies</b>	RUTF	Sachets							
	F-75	Sachets/tins							
	F-100	Sachets/tins							
	CSB+/Likuni Phala	Kg							
	Vitameal	Kg							
	Vegetable oil	L (litres)							
	Other specify _____								

\* Up to 6 months post-partum

## Questions from NCST Monthly Report for Mbonera Health Centre

1. How many severely undernourished clients did Mbonera Health Centre have during the reporting month?
2. If there were no deliveries of Supercereal and RUTF in that month, and the facility only had 3,500 sachets of RUTF from the previous month, how much RUTF will be distributed to the beneficiaries?
3. How many moderately undernourished clients did Mbonera have during the month?
4. If the facility had no CSB+/Likuni Phala and vegetable oil in stock on the first day of the month, how much CSB+ and vegetable oil would the facility have required during the month?
5. How much RUTF, CSB+, and vegetable oil should the facility request for the next month?

## Reference 5.8: Definition of NCST Indicators

Indicator Name	Indicator Definition	Method of Measurement and Data Collection
1. Nutrition assessment	<p>The number and proportion of adolescent and adult clients in care and treatment who were nutritionally assessed during the reporting period</p> <p>Nutrition assessment means anthropometric measurement, which includes calculation of BMI for non-pregnant adults, BMI-for-age for adolescents, and MUAC and weight gain for pregnant women and lactating women up to 6 months post-partum.</p>	<p><b>Primary Data Source:</b> NCST Adolescent and Adult Register</p> <p><b>Numerator:</b> Number of clients who had their nutritional status assessed and classified at ART, TB, ANC/PMTCT, or other contact point at any point during the reporting period</p> <p><b>Denominator:</b> Total number of clients who attended the clinic (ART, TB, ANC/PMTCT, or other specified contact point) during the same reporting period</p> <p><b>NOTE:</b> Count every client who received services at least once during the reporting period once in the denominator and once in the numerator if he or she received nutrition assessment at any point during the reporting period</p>
2. Nutrition counselling	<p>The number and proportion of clients in care and treatment who were nutritionally assessed with anthropometric measurement and received nutrition counselling at any point during the reporting period</p>	<p><b>Primary data source:</b> NCST Adolescent and Adult Register</p> <p><b>Numerator:</b> Number of clients, including adults, adolescents, and pregnant and lactating women, who received nutrition counselling during the reporting period</p> <p><b>Denominator:</b> Total number of clients who received nutrition assessment during the same reporting period</p>
3. Provision of therapeutic food support	<p>The number and proportion of severely undernourished adolescent and adult clients who received therapeutic food at any point during the reporting period</p> <p>‘Therapeutic foods’ are defined as foods designed for the management of severe undernutrition, include RUTF, also known as <i>Chiponde</i>, an energy-dense, fortified peanut-based paste locally produced in Malawi. RUTF is nutritionally equivalent to F-100 therapeutic milk.</p>	<p><b>Primary data source:</b> Undernourished Client Management Form</p> <p><b>Numerator:</b> Number of severely undernourished clients who received therapeutic food at any point during the reporting period</p> <p><b>Denominator:</b> Number of clients who were nutritionally assessed and found to be severely undernourished, including those previously admitted for treatment of severe undernutrition (i.e., total severely undernourished at the start of the month + new admissions)</p> <p><b>NOTE:</b> Count severely undernourished clients once in the denominator and once in the numerator (if they received the therapeutic food at least once during the reporting period)</p>
4. Provision of supplementary food support	<p>The number and proportion of moderately undernourished adolescent and adult clients who received supplementary food at any point during the reporting period</p> <p>‘Supplementary foods’, used to manage mild and moderate undernutrition, are primarily fortified-blended foods (e.g., CSB, commonly known as <i>likuni phala</i> or CSB ++).</p>	<p><b>Primary data source:</b> NCST Undernourished Client Management Form</p> <p><b>Denominator:</b> Number of clients who were nutritionally assessed and found to be moderately undernourished, including those previously admitted for treatment of moderate undernutrition (i.e., total moderately undernourished at the start of the month + new admissions).</p> <p><b>NOTE:</b> Count moderately undernourished clients in the denominator and once in the numerator (if they received the supplementary food at least once during the reporting period)</p>

## Exercise 5.3: Collecting and Reporting NCST Indicators

For each NCST indicator, write how the data will be collected, who will collect the data, and who will report the data.

Indicator	How will the data be collected?	Who will collect which data?	Who will report the data?
1. # of clients who receive nutrition assessment ( <i>non-pregnant/post-partum, pregnant/post-partum, 15–18 years, over 18, male or female</i> )			
2. # of clients classified with severe undernutrition			
3. # of clients classified with moderate undernutrition			
4. # of clients classified as normal nutritional status			
5. # of clients classified as overweight/obese			
6. # of clients who receive nutrition counselling ( <i>non-pregnant/post-partum, pregnant/post-partum, 15–18 years, over 18, male or female</i> )			
7. # of clients who are severely and moderately undernourished who received therapeutic or supplementary food products ( <i>non-pregnant/post-partum, pregnant/post-partum, 15–18 years, over 18, male or female</i> )			
8. # of sachets/boxes of specialised food products in stock			

## Reference 5.9: Dimensions of Data Quality

Dimension	Operational Definition
<b>Main dimensions of data quality</b>	
<b>Accuracy/ Validity</b>	Accurate data are considered correct: The data measure what they are intended to measure. Accurate data minimize error (e.g., recording bias) to a point of being negligible. For example, in NCST, weight should be measured to the nearest 0.1kg.
<b>Reliability</b>	The NCST data generated through the NCST M&E processes are based on protocols and procedures that do not change according to who is using them and when or how often they are used. In NCST, there are standardized data collection tools that should consistently be used.
<b>Precision</b>	This means that the data have sufficient detail. For example, when collecting data on nutrition assessment, the data lack precision if the client’s age is not recorded.
<b>Completeness</b>	Completeness means that an information system from which the results are derived is appropriately inclusive: It represents the <i>complete</i> list of eligible persons, units, or data elements and not just a fraction of the list. For example, when capturing data in the Adolescent and Adult Nutrition Register, all required data elements must be recorded.
<b>Timeliness</b>	Data are timely when they are up-to-date (current) and when the information is available on time. For example, data in the Adolescent and Adult Nutrition Register must be recorded at the time of assessment; the NCST Monthly Report must be submitted by the 5 <sup>th</sup> day following the end of the reporting month; and NCST data must be entered in DHIS-2 by the 15 <sup>th</sup> day following the end of the reporting month.
<b>Integrity</b>	Data have integrity when the system used to generate them are protected from deliberate bias or manipulation for political or personal reasons.

## Reference 5.10: Data Verification Tool

Name of district/health facility										
Name of people who were interviewed										
Level of data collection (district/facility)										
Selected indicators verified										
Reporting period verified (3 months)										
Date of assessment										
Indicator	Source documents available* (No=0, Yes=1)	Source documents complete** (No=0, Yes=1)	Dates of source documents correct*** (No=0, Yes=1)	Number/results reported (A)			Number/results verified (B)			Variance = $\frac{(A-B) \times 100}{B}$
				Month 1	Month 2	Month 3	Month 1	Month 2	Month 3	
Nutrition assessment (and classification)										M1:
										M2:
										M3:
										Average:
Nutrition counselling										M1:
										M2:
										M3:
										Average:
Provision of therapeutic food										M1:
										M2:
										M3:
										Average:
Provision of supplementary food										M1:
										M2:
										M3:
										Average:

### Notes:

\* Review available source documents for each indicator for the reporting period being verified. Is there any indication that source documents are missing? The actual document for the nutrition assessment and classification and nutrition counselling indicators is the NCST Adolescent and Adult Register. The source document for the provision of therapeutic food and provision of supplementary food indicators is the Undernourished Client Management Form.

\*\* Are all available source documents complete? If **no**, determine how this might have affected reported numbers.

\*\*\* Review the dates on the source documents. Do all dates fall within the reporting period?

A) Copy the data reported by the health facility during the reporting period for each selected indicator from the NCST monthly report or DHIS-2.

B) Recount the data recorded during the reporting period for each selected indicator by reviewing the *source documents* such as the Adolescent and Adult Nutrition Register, Stock Card, and Undernourished Client Management Form for Adolescent and Adults.

**Variance:** Calculate the variance of recounted to reported numbers for each selected indicator based on the formula  $\{(A-B) \times 100\}/B$ . What are the reasons for the discrepancy (if any) observed (i.e., data entry errors, arithmetic errors, missing source documents, other)? For each indicator where variance is greater than **+/-5%**, further analysis is warranted<sup>1</sup>.

<sup>1</sup> Measure Evaluation (2015).

## Reference 5.11: Routine Data Quality Assessment Action Plan

Based on the findings of the information systems’ review and data verification at the health facility, please describe any challenges to data quality identified and recommended strengthening measures, with an estimate of the length of time that the improvement measure could take. These should be discussed with the health facility NCST team (or the district NCST team and the district HMIS Office).

Name of district/health facility					
	Identified gaps	Description of action plan	Person (s) Responsible	Timeline	Technical assistance needs
1					
2					
3					
4					
5					
<b>Overall score of information system assessment</b>					
<b>Date of next RDQA</b>					
<b>Signing</b>		<b>Health facility in-charge</b>		<b>RDQA team leader</b>	
		Name: .....		Name: .....	
		Position: .....		Position: .....	
		Signature: .....		Signature: .....	
		Date: .....		Date: .....	

