

## A User's Guide

# MODULE 7. NACS Planning

SEPTEMBER 2018

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1. Assess the Context for NACS
2. Agree on the scope and phasing of NACS integration
3. Integrate nutrition services into routine clinical care through quality improvement
4. Develop NACS materials
5. Plan NACS training
6. Establish a logistics system for NACS products
7. Plan NACS data management
8. Establish a referral system as a component of support within NACS
9. Establish a system for supportive supervision and coaching of NACS service providers
10. Determine the cost of NACS integration

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## WHAT IS NACS?

NACS is a patient-centered programmatic approach to integrating a set of priority nutrition interventions into routine health care systems and community services. It includes nutrition screening and assessment; nutrition education and counseling; prescription of specialized food products for acutely malnourished patients; sometimes provision of micronutrient supplements and point-of-use water purification products; and referral to further medical management and government or community support services to prevent malnutrition and maintain improved nutritional and health status. This approach can be implemented in any department of a health facility, in community outreach, and in home-based care for people living with chronic illness, support groups, or programs for vulnerable children. Known by various names, the NACS approach has been integrated into health systems in more than a dozen countries. For example, in Malawi it is known as Nutrition Care, Support, and Treatment (NCST), and in Mozambique it is known as the Nutrition Rehabilitation Program (Programa de Reabilitação Nutricional [PRN]). The approach has improved overall health system capacity, including counseling, links to clinical care, quality assurance and improvement, monitoring and evaluation (M&E), health facility-community linkages, and—the ultimate measure of a health system's performance—patient outcomes. Because nutrition cuts across multiple health conditions and sectors (health, food security, agriculture, education, the economy, social capital), strategic NACS integration can strengthen the many critical facets of the health system below.<sup>1,2</sup>

- **Leadership and governance**, through strategic nutrition policy frameworks, effective oversight, coalition-building, regulation, system design, and accountability
- **Health care financing**, through costing, advocacy, and budgeting to ensure that adequate funds are available for needed nutrition services
- **Health workforce** that is responsive, fair, and efficient to achieve the best health outcomes possible, given available resources and circumstances, through NACS training, supportive supervision, coaching, and mentoring
- **Medical products and technologies** through costing, procurement, and provision of scientifically sound and cost-effective essential nutrition supplies and equipment
- **Data management** to produce, analyze, disseminate, and use reliable and timely information on health service performance
- **Service delivery**, guided by quality assurance and improvement, training, supportive supervision, coaching, and mentoring

A box at the beginning of each step in this module shows the health system function to which NACS planning contributes.



NACS  
glossary



NACS approach's  
application in  
various countries

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<sup>1</sup> [http://www.wpro.who.int/health\\_services/health\\_systems\\_framework/en/](http://www.wpro.who.int/health_services/health_systems_framework/en/)

<sup>2</sup> Adapted from WHO. 2007. [Everybody Business: Strengthening Health Systems to Improve Health Outcomes: WHO's Framework for Action](#). Geneva: WHO.

## WHAT IS THE PURPOSE OF THIS MODULE?

This module provides guidance on planning for the integration of nutrition services into routine, facility-based health care and community-based services using the NACS approach. It draws on the experience of countries and practitioners that have integrated NACS into health systems and on frameworks used to classify the elements of effective programming for health system strengthening.

## HOW DOES THIS MODULE FIT INTO NACS: A USER'S GUIDE AND OTHER NACS RESOURCES?

The NACS User's Guide contains the following modules:

Module 1. What Is NACS?

Module 2. Nutrition Assessment and Classification

Module 3. Nutrition Education and Counseling

Module 4. Nutrition Support

Module 5. NACS Monitoring and Evaluation

Module 6. Quality Improvement for NACS

Module 7. NACS Planning

Readers are encouraged to read Module 1, which provides more details about the NACS approach, before delving into the planning aspects. Modules 2–6 will also be useful, particularly for deciding on the scope of NACS services, as described in the sections below.

Other useful resources for NACS planning include the:

**NACS Planning and Costing Tool.** This tool assists with planning for the design, financing, and management of NACS at the national and sub-national levels. The tool estimates the quantity and costs of inputs to establish and maintain NACS services, using activity-based costing.

**NACS Facility Assessment Tool.** This tool assesses NACS service delivery at health facilities. It helps program managers determine whether the minimum elements needed to implement NACS are in place, identify gaps in service delivery, and prioritize interventions to strengthen programming. This tool can be used before initiation of services—to establish baseline data and help inform the design of interventions—as well as throughout program implementation.

**Tool for Rapid Evaluation of Facility-Level Nutrition Assessment, Counseling, and Support.** More extensive than the preceding resource, this tool helps gather information on the capacity of health facilities to implement NACS for pregnant women, children, and people living with HIV. Data collected with this tool can be used to assess and routinely monitor the ability of health facilities to provide NACS services.



Access all of the modules in the NACS User's Guide



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NACS Planning and Costing Tool



NACS Facility Assessment Tool



Tools for Rapid Evaluation of Facility-Level NACS



### Tanzania NACS Implementation Guide

This module also provides links to many examples and resources, including the Tanzania Food and Nutrition Centre (TFNC) *NACS Implementation Guide*, developed in 2015 to provide guidance to implementing partners in integrating nutrition services into the continuum of care using the NACS approach for improved health care delivery and patient outcomes.

### FOR WHOM IS THIS MODULE INTENDED?

The module is intended for governments, international agencies, community service organizations, and other health programmers and implementers to plan for NACS integration.

### HOW IS THE MODULE ORGANIZED?

The module covers the 10 elements that should be considered when planning for NACS integration into a health system (Table 1), with resources and examples. The elements are not sequential (for example, element 6 might happen before element 5), and some may be addressed simultaneously. At the beginning of each element is a list of the WHO health systems strengthening functions to which NACS activities contribute.

**TABLE: PLANNING ELEMENTS FOR NACS INTEGRATION**

No.	Element
1	Assess the context for NACS
2	Agree on the scope and phasing of NACS interventions
3	Integrate nutrition services into routine clinical care through quality improvement
4	Develop NACS materials
5	Plan NACS training
6	Establish a logistics system for NACS supplies and equipment
7	Plan NACS data management
8	Establish a referral system as a component of support within NACS
9	Establish a system for supportive supervision and coaching of NACS service providers
10	Determine the cost of NACS integration

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## 1. Assess the context for NACS

Quality NACS implementation requires national support for developing policy, guidelines, training materials, and job aids; credentialing of service providers; quality assurance and quality improvement, including coaching and supervision of trained providers according to performance standards; managing NACS data and integrating NACS indicators into the national health management information system (HMIS); and including NACS equipment and supplies in commodity management systems. A country's approach to NACS implementation depends on its political, economic, social, and cultural context. The first step in planning for the integration of nutrition services using a quality improvement approach is to answer the questions outlined below.

### WHAT NUTRITION-RELATED PROBLEMS AFFECT THE COUNTRY?

The following nutrition-related information will inform planning and targeting of NACS services:

- Undernutrition (stunting, wasting, and underweight); micronutrient deficiencies; maternal nutrition problems; and overnutrition (overweight and obesity)
- Food insecurity: Food availability and access issues
- Dietary practices of economically and socially vulnerable groups: Main staple(s); consumption of fruits, vegetables, animal-source foods, legumes/pulses, and other nutritious foods; and cultural norms (e.g., intra-household food sharing, food taboos during pregnancy)
- Impact of infectious diseases on nutrition

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Leadership and governance:** Strategic NACS policy frameworks, effective oversight, coalition building, regulation, system design, and accountability

- Childcare practices (infant and young child feeding, early child development)
- Education access and levels
- Fertility rates and family planning
- Sources of income and livelihoods
- Water, sanitation, and hygiene practices and access to water and sanitation facilities
- Political instability and conflict
- Climate change

This information may be found in national health information systems, demographic and health surveys (DHS), UNICEF multiple indicator cluster surveys (MICS), nutrition surveillance surveys, census documents, and government and development partner reports. Once you have identified geographical areas for NACS integration, local information on nutrition issues can be gathered through district and regional health and nutrition reports; interviews with government officials, local NGOs, development partners, and community members (particularly members of vulnerable groups); (separate) focus group discussions with community members and health care managers and providers; and observation of health service delivery and dietary practices. The elements in this module as well as the *Nutrition Program Design Assistant (NPDA)*, which includes a reference

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Nutrition  
Program Design  
Assistant  
(NPDA), version 2

guide for understanding the local nutrition situation and selecting program approaches, can help you synthesize the information.

## WHAT IS THE STRUCTURE OF THE HEALTH SYSTEM AND HOW DOES NACS FIT INTO THAT STRUCTURE?

The structure of health services, commodity management systems, the national HMIS, community-based health systems including community health worker cadres, and the roles of nutritionists and dietitians in health services, will determine how and at what levels to integrate NACS into service delivery.

## HOW ARE EXISTING NUTRITION PROGRAMS AND SERVICES DESIGNED, AND HOW EFFECTIVE ARE THEY?

In practice, NACS should be integrated into and complement existing policies, protocols, programs, and services rather than be implemented as a parallel program. A quality improvement approach to integrating NACS should strengthen existing services, identify gaps, analyze current care quality and processes, develop and test possible solutions that will improve service delivery processes and promote operational coordination among actors that affect nutrition to maximize coverage, avoid duplication, and increase efficiencies. Planners should assess:

- **National guidelines, policies, strategies, and services** related to nutrition and the underlying determinants of nutritional status—adequate food, health, and care practices
- **Programs** in nutrition and nutrition-related sectors (health, agriculture, water and sanitation, education,

social welfare) and their goals, target groups, and coverage.

- **Private sector initiatives** related to nutrition, especially the commercial/market food system

## WHAT HUMAN RESOURCE CAPACITY IS AVAILABLE?

The integration of NACS into health services should strengthen competencies for nutrition service delivery and should not further overburden health care providers. Additionally, NACS responsibilities should be included in health workers' performance standards. Planners should assess current and potential human resource capacity to determine what is feasible to take on immediately and look for medium- to long-term solutions to fill gaps. The NACS Planning and Costing Tool can help you determine human resources needs for NACS.

## WHO CAN ADVOCATE FOR NACS?

Key allies and champions can help navigate the environment to establish a role for NACS in the health system. The **Scaling Up Nutrition (SUN)** Movement aims to guide national action by providing a framework of considerations, principles, and priorities for action to address undernutrition, focusing on the 1,000-day window of opportunity between pregnancy and a child's second birthday. The SUN Movement has published briefings on the experience of SUN country governments and other national stakeholders in scaling up efforts to improve nutrition. Other **national nutrition advocates** include ministries of health and agriculture, UN organizations, civil society, professional societies, the commercial food sector, and prominent donors.



Uganda's National  
Planning Authority  
guidance for  
integrating nutrition  
into other sectors



NACS  
Planning and  
Costing Tool



SUN: Effectively  
Engaging Multiple  
Stakeholders

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## WHO WILL MANAGE AND SUPPORT NACS?

NACS may be managed and/or supported, including financially, by:

**Ministries of health**, which can incorporate nutrition into national policies, guidelines, and training curricula as well as include NACS services in national, regional, and district budgets. From an operational perspective, they can coordinate NACS implementation, develop NACS training materials, train service providers in NACS, set standards for quality assurance of NACS service delivery, and monitor and report on NACS indicators.

**Local government authorities**, which can allocate human and financial resources for NACS, coordinate NACS partners at the regional level, provide technical support and oversight of NACS implementation, report on NACS indicators to the national level, and conduct supportive supervision of providers trained in NACS.

**International organizations** such as the World Health Organization (WHO), United Nations Children's Fund (UNICEF), World Food Programme (WFP), and Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM); **and donors** such as the U.S. Agency for International Development (USAID), U.S. President's Emergency Plan for AIDS Relief (PEPFAR), and UK Department for International Development (DfID), may support NACS capacity building; print training materials and job aids; fund, organize, and co-facilitate NACS training; support quality improvement of NACS services; and monitor and report on NACS indicators.

**Community-based organizations**, which can train and support community workers in nutrition screening, referral, and follow-up; develop and disseminate counseling materials; report on NACS indicators; and support referral systems that link clients and households to economic strengthening and livelihood support services that address food security and resilience.

## WHAT RESOURCES ARE AVAILABLE?

In the initial planning stage, gauge existing or potential financial resources that could support NACS. This can help you decide on the scope and geographic spread of NACS services. It can also serve as a baseline measure to advocate for additional resources. The NACS Planning and Costing Tool can help you with this decision-making process: after entering information in data entry worksheets, you can see the cost and resource implications with different scenarios of scope and geographic spread.



**NACS  
Planning and  
Costing Tool**

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1	2	3	4	5	6	7	8	9	10
ASSESSMENT	SCOPE & PHASING	QUALITY IMPROVEMENT	MATERIALS	TRAINING	LOGISTICS SYSTEM	DATA MANAGEMENT	REFERRAL SYSTEM	SUPERVISION & COACHING	COST

## 2. Agree on the scope and phasing of NACS integration

Integrating NACS into health service delivery requires effective partnership and coordination. These can begin with the following steps.

### CONVENE A MEETING OF RELEVANT STAKEHOLDERS AT THE CENTRAL LEVEL

Once the scope of existing nutrition services, human resources, and financial capacity have been assessed, the government should convene a meeting of relevant stakeholders at the central level to:

- Reiterate the government's commitment to good nutrition for its citizens.
- Take stock of nutrition needs and capacity.
- Explain its decision to strengthen integration of NACS into the existing health care system (or aspects of that system) rather than adding it as a new program.
- Relate NACS integration to other development and nutrition initiatives in the country.
- Call for sectoral ministries, national nutrition bodies, donors, UN organizations, civil society, implementing partners, and the private sector to work together to improve nutritional status in the country.

In this and subsequent national meetings, stakeholders can agree on:

- NACS scope, protocols, and interventions
- Involvement of nutrition/health and other sectoral authorities

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Leadership and governance:** Strategic NACS policy frameworks, effective oversight, coalition-building, regulation, system design, and accountability

**Service delivery:** Effective, safe, quality NACS interventions for those who need them, when and where needed, with minimal waste of resources, through training, supportive supervision, and quality improvement

A **health workforce** that is responsive, fair, efficient, and capable of achieving the best possible health outcomes, given available resources and circumstances, through NACS training, supportive supervision, coaching, and mentoring

- Geographic coverage
- Quality assurance and quality improvement systems
- A data management system
- A logistics system for NACS supplies and equipment
- Expected results
- Integration into national and regional health plans
- Sources of funding and integration into national and regional health budgets
- Concrete steps to operationalize interventions
- Focal points for each level of the health system
- A national multi-stakeholder NACS strategy





## ORGANIZE SENSITIZATION MEETINGS WITH SUB-NATIONAL AUTHORITIES

Once the scope of NACS is agreed at the national level, the government should organize meetings with authorities in each region, district, or community where services are planned to explain the NACS approach, request support, and discuss roles in NACS implementation.

Possible participants in regional or district sensitization sessions are listed below.

- 1) Regional or district staff
  - District director
  - District commissioner
  - Nutrition staff
  - Health staff, including maternal and children health and nutrition, HIV, and TB
- 2) Regional or district health management teams
  - Medical staff
  - Nutrition staff
  - Maternal and child health staff
  - Reproductive and child health staff
  - Prevention of mother-to-child transmission of HIV (PMTCT) staff
  - Infectious disease staff
  - Pharmacy staff
  - Laboratory staff
  - Community development staff
  - Agricultural extension staff
  - Education staff

- 3) Influential community members
  - Community leaders
  - Religious leaders
  - Traditional leaders
  - Political leaders
  - Health facility managers
  - Leaders of community service organizations (CSOs)
  - Community health workers
  - Leaders of support groups (e.g., mothers, women, HIV, economic strengthening, church groups)
  - Traditional healers and traditional birth attendants
  - Extension workers (health, nutrition, education, community development, agriculture, water and sanitation)

## SELECT NACS FOCAL POINTS AND IMPLEMENTERS

At this stage, the government should select people who will be responsible for NACS integration at the national, sub-national, health facility, and community levels.

- 1) A national **NACS technical working group (TWG)** made up of representatives of line ministries (e.g., health, agriculture, community development, social welfare, education) can be established to discuss NACS policies and protocols, draft and review national guidelines and training materials, and discuss implementation issues (see the terms of reference from Ethiopia as an example).
- 2) The government may select or appoint **nutrition focal points** at the sub-national (provincial, district, or commune), health facility, and/or community



**TOR for technical working group**





### NACS focal point position description

levels to oversee and ensure the quality of NACS integration (see the position description from Ethiopia as an example). These focal persons should be trained in NACS and have experience in health care management, training, QA/QI, supportive supervision, monitoring, and reporting. Their responsibilities can include:

- Coordinating training of trainers and rolling out training (pre- and in-service)
  - Facilitating the enabling environment for NACS services (distributing supplies and equipment; organizing training, QA/QI, and supportive supervision; and including NACS in annual regional and district work plans and budgets)
  - Coaching service providers trained in NACS and QI
  - Ensuring compliance with national nutrition guidelines
  - Ensuring accurate and timely reporting on nutrition indicators
  - Ensuring continuous quality improvement of nutrition services
- 3) The government may have its own criteria to select **facility-based staff who will provide NACS services**, but below are suggested criteria:
- Training as a nutritionist, clinician, nurse, pharmacist, dietitian, or supply clerk. Physicians may not conduct nutrition assessments or counseling, but some countries have trained them in NACS to familiarize

them with the importance of nutrition in health care and treatment. Additionally, physicians and other clinicians should be trained to factor nutritional status into the overall clinical assessment of patients—a vital sign—and examine the trend in nutritional status, e.g., significant weight loss or weight gain over time.

- Experience with the health service delivery system
  - Good communication skills
  - Likelihood of mentoring or coaching other providers in NACS
  - Familiarity with adult learning and QI methods
  - Counseling skills
  - Likelihood of imminent transfer or relocation
- 4) Suggested criteria for selecting **community service providers for NACS training**:
- Position as a community volunteer, community health worker, or program officer at community level
  - Knowledge of how to access communities and work with leaders
  - Experience in a nutrition-related area (e.g., health, nutrition, water and sanitation, food security, income generation, village savings groups, gender-based violence, community groups)
  - Good communication skills
  - Experience training others
  - Familiarity with adult learning and QI methods
  - Counseling experience and skills

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## PRIORITIZE INITIAL SITES

To reach all groups that are most vulnerable to malnutrition, NACS should be integrated into all health facility and community services. A phased approach might be advisable to apply lessons learned based on data from initial sites. If a phased approach is used, the following criteria can be used to prioritize initial target sites:

- High prevalence of undernutrition (stunting, wasting, maternal underweight, micronutrient deficiency)
- High prevalence of acute and chronic infectious diseases
- Care and treatment services
- Regional food insecurity
- Large numbers of vulnerable households
- District or regional support for NACS, including a commitment to QI to ensure site-level data generation and analyses to track service delivery and patient outcomes
- Active community-based organizations
- Local government capacity and willingness to integrate NACS into existing services
- District support for community workers and civil society organizations

## ASSESS THE READINESS OF THE SITES TO BEGIN NACS IMPLEMENTATION

Once target sites are chosen, they should be assessed for their readiness to begin NACS strengthening. Several checklists have been developed to assess components of NACS readiness that can also be used to identify gaps during initial site visits and later during supportive supervision and coaching/mentoring visits.

## PLAN SCALE-UP TO ADDITIONAL SITES

After NACS services have been introduced in the initial sites and lessons learned during initial implementation have been reviewed, work with the government and other partners to decide whether and where to scale up NACS integration. The number of scale-up sites depends on government capacity and funding and criteria like those used to prioritize the initial sites.

The *National Nutrition Planning Guidelines for Uganda* provide useful information on decentralized planning of nutrition services, including planning principles, stakeholder roles and coordination, and guidance on convening national nutrition coordinating bodies; conducting situation analyses and needs assessments; developing goals, objectives, strategies, interventions, and activities; and determining resource requirements.



**Tool for Rapid Evaluation of Facility-level NACS**



**Uganda's service delivery assessment tools**



**NACS site checklist**



**National Nutrition Planning Guidelines for Uganda**



### 3. Integrate nutrition services into routine clinical care through quality improvement

The objective of NACS is to improve nutrition service delivery and patient nutrition outcomes. Both the content and quality of NACS services affect patient outcomes. Improving content is a matter of ensuring that guidelines, protocols, and training materials are technically accurate and up to date (see **Element 4. Develop NACS materials**), but improving quality is a continual process. When planning the integration of nutrition services, consider developing capacity in both nutrition service provision and clinic service delivery process improvement.

Using the QI approach will ensure successful integration of nutrition services into routine clinical care. The approach is based on the *Model for Improvement*, developed by Associates in Process Improvement. It involves identifying the area of improvement, analyzing the current quality and process of care, developing possible solutions to address the identified problem, and then testing those changes to determine if they improve processes and health outcomes.

*Module 6. Quality Improvement for NACS* describes QI and provides guidance on planning and implementing the steps to assess care quality processes, integrate nutrition services, and improve outcomes for patients receiving those services.

#### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Leadership and governance:** Strategic NACS policy frameworks, effective oversight, regulation, system design, and accountability

**Health care financing:** NACS costing, advocacy, and budgeting to ensure that adequate funds are available to ensure people can use and afford needed health services

A **health workforce** that is responsive, fair, efficient, and capable of achieving the best health outcomes possible, given available resources and circumstances through NACS training, supportive supervision, coaching, and mentoring

**Service delivery:** Effective, safe, quality NACS interventions for those who need them, when and where needed, with minimal waste of resources through training, supportive supervision, and quality improvement



Module 6 of  
the NACS  
User's Guide



## 4. Develop NACS materials

NACS guidelines, training materials, job aids, and other reference materials will need to be developed or adapted before implementation can begin.

### NACS GUIDELINES AND REFERENCE MATERIALS

NACS guidelines contain protocols and standard operating procedures (SOP) for facility- and community-based providers. They should align with global guidance on nutritional requirements of different groups, anthropometric measurements, and classification of nutritional status. They should also reflect national policies, health care system organization, and nutrition concerns. Since the guidelines pertain to clinical practice, they should be developed in collaboration with health care providers with experience in antenatal, post-natal, pediatric, adolescent, and adult care and treatment. An important part of developing NACS guidelines involves the selection of NACS equipment and supplies (see **Element 6. Establish a logistics system for NACS supplies and equipment**).

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

A **health workforce** that is responsive, fair, efficient, and capable of achieving the best health outcomes possible, given available resources and circumstances, through NACS training, supportive supervision, coaching, and mentoring

**Information and research:** Activities to ensure that a well-functioning health information system produces, analyzes, disseminates, and uses reliable and timely information on nutrition indicators and health facility performance





### Sample NACS standard operating procedures

**National NACS guidelines** have been developed in numerous countries by ministries of health, sometimes in partnership with other sectoral ministries, and supported by USAID. Some countries have also developed NACS reference manuals and standard operating procedures for nutrition service providers.

### NACS TRAINING MATERIALS

NACS training materials can be developed for both facility- and community-based providers. The style and content should be targeted to each group, as their roles and learning needs are different, although complementary.

**National NACS training manuals** gather all available information on nutrition knowledge, skills, and processes to implement NACS services and ensures consistency in training content and methods across the country. The materials should be based on the competencies expected of trained providers. They should also align with national nutrition guidelines and reflect national policies, health care system organization, and nutrition concerns. National NACS training manuals have been developed in numerous countries by ministries of health, sometimes in partnership with other ministries or national AIDS control organizations.










NACS training materials usually include a **guide for facilitators** and a **participant workbook or participant handouts** to support the training. If government partners request them and electricity and a projector are available in planned training sites, PowerPoint **slides** may be developed for the modules, but they should highlight the important points rather than simply duplicate the training content.



### NACS competencies for facility-based providers

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### SAMPLE NATIONAL GUIDELINES AND REFERENCE MANUALS

-  [Ethiopia HIV and Nutrition Guidelines](#)
-  [Côte d'Ivoire National Guidelines for the Nutrition, Care and Support of People Living with HIV and/or Tuberculosis \(in French\)](#)
-  [Namibia Nutrition Assessment, Counseling, and Support for People Living with HIV: Operational Guidelines, NACS Counseling Materials, and Job Aids](#)
-  [Tanzania National Nutrition and HIV Guidelines](#)
-  [Malawi's National Guidelines on Nutrition Care, Support, and Treatment \(NCST\) for Adolescents and Adults](#)
-  [Mozambique Nutrition Rehabilitation Program Materials](#)
-  [Ethiopia National Nutrition and HIV/AIDS Implementation Reference Manual](#)
-  [Tanzania NACS Reference Manual](#)
-  [Uganda NACS Reference Manual](#)

NACS training manuals can be divided into modules, which can be combined into a multi-day course or taught separately to different audiences (e.g., a module on nutrition assessment for facility-based health care providers, a module on commodity management for pharmacists, and a module on NACS data management for health facility data clerks). The box below lists additional suggestions for NACS training materials.

### RECOMMENDATIONS FOR DESIGNING NACS TRAINING MATERIALS

The training materials should:









- Address the needs of the audience (trainers, facility-based health care providers, community workers).
- Arrange content in a logical sequence, broken down into small units.
- Be pretested and revised based on results.
- Be updated periodically to reflect global and national guidance.
- Serve as a reference on the job.
- Have an attractive, eye-catching design.
- Use illustrations to enhance understanding of the content.
- Be easy to read, with instructions that are easy to follow.
- Avoid the passive voice (e.g., instead of “The tape is positioned midway between the shoulder and elbow,” use “Place the tape midway between the shoulder and elbow”).
- Avoid long, complex sentences and paragraphs.

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### SAMPLE NATIONAL TRAINING MATERIALS

-  [Ethiopia Nutrition and HIV Training Materials](#)
-  [Uganda NACS Training Materials](#)
-  [Tanzania NACS Training Materials](#)
-  [Zambia NACS Training Materials](#)
-  [Mozambique Nutrition Rehabilitation Program Materials](#)
-  [Malawi NCST Training Materials](#)
-  [DR Congo NACS Training Materials](#)

To make it easier to follow, the facilitators' guide can include visual cues (icons) as alerts to different training components (e.g., duration) or activities (e.g., presentations, brainstorming, group work, practice). Examples of such icons are shown here.

Component	Cue	Component	Cue
Duration		Group work	
Brainstorm		Practice	
Presentation		Review	
Discussion		Test/evaluation	



### Sample NACS pre- and post-tests



### Sample NACS course evaluation form

Pre- and post-tests can be developed to compare participants' knowledge before and after training. True/false questions are less useful than short answer or multiple-choice questions because they are susceptible to guessing. If time permits, post-tests can include demonstration of nutrition assessment or counseling skills taught during the course. A NACS training course may also include an end-of-course evaluation for trainees to assess the effectiveness and usefulness of the training. The results can be used to improve future training.

## NACS JOB AIDS

Job aids support training, quality improvement, and learning in the workplace and give service providers task guidance on the job, when they need it. Job aids help providers solve problems and adapt to unique situations, speed up tasks such as classification of nutritional status, and ensure consistent and standardized performance. Job aids should be quick references, not guidelines. They can be developed to address a specific need or gap in service delivery, identified and tested through the QI process at a site and, once validated, shared with other sites and institutionalized throughout the health system. NACS job aids have been developed in several countries for facility-based providers and community workers.

## TIPS FOR DESIGNING NACS JOB AIDS

The training materials should:

- Include only the necessary steps or information.
- Keep the information concise and simple.
- Minimize text and use short, simple sentences and graphics.
- Include procedures/tasks but no background information (which should be in reference manuals or participant training handouts).
- Use simple, familiar language.
- Use action verbs (imperatives) (e.g., "Fold the MUAC tape in half," not "You should fold the MUAC tape in half" or "The MUAC tape should be folded in half").
- Use clear and simple graphics to convey as much information as possible.
- Number the action steps in sequence as an algorithm.
- Stress important information with bold or italicized print or capital letters.
- Pre-test the drafts with providers and patients and revise them based on results.
- Use sizes and formats that are easy for providers to carry and refer to on the job.

## SAMPLE NATIONAL JOB AIDS

[Côte d'Ivoire](#)

[DR Congo](#)

[Ethiopia](#)

[Malawi](#)

[Mozambique](#)

[Namibia](#)

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## NACS EDUCATION AND COUNSELING MATERIALS

Education and counseling materials are critical to help health care providers convey nutrition information effectively to patients and to help patients understand and take an active part in improving their nutritional and health status.

**Nutrition education** presents general information related to health and nutrition, often to groups in clinic waiting rooms or community settings. Trained counselors or health volunteers deliver prepared talks on specific topics, often using visual aids. **Nutrition counseling**, in contrast, is a two-way interaction, typically between an individual patient and a trained counselor. The counselor, usually a facility-based health care provider or community health volunteer, interprets the results of nutrition assessment and works with the patient to identify nutrition needs and goals, discuss ways to address them, and agree on next steps. Nutrition counseling focuses on practical actions and the benefits of behavior change.

Many governments and development partners have developed education and counseling materials on nutrition and nutrition-related topics such as infant and young child feeding, dietary changes, and WASH, that can be used or adapted for NACS service providers. If you develop new materials based on NACS training content:

- Determine the most important messages based on nutrition guidelines and protocols.
- Review existing nutrition education and counseling materials for relevant content, usability, and effectiveness in inducing desired nutrition behaviors or social norms.

- Decide whether formative research is needed to develop communication messages and materials.
- Follow the tips for designing NACS job aids above.
- Pre-test the materials with trained counselors and patients and revise them based on the results.
- Plan to update and develop new materials over time to meet changing needs.

### PLAN SUFFICIENT TIME AND RESOURCES TO DEVELOP AND TEST NACS MATERIALS

Developing NACS guidelines, training and counseling materials, and job aids requires significant time and effort on the part of technical experts and reviewers. The amount of time and effort depend on whether you are starting from scratch or adapting existing materials. Be sure to plan enough time and resources for both materials development and field testing. Although draft materials can be used in the interim, finalizing national NACS guidelines, training materials, and job aids has been known to take several years, given the need for government and partner consensus and ministerial signature approval. Use illustrations to enhance understanding of the content.

### SAMPLE NATIONAL COUNSELING MATERIALS

[Côte d'Ivoire](#)

[DR Congo](#)

[Haiti](#)

[Malawi](#)

[Mozambique](#)

[Zambia](#)



## 5. Plan NACS training

This section describes how to plan NACS pre-service and in-service training.

### PRE-SERVICE TRAINING

Despite evidence linking food and health and the critical role of nutrition in acute and chronic disease management, nutrition usually receives inadequate attention in pre-service training of health professionals. It may be part of basic science courses, but it is not integrated into the clinical practice curriculum, and non-clinical faculty with limited nutrition expertise may provide the training.

The basics of nutrition care, promotion, and prevention of malnutrition are typically introduced in in-service training, but health care provider attrition and turnover require repeated and costly in-service training. Also, many health professionals see skills taught in in-service training as add-ons to their responsibilities. Integrating NACS into pre-service education standardizes protocols and makes NACS a key responsibility. Training tutors to teach up-to-date national nutrition curricula can create a skilled nutrition workforce and limit the need for repeated in-service training. Additionally, adding NACS into health providers' pre-service training would complement their in-service training, which focuses on onsite integration and implementation of NACS services.

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

A **health workforce** that is responsive, fair, efficient, and capable of achieving the best health outcomes possible, given available resources and circumstances through NACS training, supportive supervision, coaching, and mentoring

NACS can be integrated into the learning curriculum as part of a specific nutrition course and/or integrated into other courses. Determinations to make when planning to integrate NACS in pre-service training include:

1. Core nutrition competencies—minimum standards that all health professionals should master to provide standardized nutrition care for patients and improve team-based health care (including introduction to the QI approach to service delivery)
2. Competencies of lecturers and tutors to teach nutrition
3. Training objectives
4. Methods for integrating nutrition into the curriculum, including clinical practice
5. Textbooks, materials, and equipment, such as weighing scales, MUAC tapes, counselling flip charts, and BMI wheels



**Example of NACS integration into the learning curriculum**

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### Côte d'Ivoire Assessment of Pre-Service Curricula

Several countries in Africa have established NACS in pre-service training. In Côte d'Ivoire, where health professionals were ill equipped to implement NACS after graduation, FANTA and the National Nutrition Program (*Programme National de Nutrition [PNN]*) reviewed pre-service curricula and compared the nutrition content with national nutrition guidelines to identify gaps (see the pre-service curricula assessment). They then defined common nutrition competencies for all health professionals and strategies to cover those competencies in pre-service training (see the curriculum outline).



### Côte d'Ivoire Curriculum Outline

In Malawi, the Ministry of Health collaborated with FANTA, pre-service training institutions, and the Medical Council, among others, to strengthen the nutrition content in pre-service training for medical officers, clinical officers, nurses, and midwives, using a competency-based approach. FANTA followed a similar process in Ghana for improving the nutrition content in the nursing and midwifery pre-service training curricula. In both countries, the process included updating pre-service curricula and building the competence of lecturers and tutors to deliver the updated content, following the steps below.

1. Define core national nutrition competencies and standards for health professionals.
2. Interview tutors and observe as they teach nutrition to assess their skills and resources to adequately train others in the required nutrition competencies.
3. Map existing pre-service curricula against the defined competencies.
4. Recommend updates in the curricula to address the defined competencies and include recent nutrition policies and approaches.



### FANTA's NACS work in Ghana



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5. Develop a resource toolkit of reference materials and lesson plans to help tutors teach the required nutrition competencies.
6. Train and mentor tutors in how to use the updated resources.

## IN-SERVICE TRAINING

Below are elements to consider when planning NACS in-service training.

### Assess training needs

Find out what nutrition training health care providers in target sites have already received. Then compare the content of that training to the NACS-related roles they are expected to play to determine whether additional training is needed.

### Determine the best training approach to ensure quality trainings

Determine whether you want to implement a **cascade training** approach, where master trainers train regional or district trainers, who then train lower levels, or **direct training of service providers**. The advantage of the cascade model is that it provides experience in standardized subject matter and methods to a pool of trainers that can be mobilized to travel to different areas. The disadvantage is that the material may be watered down from one layer to the next. However, tools can be developed to ensure training is standardized and the quality is maintained as training is cascaded down to lower levels (see tools for ensuring training quality). Directly training service providers avoids the watering-down effect of cascade trainings but requires a larger



### NACS training SOP



### NACS training quality assessment checklist



### NACS training SOP



### NACS training quality assessment checklist



### Example of refresher training in DR Congo

budget and resources. NACS trainees may stay overnight at the training venue (residential training) or be trained onsite. Residential training has the advantage of a captive audience without the distractions of daily duties, but it involves higher costs for accommodation and per diem for meals and incidentals for trainers and trainees.

To ensure quality training, consider the development of standard operating procedures (SOP) for NACS in-service training. The SOP will help ensure that health care providers receive appropriate in-service training by standardizing the planning, implementation, and evaluation of the training process. The SOP outlines the standards for the training, including criteria for selecting training facilitators and participants, course contents, training methods, the training schedule, and evaluation. Additionally, an assessment of training quality can be conducted to ensure that the training adheres to defined standards.

The trainers may also provide **on-the-job refresher training**, with leveraged support from the government or partners.

Training is necessary but not sufficient for NACS capacity building, which also requires:

- Continual supportive supervision and coaching (See **Element 9. Establish a system for supportive supervision and coaching of NACS service providers**) and quality improvement (See **Element 3. Establish a system to improve the quality of NACS services**)
- Updating of skills as new demands and guidance arise

### Determine roles and responsibilities for NACS training logistics and financing

In the planning stage, determine the roles and responsibilities of the parties involved in the training, including those responsible for the logistics and for financing. The NACS training coordinator can:

1. Organize and plan the training.
2. Make logistical arrangements.
3. Select and invite the participants.
4. Coordinate and assist trainers during the training.
5. Ensure the training runs according to the timetable.
6. Conduct the opening and closing sessions.
7. Organize participant follow-up in the workplace after the training.



### DR Congo Coaching Toolkit



### Côte d'Ivoire Coaching Guide



### Guide for NACS Training Coordinators

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### Plan the number of trainees and training days

The **training of trainers (TOT)** should include enough days in the classroom to cover the NACS training course, plus 1 day for a practical session and 1 day for practice training.

No more than 25 participants are recommended for initial in-service NACS training, with at least three facilitators.

**Refresher training** may target providers onsite as needed. The length of rollout of NACS training courses will depend on the material to cover, prior training on nutrition/NACS, and participant availability. Five days of training for initial in-service training, for example, can include 4 days in the classroom and 1 day for a field visit/practical session. Refresher training—and/or initial training for those without prior training in nutrition—can focus on specific NACS skills for a shorter time, e.g., 1 or 2 days. Differentiated training may be provided for various health care worker cadres that have different roles within NACS services (e.g., physicians, nurses, auxiliary health workers, counselors, and pharmacists).

### Select NACS trainers

NACS trainers may be national or regional trainers from a ministry or national training institution. Some countries have selected district-level trainers from among the cadre of health care providers with demonstrated success in NACS training to serve as district-level trainers. Below are suggested criteria for selecting NACS trainers.

- Training as a nutritionist, practicing clinician, nurse, dietitian, or food scientist
- Experience with the health service delivery system
- Good communication skills

- Training experience
- Familiarity with quality improvement and adult learning methods
- Counseling skills
- Proficiency in the language of the course

### Select NACS training participants

NACS trainees should be people who will be involved in managing and/or providing nutrition services, either at the health facility or community level.

### Evaluate the training

Trainees should receive pre- and post-tests to assess if they have acquired the necessary NACS knowledge and skills. Additionally, the trainees should be requested to evaluate anonymously the training venue, timing, preparation, materials, facilitation, and overall objectives.

### Record the training

Keep track of the number and locations of people trained in NACS for future reference and reporting purposes. The training database, ideally maintained by the government, should include the names and workplaces of trained providers and the dates and types of training.



**NACS training SOP**



**Sample NACS training database (Excel)**

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## 6. Establish a logistics system for NACS products



USAID/DELIVER's  
Logistics  
Handbook



Partnership for  
Supply Chain  
Management



WFP's Food  
Supply Chain  
Management

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Effective NACS integration requires strong national and sub-national logistics systems to ensure an adequate and consistent stock of equipment, commodities, and supplies. This section focuses on the NACS-specific aspects of logistics systems. For overall guidance on establishing logistics systems, consult these resources:

- The USAID/DELIVER Project's *The Logistics Handbook: A Practical Guide for the Supply Chain Management of Health Commodities*, which is a "starting point for anyone [who manages health commodities] interested in learning about and understanding the key principles and concepts of supply chain management for health commodities."
- The Partnership for Supply Chain Management (PSM), an organization dedicated to strengthening national supply chains and ensuring availability of products to programs in developing countries.
- The WFP's *Managing the Supply Chain of Specialized Nutritious Foods*, which provides practical guidance on supply chain management of specialized nutrition products.

### ASSESSING THE CAPACITY OF THE EXISTING LOGISTICS SYSTEM TO INCORPORATE NACS

NACS equipment, commodities, and supplies should be incorporated into the national medical supply logistics system as much as possible. If the existing system does not have the capacity to integrate NACS partially or

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Medical products and technologies:** Costing, procurement, and provision of scientifically sound and cost-effective essential NACS supplies and equipment of assured quality, safety, and efficacy, with equitable access and correct use

**Leadership and governance:** Strategic NACS policy frameworks, effective oversight, coalition building, regulation, system design, and accountability

**Service delivery:** Effective, safe, quality NACS interventions for those who need them, when and where needed, with minimal waste of resources, through training, supportive supervision, and quality improvement

completely, you may need to set up a separate system, at least temporarily, while a more permanent solution is found. Consult the resources at the beginning of this section for guidance.

When assessing the capacity of the existing logistics system to incorporate NACS, consider:

- 1) The role that the government and other stakeholders can play. Some equipment and commodities may be supported by non-governmental partners. For example, in many countries, UNICEF provides anthropometric equipment and RUTF for children under 5, and WFP procures and distributes fortified-blended food (FBF) and other food commodities.
- 2) Financial resources for ongoing operational costs. Procurement, transport, and management of NACS commodities are likely to be a significant part of the budget.

- 3) Whether specialized food products will be considered as medicines or food. Adding specialized food products to the national essential medicines list, particularly therapeutic and supplementary foods for the treatment of severe and acute malnutrition, as Namibia has done, facilitates budgeting and procurement and reduces transportation and management costs.
- 4) Whether NACS specialized food products will be stored and distributed with other essential medicines or separately.

### NACS products

NACS commodities should meet national and global specifications and be standardized across the country. The table on the next page illustrates the most common commodities for NACS services.

## SPECIALIZED FOOD PRODUCTS

Specialized food products should meet acceptable standards for the daily energy, micronutrient, and protein requirements of the target population and for microbiological safety. They should also meet shelf-life requirements and labeling standards (for example, “This product is not suitable for infants under the age of 6 months”), be written in language that the target population can understand, and have appropriate inner and outer packaging. The following specialized food products, also described in this table and the NACS User’s Guide Module 4, are used to a) treat and b) prevent acute malnutrition:

### Specialized food products to treat malnutrition

- **F-75 therapeutic milk** is used for the stabilization phase of inpatient treatment of SAM only. It contains milk powder, vegetable fat, sugar, and a mineral and vitamin complex. It requires reconstitution in clean water to produce liquid milk. See [specifications](#).
- **F-100 therapeutic milk** is used for the transition and rehabilitation phases of inpatient treatment of SAM only. Like F-75, it contains milk powder, vegetable fat, sugar, and a mineral and vitamin complex; but it has higher levels of protein, fat, and energy to account for the nutrition needs of a patient whose acute malnutrition has stabilized. It requires reconstitution in clean water to produce liquid milk. See [specifications](#).
- **Ready-to-use therapeutic food (RUTF)** is used for the transition and rehabilitation phase of inpatient treatment and for outpatient treatment of SAM. It is a high-energy, lipid-based spread with the same nutritional profile as F-100 therapeutic milk. An example is Plumpy’Nut™. RUTF is not water-based, so it resists bacterial growth. It does not require refrigeration or dilution with water and can be eaten directly from the packet. Unlike F-75 and F-100, RUTF can be provided directly to patients and used on an outpatient basis without medical supervision. RUTF is also called a large-quantity, lipid-based nutrient supplement (LQ-LNS) because it is provided in large amounts. See [specifications](#).
- **Ready-to-use supplementary food (RUSF)** is used to treat MAM, particularly for children under 5. An example is Plumpy’Sup™, which has similar ingredients as RUTF. RUSF is also a LQ-LNS. See [specifications](#).



Module 4 of  
the NACS  
User’s Guide



UNICEF supply  
catalog



Types of  
specialized  
food products



## ANTHROPOMETRIC EQUIPMENT



Module 6  
of Guide to  
Anthropometry



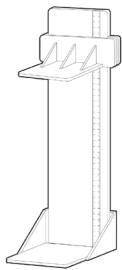
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**Portable baby/child/adult length/height measures** to measure length for infants up to 120 cm long and height for children 24 months and older and adults (UNICEF Supply Catalogue no. S114520).<sup>3</sup>



**Child length/height boards** for measuring children under 2 years of age (lying down/recumbent) and older children (standing up). Height boards (stadiometers) should have a minimum range of measurement of 60 cm to 220 cm, accurate to within 0.1 cm, with a sliding head board at least 6 cm wide and a locking device. (UNICEF Supply Catalogue no. S0114530).



**Spring-type (Salter) scale** for weighing children up to 25 kg in 100-gram increments, with an easy-to-use reset-to-zero function. The upper hook is for fixation and the lower hook is for attaching weighing trousers or a sling (UNICEF Supply Catalogue no. S0145555).

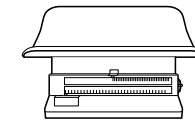


**Sling** for use with spring-type scales to weigh children 6–24 months of age and up to 25 kg (UNICEF Supply Catalogue no. S0557200).

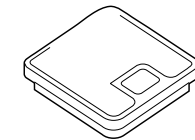


**Weighing trousers** for use with spring-type scales for weighing children 6–24 months of age and up to 25 kg (UNICEF Supply Catalogue no. S0189000).

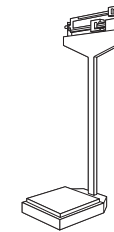
**Infant beam-type scale** for weighing infants up to 16 kg, accurate to the nearest 100 g, with a reset-to-zero function and a stabilizing mechanism (UNICEF Supply Catalogue no. SO145520).



**Weighing scale** for adults and children up to 200 kg, with a precision of 100 g (0.1 kg). Some models have a taring option to calculate the weight of a child held in an adult's arms. Model may be solar, electric, battery-powered or spring-type (Electronic model: UNICEF Supply Catalogue no. SO141021).



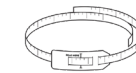
**Beam balance scale** for weighing adults up to 180 kg with 100-g precision. Some models include a height measuring rod (UNICEF Supply Catalogue no. SO140500).



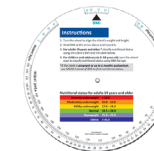
**Mid-upper arm circumference (MUAC) tape for children** 6–59 months, with color coding and cutoff points. Some manufacturers have produced tapes for children 5–9 years and 10–14 years. The tapes should be flexible but inelastic and strong (UNICEF Supply Catalogue S0145620, pack of 50).



**MUAC tape for adults** with no color coding, measuring up to 50 cm (UNICEF Supply Catalogue S0145630, pack of 50).



**BMI wheel** to find BMI and BMI-for-age



BMI wheel  
information

<sup>3</sup> Catalog numbers as of January 20, 2017.



- **Fortified Blended Flour (FBF)** is a blend of partially precooked cereal and legume flour, fortified with vitamins and minerals. FBF is usually mixed with water and cooked as a porridge. Examples are Super Cereal (formerly CSB+) and Super Cereal Plus (formerly CSB++). Super Cereal is formulated for people 5 years and older, including pregnant and lactating women. Super Cereal Plus is formulated for children 6–59 months. Fortified vegetable oil is sometimes given with FBF to facilitate preparation and provide essential fatty acids, as well as additional energy. If national NACS guidelines include prescribing both RUTF and FBF to acutely malnourished patients, the recommended micronutrient specifications of the FBF should be set at levels to avoid excessively high micronutrient intake. See [specifications](#).

### Specialized food products to prevent malnutrition

To prevent malnutrition, specialized food products may be given as supplements to the local diet. They include:

- **FBF** (described above)
- **Medium-quantity lipid-based nutrient supplements (MQ-LNS)** are used with continued breastfeeding to prevent acute malnutrition, micronutrient deficiencies, and stunting. An example is Plumpy'Doz™, for children 6–23 or 6–35 months.
- **Small-quantity LNS (SQ-LNS)** is used with continued breastfeeding to prevent micronutrient deficiencies and stunting. An example is Nutributter®, for children 6–23 months.
- **Micronutrient supplements** such as vitamin and mineral capsules and powders are given to prevent micronutrient deficiencies. National protocols determine dosages and dosing frequency for different

target groups. See the NACS User's Guide Module 4 for guidelines for micronutrient supplements, along with the WHO guidelines on micronutrients and iron.

### OTHER NACS SUPPLIES

Besides anthropometric equipment and specialized food products, countries may provide the following supplies as part of NACS services:

- **Point-of-use water purification products** are provided by some governments and development partners as part of NACS. Stakeholders choose the most appropriate and affordable products.
- **Storage pallets** are used to store specialized food products (recommended dimensions are 120 x 80 x 183 cm).
- **Food preparation equipment** such as pots, pans, bowls, cutlery, and a cooker, to demonstrate preparation of supplementary food and nutritious meals during group education sessions.

### Quantities of anthropometric equipment and specialized food products

This section provides guidance on estimating the quantity of anthropometric equipment and specialized food products needed.

#### 1. Anthropometric equipment

Each health facility (or in larger facilities, each department) that delivers NACS services should have at least:

- One scale for weighing adults
- One scale for weighing children
- One scale for weighing infants
- One height board for adults



Guidelines for micronutrient supplementation



WHO's guidelines on micronutrients



WHO's guidelines on iron



Point-of-use water purification



- One length/height board for children
- Enough adult and child MUAC tapes for all health care providers who do nutrition assessment.
- One weight to calibrate the scales (e.g., a 5 kg or 10 kg weight)

## 2. Specialized food products

To estimate quantities of specialized food products needed, estimate (a) the expected number of patients and (b) the quantity of each product to give to each patient. Do these calculations separately for each target group, e.g., children with SAM, children with MAM, adults with SAM.

Consult the NACS Facility Assessment Tool for a tool to track the number of patients over time.



NACS Facility  
Assessment Tool

**Expected number of patients (caseload).** If information is not available on patient caseloads in target health facilities, use the following:

- Number of people in the target group, e.g., adults (N)
- Service coverage (percentage of the target population expected to access NACS services) (C)
- Prevalence (P) of SAM with complications, SAM without complications, and MAM in the target population
- Incidence. A so-called “incidence conversion factor” (J) attempts to account for the number of new cases over time, as prevalence only gives a snapshot of the number of cases at one point in time. A factor of 1.6

is commonly used in programs that treat children 6–59 months with SAM, although research is ongoing on appropriate estimates (there is evidence that the value may vary according to location). The incidence conversion factor can be conceptualized as dividing the period for which incidence is estimated (e.g., 12 months) by an estimate of average duration of illness (e.g., 7.5 months for the duration of SAM illness), or  $12/7.5=1.6$ . There is no agreed factor for older age groups with SAM or MAM, or for children 6–59 months with MAM.

**If you have an incidence conversion factor**, calculate caseload using this formula:  $N * C * P * (1+J)$ . This formula can also be written  $N * C * P * K$  where the so-called “incidence conversion factor” K equals (1+J).

Example for treatment of uncomplicated SAM in children under 5 using an incidence conversion factor: Your target population is 10,000 children. You estimate that 50 percent of the children will access NACS services. SAM prevalence is 6 percent, and 80 percent of SAM cases will be uncomplicated. With an incidence conversion factor of 1.6, the calculation is  $= 10,000 * 0.5 * 0.06 * 0.8 * (1+1.6) = 624$  children.

**If you do not have an incidence conversion factor**, calculate caseload using this formula:  $N * C * P$ . Consider increasing this estimate of your current caseload by a lump sum (representing the number of new cases you expect during the year). You can estimate new cases based on past caseloads, health staff experience, HMIS reports, or estimates used for other caseload calculations (e.g., ART patients).

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**Example for treatment of MAM in adults without using an incidence conversion factor:** Your target population is 5,000 adults. You estimate that 70 percent of the adults will access NACS services. MAM prevalence is 5 percent. The calculation is  $= 5,000 * 0.7 * 0.05 = 175$  adults. Consider whether this is a reasonable estimate for the number of adults to be treated during the year, based on past caseload, or whether you need to add cases to reflect what the health facility would expect in any given year.

**Amount of product per patient.** Determine the amount of specialized food products that each patient should receive by considering: average quantity per day (in units such as grams, kilograms, or sachets)<sup>4</sup> and average number of days (also referred to as average length of stay). If data on average number of days are not available, common estimates are 60 days for SAM and 90 days for MAM. Keep in mind that patients with SAM will need products to treat both SAM and MAM until they are fully recovered.

Consult the NACS Product Cost Calculator for a tool to estimate the quantity of product to give each patient.

You could organize the information in a simple table like this:

Target group	Number of people	Total units per person	Total product needed
Children with uncomplicated SAM	624	12,000 grams (12 kg)	7,488 kg
Adults with MAM	175	27,000 grams (27 kg)	4,725 kg

**Total product needed.** Now that you know (a) the expected number of patients and (b) the amount of product per patient, calculate the total amount of product needed by multiplying the two factors together. For example, if the expected caseload of SAM adults is 1,000 and each person receives an average of 180 sachets of RUTF per treatment course, 180,000 sachets are needed.

Target group	Product	Unit	Quantity per day	Average number of days	Total units per person
Children with uncomplicated SAM	RUTF	grams	200 grams	60 days	12,000 grams (12 kg)
Adults with MAM	FBF	grams	300 grams	90 days	27,000 grams (27 kg)



NACS Product Cost Calculator (Excel)



<sup>4</sup> When deciding which unit to use, consider how the product is prescribed and how it will be procured. For example, RUTF may be prescribed in number sachets weighing 92 g. each. To determine how much RUTF to order, convert the number of sachets to their weight in kg.

### Quantities to order and budget considerations

Once you have calculated the quantities of equipment, commodities, and supplies needed, determine the amounts to order to meet forecasted consumption and maintain a continuous supply to health facilities. Various systems exist to determine the amounts to order, such as the “forced-ordering min-max” inventory control system, in which minimum and maximum amounts are set and new orders are placed when stock reaches the minimum amount. Consult the supply chain management and inventory control system used in your country and/or the resources at the beginning of this section.

Once you have determined the amounts to order, multiply these amounts by the prices of the equipment, products, and supplies. Be sure the costs include:

- Primary transport costs (shipping/freight, handling, customs, fees)
- Secondary transport costs (transport from the shipping destination to the receiving facility, handling, and storage)

### Storage of specialized food products

Specialized food products must be kept safe and viable until they are dispensed to patients. If health facilities lack adequate space for storage, sub-national health offices, implementing partners, or community-based

organizations may be able to share staff, warehousing, and/or logistics. Other options include voucher systems, where patients receive vouchers to pick up products at a separate site, and storage pods/containers to store and distribute specialized food products. Guidelines for storing specialized food products include:

1. Store products in a dry, well-lit, clean area/room, protected from dampness and secured against theft.
2. Fumigate the space regularly to control pests.
3. Store products away from chemicals, insecticides, and other supplies.
4. Store them away from direct sunlight.
5. Keep them at least 10 cm off the floor on standard pallets (measuring 1.5 m x 1.5 m), at least 30 cm away from the walls, and stacked on shelves or no higher than 2.5 m.
6. Store packets with arrows pointing up and expiry date and product name clearly visible.
7. Limit access to authorized people.
8. Use FIFO (first in/expired, first out): Put new stock behind existing stock and never use expired products.
9. Separate damaged/expired items for disposal.



## NACS logistics records

There are three types of logistics records: stock-keeping records for products in storage, transaction records for products being moved from one level to the next, and consumption records for products being consumed or used. These records feed into logistics reports that managers use to make forecasting and procurement decisions. Examples of NACS-specific logistics forms include:

1. **NACS registers, NACS patient forms, and NACS prescription forms**, in which health care providers record quantities of products prescribed. (See also the NACS Facility Assessment Tool to assess the stock situation.)
2. **Specialized food product dispensing registers**, in which health care providers record details about the products dispensed.
3. **Summary stock reports**, in which health care providers collate information about stock on hand, stock received, quantities dispensed and lost, adjustments, and ending stock, so managers can make forecasting and procurement decisions.



**NACS Facility  
Assessment Tool**



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## SAMPLE LOGISTICS RECORDS

-  [Tanzania Daily Register for NACS Client](#)
-  [Mozambique Nutrition Rehabilitation Program Register Books and Forms](#)
-  [Sample NACS Client Management Forms](#)
-  [Tanzania NACS Prescription Form](#)
-  [Tanzania Daily Specialised Food Product Dispensing Register](#)
-  [Tanzania Monthly Specialised Food Product Report and Request Form](#)

## 7. Plan NACS data management

NACS data include information on:

- Patients' nutritional status, monitored over time
- Outputs and outcomes of activities
- Distribution and stocks of NACS supplies and equipment (see **Element 6. Establish a logistics system for NACS supplies and equipment**)

NACS data management includes collecting, analyzing, and reporting information on the delivery and results of nutrition assessment, counseling, and support for patients of health facility and community services. This section provides guidance on planning for data collection and reporting. **Module 5. Monitoring and Evaluation of NACS Services** in *NACS: A Users' Guide*, provides guidance on selecting indicators to include in a monitoring and evaluation (M&E) framework and on planning how to collect, analyze, and use these data to help health care providers (and their supervisors) monitor the performance and quality of NACS services at the health facility and community levels (i.e., quality assurance). See also **Module 6. Quality Improvement for NACS**, which provides guidance on data collection and analysis as part of the QI process to improve service delivery when services are not meeting targets.

### A. DETERMINE WHO USES NACS DATA AND WHY

**Health care providers** use NACS data to decide what interventions patients need (counseling, treatment for

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Information and research:** Activities to ensure that a well-functioning health information system produces, analyzes, disseminates, and uses reliable and timely information on nutrition indicators and health facility performance

malnutrition, referral) and to monitor their nutritional status and outcomes. **Program managers** use NACS data to determine whether activities are on track and progressing toward expected results, to improve services, and to account for resources expended. **Implementing organizations** use NACS data to inform and improve program design, implementation, supervision, and management; support advocacy for nutrition services (based on their contribution to patient outcomes); and report progress and results to governments, donors, and others. **Governments** use NACS data to illustrate investment benefits and inform resource allocation and policy decisions. **Donors and global agencies** use NACS data to track global nutrition progress, assess needs, identify action areas, and set global targets.

### B. ASSESS THE CURRENT STATUS OF THE MONITORING SYSTEM

For practical reasons, NACS data collection and reporting should be integrated as much as possible into existing government systems.



Access all of the modules in the NACS User's Guide

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The first step in planning for NACS data management is to review existing health system registers and forms to identify what nutrition data and **indicators** are already collected and reported. If gaps need to be filled to meet NACS objectives, consult the appropriate government stakeholders to decide if existing registers and forms can be updated, or new ones developed, to collect and report NACS data and indicators.

The **PEPFAR Site Improvement through Monitoring System (SIMS)** includes core essential elements, or quality standards, for HIV services in the areas of management and planning, training, supervision, patient assessment and treatment, patient tracking, data collection and reporting, health communication, referrals, and supply chain management. It is essentially a quality assurance tool to assess whether services are being provided and meeting targets. SIMS data support the planning process for NACS integration into health service delivery. The SIMS core essential elements related to nutrition are a useful guide to planning and monitoring the process for NACS integration into health service delivery. When targets are not met, changes in service delivery can be tested through the QI process. [Read more](#)

## C. ESTABLISH A NACS DATA MANAGEMENT FRAMEWORK AND PLAN

All programs should have a framework and data management plan to guide QI and M&E processes and data collection strategies. A framework provides the basis for indicator selection by identifying the objectives, outcomes, and outputs of the intended program and the indicators used to measure the program's progress. The data management plan describes how the program will achieve the goals outlined in its framework, identifying related personnel, timelines, and material needs. In addition, the plan should include information on who will collect the data and how, how often the data need to be collected, how data quality will be monitored, and how the data can be analyzed and disseminated to monitor and report on the program's progress as well as make programmatic course corrections. In order to develop the framework, desired program objectives and goals and the means for their achievement must be clear. Developing a Theory of Change (ToC)<sup>5</sup> can help guide the design of the framework by clarifying the necessary outcomes to achieve program goal. For more information on creating a framework and data management plan for NACS, see **Module 5. Monitoring and Evaluation of NACS Services.**

### DECIDE WHO SHOULD COLLECT THE DATA AND HOW OFTEN

Work with the health ministry at the national and sub-national levels to decide who should be responsible for collecting and recording NACS data, how they should be reported, and to whom. The NACS reporting schedule may need to consider donor requirements.

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<sup>5</sup> For more information on the Theory of Change, see the USAID website: <https://usaidlearninglab.org/lab-notes/what-thing-called-theory-change>.

## D. CHOOSE NACS INDICATORS AND SET TARGETS

If steps B and C found that key NACS indicators are missing, additional indicators will need to be included. An indicator is a way to measure change or progress toward a goal—to determine “how much,” “how many,” “how large,” or “to what extent.” Choose indicators based on your objectives, interventions, context, and information needs. Indicators should be “SMART” (specific, measurable, achievable, relevant, and time bound). They should include the unit of measure (e.g., percent, number), disaggregation (e.g., sex, age, pregnancy status), and the reporting period. Examples of NACS indicators are:

- Number and % of individuals who were nutritionally assessed via anthropometric measurement (e.g., weight, length/height, mid-upper arm circumference [MUAC])
- Number and % of patients with unintentional weight loss, e.g., > 5% of body weight within 6 months
- Number and % of patients classified as having moderate acute malnutrition (MAM)
- Number and % of patients classified as having severe acute malnutrition (SAM)
- Number and % of MAM patients receiving supplementary food
- Number and % of SAM patients receiving therapeutic food
- Number and % of patients who recovered from SAM
- Number and % of patients with SAM/MAM referred for HIV testing

Note, indicators should be selected based on the framework discussed in step c. For a more detailed discussion on indicators, see [Module 5. Monitoring and Evaluation of NACS Services](#). Also, see [Module 6. Quality Improvement for NACS](#), which provides guidance on how to develop indicators to measure service delivery improvements.

You may need to plan disaggregation of NACS indicators. Indicator disaggregation can show how malnutrition affects different segments of the population and whether interventions address their unique needs. Disaggregation by age and sex is particularly useful in identifying populations that are particularly vulnerable to malnutrition.

You will need to set targets (specific, planned levels of coverage and results to be achieved in a specific timeframe) for each of your indicators, considering available resources, desired level of change, and institutional capacity.

Indicator targets should be ambitious but realistic, based on:

- standards of care specified in national guidelines or protocols
- baseline needs of the catchment area served by the facility
- the capacity/resources of the facility, program, or service providers





Indicator targets can be absolute achievements (e.g., nutritional status is recorded for 75 percent of patients or 150 health care providers are trained in NACS), or they can be changes in level of achievement (e.g., the number of patients receiving nutrition assessment will increase by 10 percent). Indicator targets can help motivate staff, highlight successes, support planning, and be used to hold staff accountable. Note, targets should be selected based on the framework discussed in step C. For more details on setting NACS targets, see [Module 5. Monitoring and Evaluation of NACS Services](#) and [Module 6. Quality Improvement for NACS](#).

## E. CHOOSE TOOLS TO COLLECT AND REPORT NACS INFORMATION

A standardized system is needed for health care providers to regularly record patients' nutritional status and nutrition services provided. Once NACS indicators have been selected, data collection tools will need to be adapted or developed. Existing government forms or registers may be sufficient to record and report NACS data, but additional tools may need to be developed if:

- National data collection and reporting forms do not include nutrition indicators to monitor NACS services.
- Data collected in standard forms are not reasonable proxies for data needs (e.g., different age cutoffs are used for nutrition indicators).
- Existing indicators apply only to certain groups (e.g., children under 5 or pregnant women).
- Nutrition data are not routinely collected or reported.
- Donors require different data.

Work with the government and other implementing partners to develop and/or update data collection tools and forms to ensure that they are standardized and accepted by health care managers and providers. Plan to pilot the tools through the QI approach in a few sites and document challenges so the system can be refined before it is scaled up. Develop guidelines for each tool to train health care managers and providers in target sites. Note: data collection tools should be identified during the creation of the data management plan (step C).

Below are examples of tools that can be used to collect data for NACS indicators. Note that the name and format of each form can vary, depending on the country's data collection systems:

1. **Patient management forms/patient clinical chart** to document the nutrition care process for each patient; this should be used during every applicable visit.
2. **Patient register or logbook** to consolidate key data from individual patient records; this should be used daily as patients are seen and individual patient records are updated.
3. Monthly report form to summarize information from the NACS register for reporting to the regional or national level; completed monthly.
4. **Stock and supply order forms** (see [Element 6. Establish a logistics system for NACS supplies and equipment](#))
5. **NACS Facility Assessment Tool** to assess service delivery at health facilities and help program managers determine whether the minimum elements for NACS services are in place, identify gaps in service delivery, and prioritize interventions to strengthen programming.



**NACS Facility Assessment Tool**



## SAMPLE NACS FORMS

-  [Sample NACS Client Management Forms](#)
-  [Tanzania Daily Register for NACS Client](#)
-  [Mozambique Nutrition Rehabilitation Program Register Books and Forms](#)
-  [Tanzania Monthly Summary Form for NACS Services](#)
-  [Zambia NACS Monthly Reporting Form](#)
-  [Tanzania Monthly Specialised Food Product Report and Request Form](#)

Ideally, all NACS tools should use the same terms, target groups, age disaggregation, and formatting (e.g., red columns for SAM, yellow for MAM); they should also be fully integrated within patient health data tracking systems (e.g., charts, registers, electronic HIS).

### Tool to support NACS data management

A web-based dashboard can help compile and analyze data. For more details about web-based dashboards, see **Module 5. Monitoring and Evaluation of NACS Services.**



**Module 5 of  
the NACS  
User's Guide**

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## 8. Establish a referral system as a component of support within NACS

Malnourished and other vulnerable people need diagnosis, treatment, and follow-up from health facilities, but health facilities cannot provide all the support people need to prevent or recover from malnutrition. Nutrition support includes referring malnourished patients between health facilities and social, economic, or other services to improve health and psychological outcomes, resilience, and food security and to prevent relapse into malnutrition. NACS planning should consider establishing or strengthening referrals between health facilities and communities as part of the continuum of care. The collaborative planning steps below can be used either to establish a referral network or to strengthen stakeholder engagement in an existing network and expand services offered to patients.

### ASSESS THE CURRENT REFERRAL SYSTEM

A referral system involves coordinating delivery of needed services among a range of stakeholders that often have different priorities and technical areas of focus. A standardized referral system and process will ensure that referrals can be tracked, outcomes are documented, and the organizations that initiated the referrals are informed after services are delivered and patients' needs are met. At the same time, the system must maintain confidentiality.

Stakeholders should assess whether existing health care referral systems function optimally and provide referrals to non-health services. They should also analyze existing

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Information and research:** Activities to ensure that a well-functioning health information system produces, analyzes, disseminates, and uses reliable and timely information on nutrition indicators and health facility performance

**Service delivery:** Effective, safe, quality NACS interventions for those who need them, when and where needed, with minimal waste of resources, through training, supportive supervision, and quality improvement

network and referral systems strengths, challenges, and constraints, soliciting feedback from ministry of health staff at the sub-national and health facility levels, other sectoral ministries (if involved), and community service providers. The following questions should be asked:

- How does the health care referral system currently work?
- How is it supposed to work, including specific processes of standard operating procedures? Are they used consistently and correctly?
- Where do health facilities refer patients for non-medical assessment or support, if available? What other services would NACS patients benefit from?
- What tools are used to make and/or document referrals? Are they used consistently and correctly?
- What barriers (behavioral, cultural, communication, transportation) affect patient compliance with referrals?



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- Is there evidence that the referral system is effective? How is effectiveness monitored?
- How could the referral system and tools be improved to ensure that NACS patients receive needed support to improve their nutritional status?

A meeting at the national or sub-national level can be convened to discuss the findings of the assessment and discuss proposed changes to accommodate referrals. The revision process should include a detailed action plan.

## PLAN REFERRALS IN COLLABORATION WITH STAKEHOLDERS

Planning a referral system requires collaborating with multiple stakeholders. This may be the first time some stakeholders interact professionally. This meeting should foster a shared understanding of the importance of the continuum of care between health facilities and other support services and the important contributions of each stakeholder.

Stakeholders should first map and evaluate all relevant service providers in NACS target areas (government and community-based health, economic strengthening, food security, psychosocial, and other support services). Once the relevant service providers are mapped, as many of them as possible should be engaged in designing the referral network. Working together to define network priorities, establish roles and responsibilities, and determine joint action steps will help build relationships and a sense of collective identity, which are crucial for the long-term sustainability of the referral system.



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## STANDARDIZE OR DEVELOP FORMS TO COMMUNICATE AND DOCUMENT REFERRALS





An effective referral system requires that all service providers use the same referral tools and forms and follow the same procedures for making, tracking, and following up referrals. You may be able to adapt existing tools, forms, and processes, depending on the results of the assessment of the referral system. To achieve critical consensus on tools and processes, a steering committee of volunteers representing network members can be formed to lead the development or adaptation of referral processes and tools. The proposed tools can then be shared with the full network for input and adoption. Recommended forms and tools are outlined below.

- 1) A **referral form** is given to the patient, caregiver, or family member to direct the patient to the needed service. It should include a mechanism to provide feedback on completed referrals, such as a section that can be returned to the referring organization after the service is provided. If referrals cannot be integrated into the existing system, develop a standardized form to ensure that the same essential information is provided whenever a NACS referral is initiated.
- 2) A standardized **referral register** is kept in each health facility or organization in the NACS referral network to record and track all outgoing and incoming referrals.
- 3) A **directory of services** resulting from the mapping process lists all organizations in the referral network

and the details of the services they provide. Contact information must be kept up to date.

- 4) **SOP** include detailed explanations of each step in the referral process, copies of referral tools, roles and responsibilities, and documented agreements and expectations of referral network members.

### SAMPLE REFERRAL TOOLS

-  [LIFT II's Guide on Clinic to Community Referrals \(see Annexes 1, 2, 6 & 7\)](#)
-  [Sample NACS Referral Forms](#)
-  [Sample NACS Referral Registers](#)
-  [LIFT II's Guide to Organization Network Analysis and Mapping \(see Annex 8\)](#)

## IDENTIFY A REFERRAL COORDINATOR UNIT IN EACH REFERRAL NETWORK

Select appropriate network members to coordinate and monitor referrals. Referral network members should agree on and document the roles and responsibilities of the referral coordinators. These may take the form of terms of reference and include the following tasks:

- Convene monthly meetings of referral network members
- Work with referral network members to address service gaps and inefficiencies
- Update service directories
- Provide standardized referral forms and tools
- Facilitate communication and coordination among referral network members
- Manage and improve the quality of referral data
- Institute a dues system to cover the cost of referral network coordination

## IDENTIFY REFERRAL FOCAL POINTS IN EACH MEMBER HEALTH FACILITY OR ORGANIZATION

All staff and volunteers of referral network member organizations should be familiar with the network's purpose, structure, and operation. However, it may be practical for each organization to designate focal points (e.g., nurses, counselors, or social workers) to document and track referrals and attend network meetings. These roles should be included in job descriptions and performance review plans to ensure time in work schedules.



See Annex 1 in LIFT II's Organizational Network Analysis and Mapping Guide



## PLAN TRAINING FOR SERVICE PROVIDERS WHO USE AND MAINTAIN THE REFERRAL SYSTEM

Allow at least 2 days for practical training on the referral system. Training should include role-play in referring patients to and from health facilities. Plan to follow group training with onsite visits to referral network members to ensure that referral processes are followed. Plan follow-up refresher training 4–6 weeks after the start of referral implementation to bring network members together to discuss the referral process and address challenges.

## PLAN REFERRAL TRACKING AND DATA MANAGEMENT

A standardized system of referral tracking, with a feedback system, can ensure that patients receive timely and confidential access to needed services. Suggested referral tracking methods include:

- Using a two-part referral form, one for the referring organization to complete and the other for the receiving organization to complete and return with the patient to the referring organization to confirm that the referral was completed
- Scheduling a time for stakeholders to collect referral forms
- Planning monthly meetings of network members in NACS sites for referral feedback
- Using a mobile phone application that allows both patients and referral service providers to receive referral requests and provide feedback

Plan a system for ongoing (generally monthly) entry, aggregation, and analysis of referral data. Possible tools for this system include a spreadsheet platform such as Microsoft Excel, database software such as Microsoft Access or Open Data Kit (ODK), or an mHealth application such as CommCare. Establish standard referral network indicators (e.g., number of referrals made, disaggregated by referring organization, service referred to, patient sex, and patient age; or number and percentage of referrals completed (with patients receiving the referred services).

The FHI 360 Livelihoods and Food Security Technical Assistance II Project (LIFT II) *Clinic-to-Community Referrals: Linking Health and Economic Strengthening to Improve Client Outcomes* contains referral system models; elements of referral networks; an overview of challenges in clinic-community referrals; referral process and outcome indicators; and samples of referral network SOP, referral cards and registers, a referral network meeting agenda, a referral service directory template, and terms of reference for referral coordinators. [Read more](#)

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## CONSIDER APPLYING QUALITY IMPROVEMENT (QI) TO REFERRAL WORK FROM THE OUTSET

QI, which is the focus of section 9 below, is an established methodology to strengthen health service delivery and health systems. The LIFT II project developed the practitioner guide, *Referral System Quality Improvement: Implementing a Quality Improvement Initiative with Multi-Sectoral Stakeholders*, to illustrate how to work with existing service providers to enhance and strengthen system operations and management, and in so doing, contribute to the achievement of patient outcomes of interest. The QI practitioner guide provides relevant tools to adapt for use within a multi-sectoral referral network. It is intended for implementers, stakeholders, and service providers who need guidance on quality improvement of referral networks serving vulnerable populations, including people affected by HIV and AIDS, orphans, and vulnerable children, among others, particularly those networks that connect these populations to economic strengthening, livelihoods, food security, or other community-based support. The tools were tested and refined from experiences in Tanzania and Zambia and can be modified as necessary. See **Module 6. Quality Improvement for NACS** for more information on the QI approach.



LIFT II's Referral System Quality Improvement Guide



## 9. Establish a system for supportive supervision and coaching of NACS service providers

NACS training gives health care providers and community workers knowledge and skills to help patients improve their nutritional status. But NACS competence requires practice on the job and support to perform NACS tasks correctly and solve problems that arise. Supportive supervision and coaching are collaborative efforts between supervisors and health care providers to help the providers improve their performance and confidence.

### WHAT IS SUPPORTIVE SUPERVISION?

Traditional supervision often focuses on inspection, control, judgment about whether health care providers are adhering to policies and procedures, and correcting errors. This can be intimidating rather than motivating. Supportive supervision, in contrast, focuses on problem solving, facilitating teamwork, and empowering health care providers to monitor and improve their own performance. Constructive feedback through supportive supervision can improve job satisfaction, retention, and quality of service delivery. To ensure supervision leads to improved job performance, it is important to identify and monitor indicators that measure performance improvement (e.g., % of patients assessed and categorized for nutritional status using BMI). The table on the next page compares the two approaches.

### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Leadership and governance:** Strategic NACS policy framework, effective oversight, coalition building, regulation, system design, and accountability

A **health workforce** that is responsive, fair, efficient, and capable of achieving the best health outcomes possible, given available resources and circumstances, through NACS training, supportive supervision, coaching, and mentoring

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**TABLE: COMPARISON OF TRADITIONAL AND SUPPORTIVE SUPERVISION**

Action	Supportive supervision	Traditional supervision
Who?	Officially designated external supervisors, peers, or staff from other facilities	External supervisors
When?	Routine (on the job, both formally and informally; in one-on-one meetings; in peer discussions; in meetings outside the work site; and when health workers review their own performance against standards)	Periodic (during external supervisors' visits)
How?	Supporting health care providers to realize skill gaps, understand performance expectations, and set professional development goals	Finding and correcting errors
What happens during the visits?	Observation of performance and comparison to standards; corrective and supportive feedback on performance; discussion with patients; technical updates; onsite training; joint problem-solving; follow-up on previously identified problems; use of data and patient input to identify opportunities for improvement	Inspection of health facility; review of records and supplies; most decisions come from reactive problem-solving by the supervisor, with little feedback on observations
What happens afterwards?	Ongoing performance monitoring and quality improvement as a routine part of health care providers' jobs	No or irregular follow-up

Source: Adapted from Marquez L and Kean L. 2002. *Making Supervision Supportive and Sustainable: New Approaches to Old Problems*. MAQ Paper No. 4. Washington, DC: USAID.



## WHAT IS COACHING?

Coaching is a short-term, task-based process to help improve job competence and performance. A NACS coach works with trained providers on specific skills in the context of challenges and performance expectations at work. Performance indicators (e.g., % of patients assessed and categorized for nutritional status using BMI) should be identified and measured periodically to guide coaching visits and determine if coaching is effective at improving skills and practices.

## WHAT STEPS ARE NEEDED TO ESTABLISH A SYSTEM FOR SUPPORTIVE SUPERVISION AND COACHING OF PROVIDERS TRAINED IN NACS?

### Assess existing government supervision and coaching systems

Most ministries of health have systems for supervision of nutrition service delivery. For example, South Africa's Department of Health developed a *Primary Health Care Supervision Manual* with guidelines and tools. Discuss with national NACS stakeholders whether and how to integrate supervision and coaching of NACS service providers into the existing system and how often providers should receive supervisory visits. Depending on government protocols, NACS supervisory teams could also be formed in health facilities for day-to-day supportive supervision and coaching.

## Work with national NACS stakeholders to develop NACS-specific supportive supervision and coaching tools

Government supervisory systems for health care providers include assessment and reporting forms. **Supportive supervision checklists, tools, and reporting forms** can be used to record the results of supportive supervision visits. If there are no national materials for supervision or coaching service providers, materials can be developed for specific tasks, e.g., assessment and counseling, based on NACS guidelines and training materials.

### SAMPLE TOOLS FOR SUPPORTIVE SUPERVISION

-  [NACS Supportive Supervision Checklist](#)
-  [Uganda Supportive Supervision Checklists](#)
-  [NACS Site Quality Checklist](#)
-  [NACS Counseling Skills Observation Checklist](#)
-  [NACS Group Education Observation Checklist](#)
-  [NACS Supportive Supervision and Coaching Report Form](#)
-  [DR Congo Coaching Forms](#)



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### Recommended Steps in a NACS Supportive Supervision Visit

Plan with the government how many times a year providers should receive supportive supervision and coaching visits, how many sites will be covered, and how the results will be shared. Visits should be scheduled when supervisors can observe NACS services, interview patients, and meet with health care providers and in-charges without adding an extra burden on the staff. Ideally, health care providers should receive at least one supervisory or coaching visit 2–6 months after NACS training. The first post-training visit should assess the effectiveness of the initial training and provide on-the-job refresher training as needed. After the first visit, visits to the same providers should ideally be based on initial capacity assessment and conducted according to need and as part of routine monitoring activities. Supervision and coaching plans and visits should also be informed by the quality of service delivery--based on the analysis of service delivery data--to ensure that supervision visits focus on critical areas that need improvement. Indicators that measure performance, including service delivery data, should be continually assessed to determine if supervision and coaching are effective.

Supervisors should assess the quantity and condition of anthropometric equipment and supplies, review recordkeeping, and observe health care providers trained

in NACS to determine whether they are using their knowledge and skills to assess, classify, counsel, and support patients and whether they are confident in those skills or having difficulties. Supervisors should then provide constructive feedback on both strong points and gaps and plan remedial actions together with the health care providers observed.

### Work with national stakeholders to plan training for NACS supervisors and coaches in NACS-specific supportive supervision and coaching tools

If government supervisors can include NACS in their regularly scheduled visits, they can be trained in an abbreviated NACS course focusing on nutrition assessment, counseling, and prescription of specialized food products. Program implementers may be able to support additional training for supervisors in coaching health care providers to improve their performance in NACS and solve problems on the job.

The box on the next page describes a successful effort to strengthen district supportive supervision of health service delivery in Tanzania.



### Sample Role-Play Exercise for NACS Supervisors



## DISTRICT SUPPORTIVE SUPERVISION FOLLOWING HEALTH SECTOR REFORM IN TANZANIA

After health sector reform in 1999, the Ministry of Health and Social Welfare in Tanzania developed an integrated health package to guide essential health service delivery. Recognizing the importance of supportive supervision, the Ministry of Health and Social Welfare included a plan to bring a team of supervisors to district health facilities to evaluate how services are being delivered, provide feedback, and conduct onsite training. Funding for supervision came from the ministry through basket grants, with funds contributed by various donors to support delivery of essential health services. All members of the District Health Management Team (DHMT), and some co-opted members, were trained in the health sector reform objectives, including supervision.

Before the supervision visits, each DHMT prepared a supervision matrix, listing the months and dates of all supervisory visits, the routes and vehicles for each trip, the facilities to be visited, and the members of the supervision team. The DHMT matrix highlighted insufficient transport to carry out the needed supportive supervision visits. As a result, the Ministry of Health and Social Welfare purchased a vehicle for supervision in each district and trained transport officers with funds received from a donor.

During the supervision visits, the supervisory team developed a supervision checklist using national guidelines and the previous supervision report. Four members of each DHMT conducted supervision visits each month, alternating until all district health facilities (both public and private) were visited. When the team reached a facility, they divided into specific areas of specialization following the checklist (e.g., disease management, nursing care, immunization issues, managerial issues, HIV). The team supervised health care providers through direct observation and interviews and provided on-the-job training as needed. Immediate feedback was encouraged, and the teams debriefed with the heads of the facilities. The teams then met with all staff and provided general feedback, praise, and suggestions for improvement. If the team found a technical problem and felt it could not be corrected, it presented the problem to the rest of the DHMT members for further management or action.

After the supervision visit, the teams went back to the district headquarters, wrote full reports, and discussed results with the whole DHMT. They listed action items for challenges that were not resolved during the facility visits. Copies of the full supervision report were sent back to each visited facility and another copy was sent to the Regional Health Management Team (RHMT). Difficult issues that could not be resolved by the DHMT were referred to the RHMT. The process continued until all health facilities in the district were reached. Supervision by the RHMT followed the same process and format. Difficult problems were sent to the MOH for further discussion. Since this system was adopted, health care providers have noticed a significant improvement in supervision. Supervisory contact has been more frequent. Supervisory visits have become an opportunity for health care providers to solve problems and learn additional skills. Health care providers are no longer afraid to address challenges and work with the DHMT to resolve them.

Source: Children's Vaccine Program at PATH. 2003. *Guidelines for Implementing Supportive Supervision: A Step-by-Step Guide with Tools to Support Immunization*. Seattle, WA: PATH



## 10. Determine the cost of NACS integration



### NACS Planning and Costing Tool

The NACS Planning and Costing Tool can help governments and organizations design, finance, and manage NACS at the national and/or sub-national levels. It answers the question, “What human, material, and financial resources are needed to establish and maintain NACS services in the health system?” You can also use your own template or tool to cost NACS services. This step describes both the NACS Planning and Costing Tool and considerations if you choose to do costing on your own.

### HOW DOES THE NACS PLANNING AND COSTING TOOL WORK?

The Microsoft Excel-based tool can cost NACS services for up to 5 years at multiple levels (e.g., national, province, and district). Users enter the following information in nine sets of data entry worksheets:

- Country characteristics: Name, health system levels, and personnel
- NACS scope: Target groups and nutrition products
- NACS services: Amount of time health personnel spend on assessment, counseling, and support and types of nutrition support offered
- An indication of whether start-up activities (e.g., development of national guidelines, establishment of a QI system) have been completed
- Units of goods and services
- Prices of goods and services

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### HEALTH SYSTEM BUILDING BLOCKS TO WHICH NACS CONTRIBUTES

**Health care financing:** NACS costing, advocacy, and budgeting to ensure that adequate funds are available so that people can use and afford needed health services

- Geographic spread of services and characteristics of NACS sites
- Demographic and epidemiological information to determine expected caseload
- Plans for scale-up in future years

The tool automatically produces results tables on the inputs at different levels, which users can disaggregate as needed. Estimates are generated using the Activity-Based Costing approach, in which NACS services are divided into seven activity categories (service delivery, training, supervision, commodities, logistics, start-up governance, and routine governance) and the amount and costs of inputs to operationalize each activity are estimated. Instructions are provided throughout the tool and in the accompanying User’s Manual on where to obtain needed information, how to enter it, and how to navigate country-specific situations. The User’s Manual also contains guidance on the process of applying the tool, which can take from 1 to 6 months, depending on what information is already known and how involved stakeholders are in the process. Most of the time required is related to stakeholder meetings and consultations before, during, and after the application, as well as primary and secondary data collection.

## WHAT SHOULD I CONSIDER WHEN COSTING NACS SERVICES ON MY OWN?

If you plan to do the costing on your own, consider the points below to categorize and organize your information. This is based on how information is organized in the NACS Planning and Costing Tool.

### Inputs

Inputs are the raw materials from which NACS activities and services are created. Quantities of inputs and their prices directly determine costs, so it is important to think through all inputs that are needed to establish and maintain NACS services. The table below lists and explains categories of inputs involved in NACS.

**TABLE: NACS INPUTS**

Input category	Details
Commodities and products	Specialized food products (e.g., RUTF, RUSF, FBF) and other products (e.g., iron tablets, multi-micronutrients, zinc tablets)
Equipment and supplies	MUAC tapes, scales, height measures, pallets, food demonstration equipment, food preparation equipment
Remuneration	Salaries, honoraria, and incentives for health staff at different levels, administrators and managers, technical advisors, trainers, community workers, guards, drivers
Per diem and refreshments	Lodging, meals, and incidental expenses and refreshments related to training and travel
Space	Rental or cost of physical space for commodities, NACS services, and training
Transport	Transportation of commodities and people, including fuel and vehicle rental
Written materials	Manuals, training and reference materials, job aids, data collection and monitoring forms



To think through needed inputs and ensure your budget covers all costs, consider what activities are involved in NACS, such as those in the tables here. For example, to plan training, consider staff salaries/honoraria, travel, venue rental, meals, refreshments, and reproduction of written materials. To plan supportive supervision, consider transport, equipment, personnel costs, and written materials.

Start-up phase	
Activity category	Types of inputs needed
<b>Development of policy- and budget-related plans</b> for advocacy and resource mobilization, funding, and other resources for NACS; integration of NACS into the health budget/workplans; roles and responsibilities of partners	<ul style="list-style-type: none"> <li>Personnel (salaries, consultant fees)</li> <li>Meeting costs (venue rental, refreshments)</li> <li>Written materials (printing and dissemination)</li> </ul>
<b>Development of systems</b> for logistics, information management, quality improvement, and supervision	<ul style="list-style-type: none"> <li>Personnel (salaries, consultant fees)</li> <li>Meeting costs (venue rental, refreshments)</li> <li>Written materials (printing and dissemination)</li> </ul>
<b>Development of materials</b> , including NACS guidelines and protocols, training curricula and materials, supervisory checklists, job aids, behavior change materials, commodity forms, and registration and patient forms	<ul style="list-style-type: none"> <li>Personnel (salaries, consultant fees)</li> <li>Meeting costs (venue rental, refreshments)</li> <li>Written materials (printing and dissemination)</li> <li>Travel (transport and per diem) for field testing</li> </ul>

Implementation phase	
Activity category	Types of inputs needed
<b>Commodity procurement and management</b>	<ul style="list-style-type: none"> <li>Commodities and products (e.g., RUTF, RUSF, FBF), including primary and secondary shipping and handling</li> <li>Equipment (pallets)</li> <li>Personnel (salaries)</li> <li>Storage (rental, maintenance)</li> <li>Transport (fuel, vehicle rental)</li> <li>Written materials (printing and dissemination)</li> </ul>
<b>Pre-service training, training of trainers, and in-service training</b> of health care providers, commodity personnel, community personnel, supervisors, and managers	<ul style="list-style-type: none"> <li>Personnel (salaries, honoraria)</li> <li>Travel (transport and per diem)</li> <li>Venue rental and refreshments</li> <li>Written materials (printing)</li> </ul>
<b>Service delivery</b> , including collecting, reporting, and managing information	<ul style="list-style-type: none"> <li>Equipment (MUAC tapes, scales, height boards)</li> <li>Personnel (salaries, incentives)</li> <li>Space for consultations (rental, maintenance)</li> <li>Written materials (printing and dissemination)</li> </ul>
<b>Community activities</b>	<ul style="list-style-type: none"> <li>Equipment (MUAC tapes, height boards)</li> <li>Personnel (salaries, incentives)</li> <li>Travel (transport and per diem)</li> <li>Written materials (printing and dissemination)</li> </ul>
<b>Supportive supervision</b>	<ul style="list-style-type: none"> <li>Personnel (salaries)</li> <li>Travel (transport, per diem)</li> <li>Written materials (printing and dissemination)</li> </ul>
<b>Quality improvement</b>	<ul style="list-style-type: none"> <li>Personnel (salaries, honoraria)</li> <li>Travel (transport and per diem)</li> <li>Meeting venue rental and refreshments</li> <li>Written materials (printing)</li> </ul>
<b>Information management</b> , including collecting, reporting, and managing data and information; special surveys or evaluations (coverage surveys, program evaluations)	<ul style="list-style-type: none"> <li>Personnel (salaries, consultant fees)</li> <li>Travel (transport, per diem)</li> <li>Written materials (printing and dissemination)</li> <li>Costs associated with one-off surveys and evaluations (e.g., special supplies and equipment)</li> </ul>

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### Input units

Once you know what inputs are needed, determine the base unit for each input, considering how it will be multiplied to arrive at the total cost. For example, if RUTF is purchased in metric tons but distributed in sachets, determine how many sachets you need and convert that number to metric tons. The table here lists input units.

### Quantities of inputs

Once you have determined your inputs and their units, determine the number of units needed. For example, the quantity of specialized food products, such as RUTF, is based on the amount needed per person and the number of people who will receive the product. You therefore need to determine 1) how many kg each patient should receive, based on the protocol, and 2) how many patients who access NACS services will be found severely malnourished. Working through this example:

If each severely malnourished adult patient receives three sachets of RUTF per day, each sachet contains 92 g, and the average length of treatment is 60 days, each adult patient will receive an estimated 16.56 kg of RUTF during the course of treatment (three sachets\*92 g/sachet \*60 days) = 16,560 g/1000 = 16.56 kg).

In another example, quantities of anthropometric equipment needed are based on the number of target health facilities, so you will need to determine 1) the quantities needed for each health facility and 2) the number of health facilities. Working through this example:

If each health facility needs at least three adult weighing scales and NACS will be integrated into 100 health facilities, you will need 300 scales (three scales per health facility\*100 facilities = 300 scales).

	Input	Unit
<b>Commodities and products</b>	RUTF	Kilograms (kg)
	RUSF	Kg
	FBF	Kg
	Oil	Kg
	Iron	Tablets
	Multi-micronutrient powder	Packets
	Zinc	Tablets
	Food baskets	Baskets
<b>Equipment and supplies</b>	MUAC tapes	Tapes
	Scales	Scales
	Height measures	Measures
	Pallets	Pallets
	Food demonstration equipment	Sets (pot, cups, bowls)
	Food preparation equipment	Sets (measuring cups, mixing spoons)
<b>Remuneration</b>	Salaries	Days and people
	Honoraria	Days and people
	Incentives	People
<b>Per diem and refreshments</b>	Per diem	Days and people
	Refreshments	Days and people
<b>Space</b>	Storage	Square meters
	Training venue rental	Days
<b>Transport</b>	Fuel	Kilometers (km)
	Vehicle rental	Days
	Distance	Km
<b>Written materials</b>	Written materials (e.g., manuals, forms, training materials, job aids, wall charts, monitoring forms)	Copies

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Also consider the following in relation to quantities of inputs:

- **Start-up costs.** If you are establishing NACS services for the first time, start-up costs, (e.g., for designing NACS systems and developing and field testing NACS materials) will likely hit in the first year.
- **Caseload.** The expected number of NACS patients, or caseload, will determine the quantity of inputs and overall costs. Coverage of NACS services might be lower in initial years, so caseloads may be smaller. See **Element 6. Establish a Logistics System for NACS Supplies and Equipment** for guidance on determining caseload.
- **Useful life of equipment and supplies.** Consider the average length of time that equipment and supplies will last over a specified period, e.g., 1 year. For example, if one weighing scale will last 3 years, plan to procure two scales for a 5-year period.
- **New versus established health facilities.** Health facilities that are introducing NACS (new NACS sites) require more inputs—training, supervision, equipment, materials, and supplies—than health facilities where NACS is already established.
- **Levels of health administration.** Consider inputs, for example, for training and supportive supervision, needed at each level of health administration (health facility, district, province, and central).

### Unit price

For each unit, determine the average price across the geographic areas where NACS is being or will be implemented. This information may come from previous budgets or suppliers. Choose an average price that is reasonable across all areas, keeping in mind that prices may be higher in some areas than others.

### Total cost

To calculate the cost of the inputs, multiply the price of one unit by the number of units. For example, if the price of one scale is US\$3, and you need 300 scales, the total cost is US\$900. If you are costing for more than 1 year, include an inflation factor to account for higher prices in later years.

### Using the results

Once you have your results, you will need to:

- 1) **Assess the accuracy and relevance of the results.** Are the results reasonable? If they look surprising, carefully review the values you used in the budget. Change them, if necessary, but be careful to maintain inputs at a reasonable level. For example, it may be tempting to reduce the number of staff trained or the length of training, but without adequate training, health care providers will not have the confidence or competence to implement NACS. Only consider reducing the number of days for training if you have planned frequent and intensive supportive supervision.
- 2) **Compare resource requirements with available resources.** Compare the budget with the resources you have available or expect from the government, donors, bilateral agencies, NGOs, community-based organizations, or community members. Consider who will provide what is needed and how soon, whether support will be in kind or financial, and whether there are special requirements (e.g., to purchase goods from specified sources). Does this analysis suggest there may be shortfalls in available resources or funds? Donors often specify inputs, activities, or regions that they are prepared to support, making some

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inputs, activities, or areas more difficult to finance. Identifying those areas and inputs is an important part of planning for NACS. You will need to devote special efforts to secure funding or resources for potential implementation gaps.

- 3) **Consider ways to reduce costs if your resources do not match the requirements.** Resist cutting back activities or inputs before thinking through the package of interrelated activities needed to implement NACS. For example, procuring specialized food products is not enough; they must be transported and stored safely for effective NACS services. If health care providers are not adequately trained or supervised, the standard of care can deteriorate and undermine the effectiveness of the services. A better approach to reducing costs is to restrict geographic coverage while leaving the package intact. When resources are limited, providing adequate services to fewer health facilities is better than maintaining coverage with sub-standard services.



## RESOURCES

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