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Toolkit: For Countries Applying for Funding of Food and Nutrition Programs Under the Global Fund to Fight AIDS, Tuberculosis and Malaria (Round 11)

October 2011

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Acronyms

AIDS	acquired immune deficiency syndrome
AMPATH	Academic Model Providing Access to Healthcare
ART	antiretroviral therapy
ARV	antiretroviral
BMI	body mass index (kg/m^2)
CCM	Country Coordinating Mechanism
CSB	corn-soy blend
EOI	expression of interest
FANTA-2	Food and Nutrition Technical Assistance II Project
FAO	Food and Agriculture Organization of the United Nations
FBF	fortified-blended food
FBP	Food by Prescription
HIV	human immunodeficiency virus
HSS	health system strengthening
IM-AM	Integrated Management of Acute Malnutrition
IR	implementation research
IYCF	infant and young child feeding
kg	kilogram(s)
LMIC	lower middle-income country
m^2	meter(s) squared
M&E	monitoring and evaluation
MARP	most-at-risk population
MOH	ministry of health
MUAC	mid-upper arm circumference
NACS	nutrition assessment, counseling, and support
NGO	nongovernmental organization
NSA	national strategic application
OR	operations research
OVC	orphans and vulnerable children
PEPFAR	United States President's Emergency Plan for AIDS Relief
PLHIV	people living with HIV
PR	principal recipient

RNI	recommended nutrient intake
RUF	ready-to-use food
RUSF	ready-to-use supplementary food
RUTF	ready-to-use therapeutic food
SAM	severe acute malnutrition
SDA	service delivery area
SR	sub-recipient
TB	tuberculosis
TRP	Technical Review Panel
U.N.	United Nations
UNAIDS	Joint United Nations Programme on HIV/AIDS
VAM	vulnerability assessment and mapping
WFP	World Food Programme
WHZ	weight-for-height z-score
WHO	World Health Organization

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Preface

The 2001 Declaration of Commitment on HIV/AIDS adopted at the United Nations (U.N.) General Assembly Special Session on HIV/AIDS in June 2001[1] was a pledge by the global community to unite and respond to the HIV pandemic. The declaration acknowledged the impact of the pandemic on food security in many regions, especially in sub-Saharan Africa, and focused on the provision of programs to slow its spread, treat people living with HIV (PLHIV), and care for the millions of orphans created by the pandemic.

Five years later, in 2006, the General Assembly reviewed achievements against the targets set in this declaration and adopted a resolution—the Political Declaration on HIV/AIDS—which reaffirmed the international community's commitment to respond to the pandemic.[2] The 2006 declaration identified a number of service areas that should be integrated into a comprehensive response to HIV/AIDS. Among these, food and nutrition services were specifically acknowledged.

After a second review in 2011, the General Assembly committed to taking immediate action to integrate food and nutritional support into programs for people affected by HIV by adopting resolution 65/277: Political Declaration on HIV/AIDS: Intensifying our Efforts to Eliminate HIV/AIDS. This declaration explicitly acknowledged that "poor nutrition exacerbates the impact of HIV on the immune system and compromises its ability to respond to opportunistic infections and diseases, and that HIV treatment, including antiretroviral treatment, should be complemented with adequate food and nutrition."

The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) is the largest multilateral donor funding services for PLHIV, people affected by HIV and AIDS, and people with active tuberculosis (TB). A WHO review of funded Round 5 applications from sub-Saharan Africa and Southeast Asia found that the number referencing food and nutrition increased to 60 percent and that the number in that round with a nutrition-specific goal or objective approached 50 percent. This review and WFP in-country experience identified a number of weaknesses in Global Fund proposals addressing food and nutrition, including the lack of a clear national policy framework; poor justification for selection of target groups and estimations of the number needing support; lack of human resources, infrastructure, and tools, and/or a weak supply chain; inappropriate choice of food products; inadequate focus on assessment, education, and counseling; and inadequate budgets.

This toolkit is the one of the outputs of an ongoing collaboration between the World Food Programme (WFP), the World Health Organization (WHO), the United States President's Emergency Plan for AIDS Relief (PEPFAR), and the United States Agency for International Development (USAID)-funded Food and Nutrition Technical Assistance II Project (FANTA-2) to improve, through inter-agency coordination, the number and quality of food and nutrition programs provided to PLHIV.

The four collaborating agencies concluded that many of the weaknesses identified in Global Fund proposals could be addressed if information was available and accessible. They decided to provide support in the lead-up to the Round 11 call for applications. WFP coordinated the inputs of the four agencies to prepare a Global Fund Information Note to raise awareness about the importance of food and nutrition activities and the range of program activities available. Separately, WFP also published a manual on the Global Fund process for advocates of food and nutrition programs.

To complement these publications, the group decided to prepare this toolkit to support countries that want to include food and nutrition activities in their Round 11 applications. An accompanying training program will support Global Fund application-writing teams. The purpose of the toolkit and training

package is to provide support to countries that would like to include a food and nutrition component in their Global Fund proposals, have food and nutrition more consistently integrated into them, and improve the overall quality of their applications.

Executive Summary

There is growing understanding of the cyclical relationship between food security, malnutrition, tuberculosis (TB), and HIV. Food insecurity can result in increased HIV risk, such as those associated with urban migration and transactional sex, and malnutrition suppresses the immune system and increases the likelihood of acquiring disease. Once individuals are infected with HIV or develop TB, these infections increase their energy requirements and compromise their ability to absorb and utilize nutrients. Their risk of death is increased if those infected are malnourished. Meeting increased energy requirements and the cost of treatment, coupled with reduced incomes for infected persons and their caregivers, creates or exacerbates food insecurity and malnutrition for entire households and puts communities at risk.

A growing body of evidence about the essential role of food and nutrition in managing HIV and TB infection is reflected in the policies adopted by key U.N. technical agencies, including the Joint United Nations Programme on HIV/AIDS (UNAIDS), the World Food Programme (WFP), and the World Health Organization (WHO). The United States President's Emergency Plan for AIDS Relief (PEPFAR) and the USAID-funded Food and Nutrition Technical Assistance Project II (FANTA-2) have also played key roles in advocating for food and nutrition services as part of the response to HIV and TB.

Food and nutrition activities can have considerable impact. In addition to acting as an enabler of treatment initiation and supporting treatment success through improved patient adherence and retention, food and nutrition activities can support malnourished people living with HIV or TB to achieve and maintain a healthy body weight and can mitigate the impact of HIV and TB on households.

The Global Fund to Fight AIDS, Tuberculosis and Malaria (Global Fund) is the largest multilateral donor committed to addressing HIV and TB. Analyses of Global Fund applications by the WHO and the WFP have found that an increasing number of applications include food and nutrition activities in the response to HIV and TB, but the quality of the food and nutrition activities proposed could be improved in many areas. In addition, many countries identifying food and nutrition as a priority for people living with HIV or TB are asking for technical guidance on including food and nutrition services within their GFTAM proposals.

In response to these identified needs, the WFP, WHO, and USAID/PEPFAR jointly developed this toolkit and the related training and information packages under the auspices of FANTA-2. This toolkit will help countries applying for Global Fund Round 11 funding by:

- Increasing awareness of the need for food and nutrition services as part of the response to HIV and TB
- Increasing awareness of the range of food and nutrition activities that should be considered
- Improving the quality of applications, thus increasing the likelihood that they will be included in country proposals and assessed as technically adequate by the Global Fund Technical Review Panel (TRP)

To achieve these goals, the toolkit provides evidence to inform current program activities and proposes a series of activities to be undertaken during the Global Fund application process, from coalition-building though budgeting and monitoring and evaluation. The toolkit can be used by countries considering inclusion of food and nutrition activities for the first time and by experienced countries that want to scale up their response or broaden the range of their food and nutrition support activities to address emerging problems.

How to Use This Toolkit

The purpose of this toolkit is to help countries include food and nutrition activities in their funding proposals to the Global Fund to Fight Aids, Tuberculosis and Malaria (Global Fund). The toolkit focuses on HIV and tuberculosis (TB), diseases that evoke substantial agreement on the need for food and nutrition programs. Malaria is not addressed explicitly. Though food and nutrition programs are important for people infected with malaria, food and nutrition strategies are less central to managing this disease. The toolkit does, however, provide guidance on how to develop food and nutrition programs as part of national strategies. These can be adapted to address malaria and other diseases and can also contribute to overall health system strengthening (HSS).

In developing this toolkit, two distinct types of user were envisaged: 1) advocates of food and nutrition programs who may be new to the Global Fund process, and 2) experts in Global Fund processes who may be unfamiliar with food and nutrition programs. This toolkit seeks to provide useful information for both groups. Those advocating for the integration of food and nutrition activities into HIV and TB programs will find basic information about how to address Global Fund requirements and should refer to the World Food Programme (WFP) manual on strengthening food and nutrition programs through the Global Fund for more detailed guidance.[3] Global Fund writing teams will find background information about food and nutrition program activities, along with tools to help them with budgeting and performance monitoring.

The toolkit has the following sections.

- *Background:* Outlines reasons why food and nutrition activities are important for people infected or affected by HIV or TB and offers other introductory information.
- *Evidence*: Presents an outline of the current evidence that informs relevant policy and practice in food and nutrition activities.
- *Tool #1: Overview of the Global Fund Application Process:* Outlines the application process in Round 11 and identifies when each of the other tools may be useful.
- *Tool #2: Country Policy Framework:* Discusses the importance of reviewing the national policy framework for food and nutrition and suggests a process for doing so.
- *Tool #3: Documenting the Gaps in Service Provision*: Outlines the process for documenting food and nutrition needs to identify gaps in current service provision.
- *Tool #4: Program Activities:* Summarizes main program activities in current use.
- *Tool #5: Budgeting of Food and Nutrition Programs:* Outlines the process of budgeting Global Fund proposals and lists issues that need to be addressed in budgeting each program activity.
- *Tool #6: Monitoring and Evaluation:* Provides an overview of the role of the monitoring and evaluation (M&E) plan and the performance monitoring framework in the Global Fund grant process and highlights the contributions of operations research (OR) and quality improvement (QI).
- *Glossary:* Clarifies unfamiliar food- and nutrition-related terms and other terms used in Global Fund applications.

- *Bibliography:* Offers additional detail on issues beyond the toolkit's scope.

This toolkit provides guidance for countries at an early stage of planning the integration of food and nutrition activities into HIV and TB programs. These countries may, for example, choose to apply to the Global Fund for funding for technical assistance to assist with policy development (Tool #2), or they may want to apply for funding for activities that will quantify local needs (Tool #3).

Guidance is also provided for countries that have already established policy frameworks and stakeholder coalitions to advocate for food and nutrition activities. Typically, these countries are looking to scale up existing food and nutrition programs to fill an identified gap in service provision, the main focus of the Global Fund. All seven tools in this toolkit will help such countries ensure that their proposals address Global Fund requirements.

Other materials developed to accompany this toolkit include:

- Training materials for workshops to assist advocates of food and nutrition programs to develop concrete workplans for Round 11 submissions
- Information packages for Global Fund writing teams and members of Country Coordinating Mechanisms (CCMs) on food and nutrition activities that respond to HIV and TB

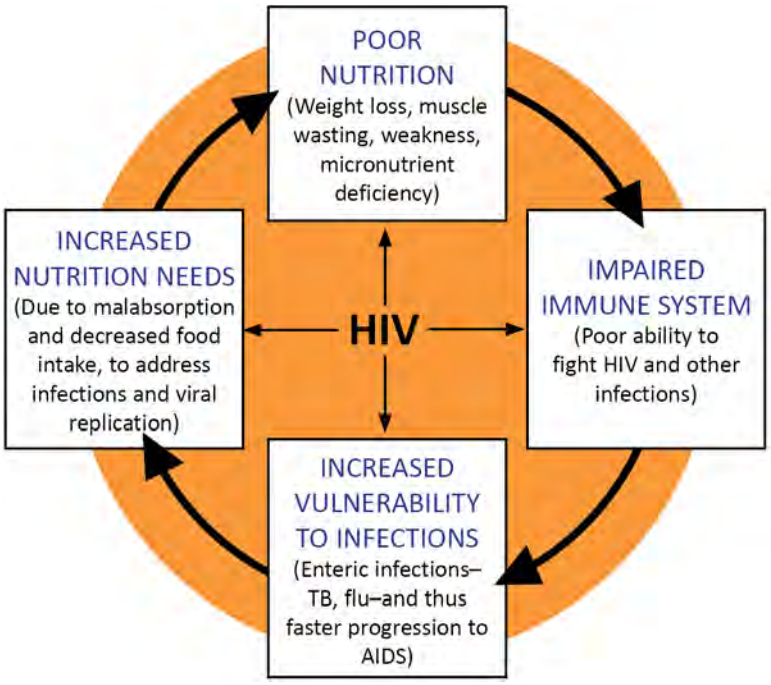
Background

Food and Nutrition and HIV

At the end of 2010, an estimated 34 million people were living with HIV,[4] 80 percent of them in southern Africa and Southeast Asia.[5] As a group, people living with HIV (PLHIV) have high levels of malnutrition,[6] and the risk of death for malnourished children and adults with HIV who start treatment is much greater than for those with normal nutritional status.[7, 8] Food and nutrition activities can keep PLHIV healthy for longer and improve their response to treatment. They are thus important elements of all HIV programs, from those that provide prevention through those that provide long-term care.

PLHIV face particular nutrition challenges. The HIV disease process can lead to malnutrition or can exacerbate malnutrition by increasing energy requirements and reducing the absorption of nutrients through frequent diarrhea. Together, high nutrient needs, impaired immunity, and poor nutrition can lead to the downward spiral depicted in Figure 1. PLHIV presenting with advanced illness and malnutrition need sufficient nutrients to meet higher energy requirements, restore lost tissue, and rebuild their immune systems. Recovery and return to a productive life requires diagnosis and treatment of opportunistic infections, initiation of lifelong antiretroviral therapy (ART), adherence support, psychosocial support, and food and nutrition support.

Figure 1: Malnutrition and Infection in the Context of HIV Infection[9]



For PLHIV not yet on ART, adequate nutrition may slow the progression of the disease and prevent opportunistic infections.[10] Severe and moderate malnutrition at initiation of ART are associated with a two-to-six times higher risk of early mortality, after adjusting for CD4 count and multiple risk-factors.[8, 11–13] Early mortality can be reduced by maintaining body weight pre-ART and with targeted nutritional interventions at the time of ART initiation. In addition, studies have indicated that mother-to-child transmission risk is higher for pregnant women whose immune systems are compromised, and this may be influenced by their nutritional status.[14] It follows that food and nutrition activities are an important element of programs to prevent mother-to-child transmission (PMTCT) of HIV.

While the recent World Health Organization (WHO) recommendation[15] that ART should be initiated for all PLHIV with a CD4 count $\leq$ 350 cells/mm^3 should lead to improved health status for those initiating treatment, it increases demand on already stretched health systems.[10]

Some antiretroviral (ARV) drugs interact with food. For example, Efavirenz is recommended to be dosed on an empty stomach, since drug levels and side effects increase when it is taken with food.[16] On the other hand, Zidovudine causes nausea on an empty stomach, and is recommended to be dosed with food.[17]

Higher energy needs of PLHIV, in combination with food insecurity and reduced income, can stress resource-poor households, reducing the quality and quantity of food available to them. Acute HIV-related illnesses undermine the usual sources of livelihood of PLHIV as well as their carers, and increased household expenses often lead to food insecurity for the entire household. Food and nutrition programs for PLHIV can provide targeted food and other support during periods of acute stress, reducing the impact of HIV on households. This support is particularly important for children, who need adequate nutrition to grow normally. Reducing economic stress on individuals and households through provision of food may also improve treatment uptake,[18] adherence,[19] and continuity of treatment,[20] all of which improve health outcomes and reduce the risk of developing resistance to cheaper first-line therapies. Programs can also establish sustainable livelihood initiatives.

Food security programs do not need to be restricted to locations where there is widespread malnutrition. They may also be relevant in concentrated HIV epidemics, especially where risk groups are food insecure or at risk for other reasons. For example, injection drug users and children living in families affected by HIV may face substantial food insecurity.

Box 1: Known Facts about the Relationship between HIV and Food and Nutrition

- HIV infection causes weight loss for many reasons, including because of patients' decreased food intake, increased metabolic needs, and inability to retain and utilize nutrients.
- Malnutrition rates among PLHIV increase as their illness progresses, and are often exacerbated by food insecurity.
- Severe and moderate malnutrition is common in people with advanced HIV infection, even those from food-secure households. Malnutrition is a predictor of mortality among PLHIV initiating ART, independent of CD4 count or other indicators of immune system performance.
- Malnutrition and HIV must be treated concurrently, given the dynamic interaction between HIV infection and nutritional status and the need to rebuild a patient's lost tissue with range of nutrients.

Food and Nutrition and TB

TB is the leading bacterial cause of death in humans and, after HIV, the second leading cause of infectious-disease mortality. Though TB disease is either preventable or curable for most people, it kills an estimated 1.8 million people per year. The disease begins with a primary infection that is usually contained by the

immune system, but can lead directly to active TB (or primary progressive disease). Latent TB can be reactivated at a later point to become active TB.[21]

Among people with TB infection who are not HIV-infected, about 5 percent develop primary progressive disease and a further 5 percent later develop active TB. PLHIV, by contrast, have a higher likelihood of developing primary progressive disease. TB and HIV are inextricably linked; 5–10 percent of PLHIV experience reactivation of latent infection each year.[21] In 2007, it was estimated that 15 percent of incident cases of TB were among PLHIV.

A meta-analysis of prospective cohort studies has shown that people with severe and moderate malnutrition have a higher incidence of active TB, most of it resulting from activation of latent TB.[22] Conversely, active TB increases the risk of malnutrition by increasing resting energy expenditure and depressing appetite, both of which lead to weight loss and micronutrient deficiencies. Severe and moderate malnutrition is associated with a doubling of mortality risk in TB patients.[7] Treatment of TB and HIV co-infection can address wasting, which should be accompanied by programs to ensure adequate nutrition, both to improve treatment and assist replacement of muscle and depleted fat stores.

Gender

Women and girls make up about half of the global HIV epidemic. Their vulnerability to HIV is particularly high in sub-Saharan Africa, where 80 percent of all HIV-positive women live.[5] Biological factors that make women and girls vulnerable are exacerbated by socio-cultural and structural factors, such as harmful cultural practices, violence, lack of quality sexual and reproductive health services, economic disparity, poverty, and lack of education. Economic inequality may worsen if women and female adolescents are obliged to care for the sick, reducing their income-generating capacity.[14] Women have a lower risk of TB, and account for an estimated 35 percent of incident cases.[23]

Food and nutrition services need to ensure that they focus on the special needs of women and female children and adolescents. For example, school-based nutrition and livelihood programs can be highly discriminatory if girls have poorer access to education,[24] and livelihood programs need to address women who prefer food-based over cash-based programs.[25]

HIV-positive men may have poorer treatment outcomes in locations where they are less likely to access counseling and testing[26] or present for treatment at a more advanced stage of disease.[27] In these circumstances, services need to encourage earlier diagnosis and treatment for men. PLHIV presenting late for testing and treatment are more likely to have developed malnutrition. This means that services, including food and nutrition services, need to encourage earlier diagnosis and treatment and encourage adherence among both men and women.

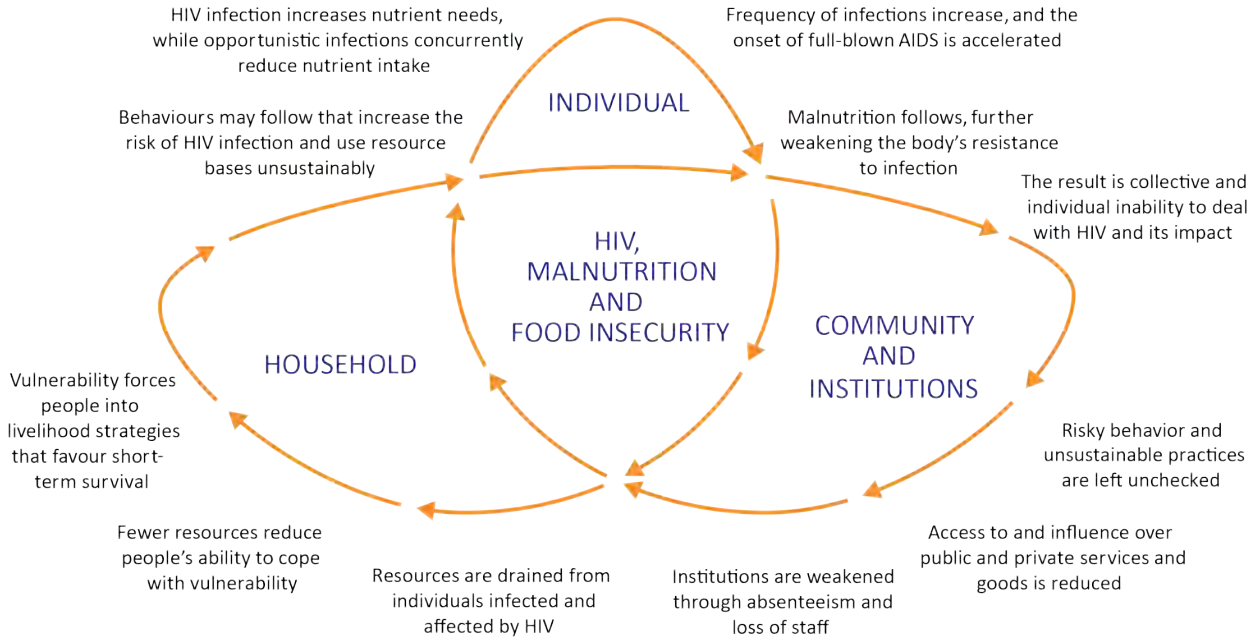
Program Activities

Program activities are discussed in more detail in Tool #4, but are briefly outlined below. There are two broad approaches: support for patients that has either a preventive or curative focus and support for households that has a preventive or enabling focus. This toolkit groups the service activities in three categories, distinguished by using the following color coding:

- ◆ **Nutrition Care and Support in the Context of PMTCT**
- ● **Nutrition Care and Support for Individual Patients**
- ■ **Food Security through Impact Mitigation and Livelihood Promotion**

Ongoing support for ill patients under treatment requires at regular intervals formal assessments of their nutritional status, including anthropometric, biochemical, clinical, and dietary parameters. Programs that are clinic or facility-based identify the targeted support needed by malnourished patients through this activity. The support provided can take the form of education and counseling and/or food, cash, or vouchers. The objective of these activities is treatment success: reduced morbidity and mortality through improved nutritional status and adherence to medication.

Figure 2: HIV, Food Insecurity, and Malnutrition[28]



Household food-support programs focus on the viability of the household as a socioeconomic unit, from the perspective of food security. Such programs, which are frequently community-based, respond to the temporary financial impact of HIV infection on the household during periods of acute illness. They also address the need to establish a sustainable livelihood for orphans and vulnerable children (OVC) and/or for adult PLHIV and people infected with TB.

The Global Fund and PEPFAR

The Global Fund and the United States President's Emergency Plan for AIDS Relief (PEPFAR) are the major international sources of funding for services for PLHIV,[5] including food and nutrition programs. Global Fund funding is restricted to countries classified as lower or middle income by the World Bank. In general, the Global Fund will fund any technically sound proposal and encourages the use of technical assistance to develop capacity. Local demonstrations of internationally successful models may be funded to ensure optimization of programs for local conditions. Country stakeholders determine what is included in a proposal through a transparent mechanism that requires both government and civil society input.

PEPFAR is a bilateral donor program that operated in 88 countries in 2009.[29] The extent of engagement varies from country to country: 34 are listed as receiving a country-specific budget in PEPFAR's revised operational plan for FY 2010.[30] The food and nutrition component of PEPFAR-funded programs focuses on nutrition assessment, counseling, and support (NACS) at HIV treatment sites, rather than on general food and nutrition support to households. Agreements are reached on funding for specific programs through bilateral negotiations.

PEPFAR and the Global Fund have different approaches and funding procedures, but it is possible for them to fund complementary services in the same country. For example, in a country where PEPFAR funds clinic-based services, a Global Fund proposal could seek funding for community-based food security programs that target households of people identified in these clinical settings. A Global Fund proposal for a country that has PEPFAR-funded nutrition services must provide detailed information about them. This is of critical importance, to ensure coordination and demonstrate that there is no double-funding of such services.

Major International and Bilateral Advisors in Food and Nutrition

Within the Joint United Nations Programme on HIV/AIDS (UNAIDS), WFP is the convening agency for food and nutrition and has offices in over 80 predominantly low- and middle-income countries. Other U.N. agencies with an interest in nutrition for PLHIV and people with TB include the WHO, the Food and Agriculture Organization of the United Nations (FAO), and UNICEF.

Where PEPFAR operates, the USAID Mission can provide information about PEPFAR-funded food and nutrition activities, as well as those supported by Title II and Food for Peace. The USAID-funded Food and Nutrition Technical Assistance Project (FANTA-2) can also provide input and support.

Other bilateral aid agencies also support food and nutrition activities, and numerous international and local nongovernmental organizations (NGOs) have an advisory role in relation to food and nutrition. In a given country, a Global Fund application is more likely to be successful if it reflects a coalition of most or all of these stakeholders who are advocating for the integration of food and nutrition activities into HIV and TB programs.

Evidence Relating to Food and Nutrition Activities

The Global Fund was designed to channel money from donors to countries that want to implement proven programs but lack the resources to do so. Because this donor seeks to direct funds to where they are most needed and are likely to have the most impact, evidence-based justifications of proposed activities play a central role in all Global Fund proposals and the considerations of its Technical Review Panel (TRP).

The research results summarized below inform the TRP's current considerations about the inclusion of food and nutrition activities into care for HIV and TB patients and their households.

The Research Context

It is difficult to undertake randomized trials on the efficacy and cost-effectiveness of food and nutrition interventions, particularly those that deal with total nutrient requirements. Food and nutrition are essential to life for all people regardless of their HIV status, and ethics committees find it problematic to permit studies in which a randomly selected treatment arm is provided with supplementary food while a control arm receives none.

An additional level of complexity is created because the local acceptability of specialized foods for treating malnutrition is governed by taste and other cultural norms. Sharing is an additional factor to be considered, since PLHIV taking home specialized food for medical treatment often share them with other household members. Specialized foods therefore cannot be researched in the same way as other medicinal products, and demonstration of the acceptability of a specialized food in one location cannot be assumed to ensure its acceptability elsewhere.

While these complications have delayed the progress of the research agenda, the available evidence is regularly reviewed and summarized by a number of expert bodies and international agencies.[24, 31, 32] Relevant recommendations need to be incorporated into local policy and guidelines to ensure appropriate implementation in local contexts.

The practical difficulties of research are less complex in relation to micronutrients—nutrients required in small quantity to facilitate normal bodily function—as these can be dispensed in medicinal form for research purposes. The Cochrane Review of randomized trials assessing micronutrient supplementation for PLHIV was updated in 2010, and the number of eligible trials increased from 14 in the 2005 to 30 in 2010.[33] The potential importance of research in this area is demonstrated by the results of a large Tanzanian trial that demonstrated that multivitamin supplementation for pregnant HIV-infected women led to clinically significant improvements in immune function and viral loads, slowed disease progression, and reduced mortality and morbidity.[34]

Research into micronutrients is complex. The appropriate amount of micronutrient supplementation depends on the quantities already provided in the diet, and the effect of an individual micronutrient is modified by the presence of other micronutrients. Given this complexity, countries should follow guidance provided by international agencies after expert review.[24, 31, 32] The WHO recommends that PLHIV require micronutrients at the same levels as people who are not HIV-infected; in practice, achieving this level of intake in PLHIV will often require supplementation.[31]

Research models to demonstrate convincingly the impact of household support and livelihood programs require cluster randomized studies or longitudinal studies. These are expensive and difficult to implement, since they are based on repeat household surveys that permit propensity score-matching and double-difference (difference-in-difference) assessments, with adjustment for clustering.

Food and Nutrition and PLHIV

Body Mass Index as an Independent Risk Factor for Mortality

Failure to provide for the additional energy requirements of PLHIV and their reduced appetite result in depletion of fat and lean stores and weight loss, a defining characteristic of HIV disease progression. While weight loss is a consequence of HIV, several cohort studies provide strong evidence that low weight is an independent risk factor for disease progression[35] and mortality in PLHIV. (Low weight is measured by body mass index [BMI]—weight in kg divided by the square of height in meters.) The independent effect of low BMI on mortality, after adjustment for CD4 count and other risk factors, has been demonstrated in a variety of settings in pre-ART patients[11, 36] as well as those initiating ART.[8, 37, 38] The size of the independent effect on mortality, measured as either an adjusted-odds ratio or hazard ratio, generally exceeds two and increases with the severity of malnutrition.

These findings lead to a series of questions regarding the possibility of improving nutrition support for PLHIV. "The hypothesized benefits of providing nutrition support to HIV-infected individuals include: i) improved nutritional status, ii) improved health status, iii) slowed disease progression, iv) improved food security, v) improved quality of life, and vi) improved ART adherence and probability of survival."[39]

Box 2: Energy Requirements of PLHIV

Minimum energy requirements vary by age and gender. HIV infection is known to increase energy requirements, and the WHO makes the following recommendations for increasing the energy intake of PLHIV:[31]

- Asymptomatic adult PLHIV need to increase their energy intake by 10 percent to maintain body weight and physical activity.
- Symptomatic adult PLHIV have an increased energy requirement of 20–30 percent.
- The additional energy needs of HIV-infected pregnant and lactating women and adolescents are not known. The current recommendation is 10 percent additional energy intake above the requirements for non-infected pregnant and lactating women if asymptomatic and 20–30 percent higher if symptomatic;
- Asymptomatic HIV-infected children are likely to need to increase their energy requirements by 10 percent to maintain their normal growth profile.
- HIV-infected children experiencing weight loss should increase their energy intake by 50–100 percent.

PMTCT and Pediatric HIV Care, Support, and Treatment

Poor maternal nutritional status has long been associated with adverse perinatal outcomes for mothers and children. Malnutrition that is compounded by the additional energy and micronutrient requirements during pregnancy and lactation may lead to disease progression in PLHIV and increase the risk of vertical transmission.[40] While the evidence is unclear as to the precise role of malnutrition in vertical transmission, international agencies have strongly recommended provision of nutritional assessments, education, counseling, and support for pregnant and lactating HIV-infected women and adolescents as essential services.[41] In

2010, the WHO released new guidelines on ARV drugs for pregnant women and PMTCT services,[42] as well as guidelines on HIV and infant feeding.[43]

The provision of education and counseling services is particularly important in relation to infant and young-child feeding. New international guidance explicitly acknowledges that the need to prevent HIV transmission must be balanced with the need to prevent infant mortality from other causes.[43] This reflects the concern that formula-feeding presents a greater risk to infants than the risk of transmitting the virus through breastfeeding in settings where hygiene is poor. The guidance also reflects growing evidence on the efficacy of ART in reducing HIV transmission during pregnancy and lactation. All infant-feeding guidance should be offered in the context of a comprehensive package of ART services for treatment and prophylaxis for mothers and infants, according to WHO 2010 guidelines.[42, 43]

The Global Fund has noted that HIV-positive children are less likely than adults to receive ART. According to an estimate in 2007, only 14 percent of children in need of ART were receiving it that year, compared to 31 percent of adults in this category.[44] Food and nutrition are especially important for HIV-infected children: they need adequate food to grow normally and additional food and nutrition because of their infection.[24, 31]

Box 3: Overview of Food and Nutrition Interventions

This manual considers comprehensive food and nutrition interventions to be composed of three main elements: nutrition assessment, counseling, and support.

- Nutrition assessment of patients, including anthropometry, biochemical, clinical, dietary, and household food security, is key to informing counseling and clinical management and determining appropriate support for the individual and household.
- Counseling, in individual or in group sessions, includes education linked to promotion of specific behaviors and actions.
- Support consists of providing nutritious food to clinically malnourished patients, based on anthropometric entry and exit criteria. The food transfer is also sometimes referred to as Food by Prescription (FBP), a term that emphasizes that therapeutic and supplementary feeding may be prescribed and provided to individual patients to contribute to their nutritional recovery and clinical improvement, and as a critical component of comprehensive care and treatment. Support may also include micronutrient supplements or other nutrient supplementation and safe water treatment. It may include transfers or other assistance to households experiencing income shock due to the burden of care for PLHIV, which is often coupled with temporary or permanent loss of production and income. Support may also include a variety of livelihood activities that aim at give affected households the tools they need to meet their basic needs, so they do not need to depend on income transfers or long-term food assistance.
- Many organizations implementing food and nutrition programs in conjunction with HIV care and treatment services do not use terms in standardized ways. In some publications, NACS is described as a combination of nutrition assessment, education, and counseling, then support is added. Because this manual considers education to be an integral component of counseling, NACS is the preferred designation, and education is not broken out separately.

Food and Nutrition and TB

Active TB, like HIV, interferes with nutrient absorption and results in increased resting energy requirements and suppressed appetite and interference.[21] Severe and moderate malnutrition is associated with a doubling of the mortality risk in TB patients.[7] Much of the evidence in relation to food supplementation for PLHIV is likely to be relevant for patients with active TB, particularly for those with HIV co-infection and patients with multidrug-resistant TB. International guidance on nutrition in the management of TB is currently being formulated under WHO leadership.[45]

Nutrition Care: Assessment and Counseling

Nutrition assessment refers to the measurement of a patient's nutritional status and dietary practices. It identifies individuals who are malnourished and require nutritional support, as well as those more likely to have problems with malnutrition or treatment compliance in the future.

Nutrition education is the provision of information about nutritional needs, nutrient content of foods, dietary practices, meal planning, and symptom management. It is essential for ensuring dietary practices that meet nutrient requirements and supporting medication adherence. Nutrition counseling is the interactive process of jointly exploring barriers to good nutritional practice, then planning strategies to achieve nutritional goals.[46, 47] Education is often classroom-style and conveys general knowledge, while counseling is targeted to an individual patient, based on a prior assessment.

Nutrition Support for Individual Patients

Micronutrient Supplementation

Multiple micronutrient deficiencies, common in people with HIV and TB infection, have been associated with more rapid disease progression, increased mortality, and increased mother-to-child transmission of HIV.[48] Several studies on micronutrient supplements have not provided consistent evidence, and the choice of micronutrients—often in combination—and the amount provided of each varied considerably.[33]

The current WHO recommendation[48] is a diet that provides PLHIV and TB-infected people with at least the recommended nutrient intake (RNI) of vitamins and minerals (see Glossary). In South Africa and some other countries, higher levels of 1–2 RNI are recommended.[49] In areas where dietary diversity is limited and micronutrient deficiencies are common, PLHIV and people with TB disease may need vitamin and mineral supplements in order to meet the recommended intake of one RNI.

Macronutrient Supplementation

Independent of CD4 count or other indicators of immune system status, wasting or thinness (see Glossary) and rapid weight loss (> 5 percent in 6 months[50]), commonly experienced by PLHIV, are strong risk factors for disease progression and mortality. Weight loss is also common in people with active TB, and the relationship between TB and nutrition is bidirectional. Not only does active TB lead to loss of weight, but being underweight is a known risk factor for developing active TB, whether through reactivation of latent TB or through progressive development of the primary disease upon infection.[21] These associations mean that treatment success relies on addressing malnutrition at the same time as HIV and TB infection.

Wasting among PLHIV and/or people infected with TB is widespread, especially in resource-limited settings. Treating weight loss becomes increasingly complex if patients develop severe malnutrition or

co-morbidities. NACS (including supplementary or therapeutic foods) should therefore begin early, while outpatient treatment is possible. Support should be based on anthropometric evidence of need (i.e., moderate malnutrition or rapid weight loss). Interventions should provide nutrient-dense food on a time-limited basis (usually 3–6 months), depending on speed of recovery and program design.

Support for Severe Malnutrition

To date, there are no established therapeutic guidelines specific to the management of weight loss and wasting in PLHIV or people infected with TB. In their absence, this manual cites WHO guidelines for treating children, adolescents, and adults with severe malnutrition, regardless of HIV or TB status.[51] Severely malnourished patients should receive therapeutic food products, with the goal of preventing further loss of tissue and rebuilding tissue lost during the course of the disease; the quantity depends on the age and weight of the patient.

For patients with severe acute malnutrition (SAM), traditional treatment in medically staffed facilities for children, adolescents, and adults involves the provision of fortified milk (F-75 or F-100—see Glossary). This remains the preferred treatment modality for children with SAM and medical complications. In 2005, the WHO, the WFP, the United Nations System Standing Committee on Nutrition, and UNICEF published a joint statement recommending the community-based use of ready-to-use therapeutic food (RUTF), together with oral medication for children who have SAM but no medical complications.[52]

RUTF are a group of products nutritionally equivalent to F-100, but do not require preparation. They are produced as spreads or compressed bars: powdered ingredients embedded in a lipid paste to create an energy-dense food that resists microbial contamination.[53] That it has been moved from inpatient treatment to community-based treatment acknowledges that RUTF are efficacious, and that inpatient treatment is in itself a barrier to access. Treatment is not only costly, it creates the risk of nosocomial infection.

The success of RUTF in pediatric patients and the absence of alternatives developed specifically for other target groups led to RUTF being used for adults and adolescents with SAM. The use of a single RUTF—across children, adolescents, and adults—can also improve efficiency by simplifying logistics.

Support for Mild and Moderate Malnutrition

In developing countries, a variety of supplementary foods are currently used to treat mild and moderate malnutrition:[54]

- Fortified-blended food (FBF), such as corn-soy blends (CSBs), are a mixture of cereals and other ingredients, such as soybeans, pulses, oilseeds, dried skim milk, and possibly sugar and/or vegetable oil fortified with a pre-mix of vitamins and minerals. FBF are dry, energy-dense foods that must be mixed with water and cooked (see Glossary).
- Ready-to-use supplementary food (RUSF) is similar to RUTF, but their skim milk powder is replaced by a combination of soy and whey powder. RUSF and RUTF have a higher energy density than FBF. They do not require any preparation and are packaged in individual portion sizes.
- Though not formulated for this purpose, RUTF are sometimes used to treat mild and moderate malnutrition.

Complementary Food Supplements

Complementary food supplements have been defined as "food-based complements to the diet that can be mixed with or consumed in addition to the diet" to add nutritional value.[55] These supplements add micronutrients and, in some cases, essential fatty acids to the diet in the form of low-dose, lipid-based, nutrient supplements or micronutrient powders, tablets, or capsules. Such supplements can be prescribed to people who have recovered from malnutrition but cannot obtain all required nutrients from their regular diet and are at risk of relapse.

Complementary food supplements should not be confused with complementary feeding of infants and young children. The two terms refer to different activities. Complementary feeding refers to infants and children more than 6 months old who have started eating solids in addition to breast milk or formula.

Ready-to-Use Food versus Fortified-Blended Food

Ready-to-use food (RUF) and, in particular, RUTF, were developed for children with SAM. RUF has been demonstrated to be more effective than FBF for rapidly treating this target group. This applies to children with SAM in general populations, including some children living with HIV,[56, 57] as well as populations comprised solely of HIV-infected children.[58]

The successful use of RUF to treat children and the absence of therapeutic food developed specifically for adults and adolescents has led to RUF being used to treat malnutrition in adults and adolescents in developing countries. For example, a large cohort study in Kenya and Uganda described outcomes for 1,106 PLHIV with moderate and severe malnutrition (BMI < 17.0) who were treated using RUF. A 47 percent cure rate (BMI ≥ 18.0) was reported, but with a 23 percent rate of default.[59] The only randomized trial comparing RUF to FBF for treatment of malnutrition in adults initiating ART (BMI < 18.5) found significantly higher weight gain for RUTF at 14 weeks—5.6 kg for RUTF versus 4.3 kg for CSB—but no difference in mortality or CD4 count,[60] and no difference in weight gain, mortality, or CD4 count at 12 months.[61]

A qualitative study of the acceptability of the children's formulation of RUTF to adults identified several barriers to its use. These included patients experiencing difficulties carrying the ration; sharing it with other household members; and mixing it with other foods to address dietary monotony, nausea, vomiting, and excessive sweetness.[62]

In choosing between RUF and FBF for nutrition support to malnourished PLHIV and people infected with TB, the following factors need to be considered:

- Who is the target population—children versus adults and adolescents)
- Preferences of the target population for RUF versus FBF, since this may impact patient adherence
- The severity of malnutrition in the target population
- Prevailing hygienic conditions and the availability of fuel and facilities for cooking FBF
- The likely duration and conditions of storage, as RUF is less likely to spoil
- Cost per day of ration: the cost of RUF is substantially higher but is more compact, so storage and transport costs may be less
- The likelihood of sharing and diversion to market; as a more specialized food, RUF is a more likely to be treated as a medicine and less likely to be shared than FBF, which requires preparation;

anecdotal evidence suggests that RUF may be more likely to be diverted from the client to the market, as it has a relatively higher market value than FBF

- Whether the product has to be carried home by the patient, as RUF is easier to carry
- Whether RUF can be produced locally, in relatively sophisticated manufacturing facilities, and whether there are likely to be regulatory issues relating to local manufacturing or importation of food
- Cultural issues influencing product preference
- Types of products already in use and potential efficiencies associated with choosing one product over another

The main negatives for RUF are acceptability and cost, but both of these factors may change. The field is still developing: a recent pilot study reported good weight gain for adults using a sesame-based RUTF that is inexpensive to produce—US$3/kg.[63] Nutrition programs could also consider activities that provide a mixture of RUF and FBF, bringing the nutritional benefits of RUF at lower cost and at lower risk of non-adherence and boredom.

Treatment Initiation, Adherence and Retention in Care

Qualitative studies[18, 64] and program reports[65, 66] suggest that treatment initiation and adherence in early treatment in a variety of African contexts are adversely impacted by the increased appetite accompanying the commencement of ART and that PLHIV do not want to take ARV medications that they know will make them hungry.

A qualitative study in Uganda that specifically explored the way food insecurity could impair adherence reported five mechanisms: 1) appetite increase associated with ART led to extreme hunger; 2) side effects were exacerbated in the absence of food; 3) PLHIV skip or stop ART if they cannot afford food; 4) medical expenses reduce the money available for food; and 5) work interferes with adherence to the dosing regimen.[67] In addition to these factors, it has also been hypothesized that food insecurity may lead to loss to follow-up, as PLHIV are forced to travel in search of work and income.

Evidence suggesting that nutrition programs enhance adherence and retention has been found in program reports that note higher self-reported adherence.[65] A study of defaulters found that 18 percent of those traced cited lack of food as a reason for their default.[20] And a study in

Box 4: The AMPATH Model of Food and Nutrition Care and Support in Kenya

The Academic Model Providing Access to Healthcare (AMPATH), Kenya's largest provider of HIV care, has implemented programs that foster food and economic security for PLHIV and their families, including through the HAART and Harvest Initiative. All patients commencing ART receive nutritional assessment, and food support is provided for 6 months to all members of the affected family if food insecurity is determined. If more than 6 months of support is needed, the family is transferred to the Family Preservation Initiative, which provides support to improve income security. (See http://www.iukenya.org/hiv.aids.html.)

AMPATH is a PEPFAR/USAID-funded partnership between Moi University and Moi Teaching and Referral Hospital, Eldoret, Western Kenya, in collaboration with U.S. institutions led by Indiana University. AMPATH is a model of urban and rural HIV preventive and treatment services in the public sector. The program cares for more than 100,000 HIV-infected adults and children, nearly half of whom are on ART.

Zambia quantified the improved adherence by comparing the proportion of food-insecure patients meeting adherence standards over 12 months in clinics that with a food support program and clinics without a food support program.[19] Adherence, measured as the proportion of patients possessing medication for 95 percent or more of the time, was 70 percent in the food-providing clinics and 48 percent in the controls. Researchers concluded that the provision of food motivates patients to improve their attendance at clinics for pharmacy refill.

Support for Households of PLHIV and People Infected with TB

The entire household is affected when a person living with HIV or TB becomes ill. The household loses the income or productivity of carers and the sick person, and faces additional costs associated with the illness. To offset these costs, time-limited support can be provided to the entire household, in addition to the food provided directly to the individual with malnutrition.

The objective of providing support to individual patients is improved nutrition, and thus requires a nutrition intervention and the provision of nutritious food. In contrast, the objective of support to households is socioeconomic. Household support is therefore an income transfer for a finite period of time; it can be provided in the form of food, cash, or vouchers, with the goal of offsetting lost income and compensating for illness-related expenses.

For this activity, the eligibility of the household is sometimes directly linked to the individual patient's eligibility, based on anthropometric criteria such as low BMI. At other times, household food insecurity status is assessed separately as a targeting criterion. By supporting the household, these programs:

- Enable the affected individual to initiate and adhere to the treatment package (i.e., the programs are enablers of treatment)
- Reduce sharing with other household members the specialized, nutrient-dense food provided to treat malnutrition
- Prevent the household from engaging in often irreversible "negative-coping" behavior, such as the sale of income-producing assets or removal of children from school. These actions will compromise the household's future livelihood or increase the risk of other household members acquiring HIV infection

Food Security: Impact Mitigation and Livelihood Promotion

Prolonged disease affecting one household member can affect the food and nutrition security of the entire household. A study of rural households in Mozambique found that an adult death reduced the amount of staple food produced by a household by between 20 and 30 percent and contributed to household food insecurity.[68] And a study in rural Zambia and peri-urban South Africa found that all affected households were adversely impacted by an adult member's TB infection in the short term, especially if the patient had a pivotal role in the household and they were poor or very poor before infection.[69]

Food access is often markedly reduced because of a household's decreased income, increased expenditure on critical health care needs, and diminished capacity to buy food or invest in productive assets. For rural households, illness of an important worker can reduce food production for consumption or income, and missed seasonal opportunities can affect the household for a full year. In urban settings, disease affecting a productive household member can lead to temporary or long-term loss of an income source. In addition, access to appropriate food sources may also be impaired by social stigma in both rural and urban settings. Insufficient food can also increase the likelihood of women

engaging in inconsistent condom use with a non-primary partner (adjusted odds ratio = 1.7) and in transactional sex (adjusted odds ratio = 1.8).[70]

Food and nutrition insecurity can hasten disease progression and interfere with initiation of treatment or adherence, leading to poor treatment outcomes and increased morbidity and mortality. Food and nutrition insecurity may also force households to adopt negative-coping strategies to sustain access to basic needs. These include selling assets, withdrawing children from school; migration in search of income-producing work that results in exposure to potentially harmful environments; engaging in indentured labor or transactional sex. This is a vicious cycle: illness reduces household food security, which in turn increases susceptibility to HIV infections.

In limited-resource settings, households often lack adequate formal and informal social safety nets that allow them to cope with the negative effects of shocks. Food and nutrition activities that mitigate the impact of HIV and TB on households and communities may therefore be required, in addition to activities that provide food and nutrition support to individual PLHIV and TB clients.

These activities target the households of people infected with HIV or suffering from TB, based on their socioeconomic needs and capacities. As there may be equally food-insecure households in the community that are not affected by either HIV or TB, it is important that this type of support to infection-affected households is time-limited, reflecting the temporary additional burden caused by illness. Where food and nutrition activities targeting individuals based on anthropometric criteria operate alongside activities targeting households, the two types of services need to be coordinated. This coordination can be complicated by the fact that activities targeting individuals are usually provided by health services, while activities targeting households are often implemented by community-based service providers.

Programs addressing food insecurity in the wider population may also be required. These are not discussed in detail in this toolkit, as they should be part of broader social protection schemes. While these broader social programs should be sensitive to the needs of PLHIV and TB clients, they need to focus on need and equity, irrespective of disease status. For example, they may target all food insecure and vulnerable households, such as female-headed households or households with a high dependency ratio.

Support for Households Caring for Chronically Ill People

Caring for a chronically ill person can stress households and cause food insecurity through the loss of income for patient and carers and increased costs associated with managing the illness. In addition, chronically ill PLHIV and/or people infected with TB who are not able to access treatment cannot benefit from clinic-based services that provide individual or household support.

In such situations, community-based support services for households may be needed. Interventions should aim to protect and sustain livelihoods by avoiding divestment of assets and preventing less reversible negative-coping behavior. Support can be offered in the form of food, vouchers, or cash. It should be time-limited to address the additional costs of caring for chronically ill PLHIV or TB patients.

Support for Vulnerable Groups in HIV- and TB-Affected Households

The HIV pandemic has changed the population structure of many countries, with serious consequences for economically vulnerable groups such as the elderly and the very young. Support for dependents of patients with HIV or TB is therefore a key part of a comprehensive response to HIV or TB. This support

should include elderly dependents of PLHIV as well as OVC. It seeks to protect vulnerable people in affected households, prevent the divestment of assets, and avert the adoption of high-risk behaviors.

While OVC services are time-limited, the timeframe of support is often much longer than for other support activities. It can potentially extend until an orphan or vulnerable child achieve maturity—for example, the household of an elderly person may require support until the child or adolescent being cared for begins producing income. As with all programs, support should be targeted to people in need for the duration of their need. Support may thus be brief if the household only requires temporary assistance following a crisis.

Support can target households headed by OVC or caring for them, or can target community-based or institutional OVC services that provide care or education. Support can be in the form of food, vouchers, or cash; there is a range of possible program activities. Some make the assistance conditional on the child or adolescent attending school or other support services. Support for education or vocational skills development provides opportunities to establish sustainable livelihoods in the future.

Livelihood Support for Return to Economic Productivity

The support services discussed above are often linked to livelihood support programs that aim to build or rebuild sustainable income-earning opportunities. These include food production, asset creation, skills development, and the establishment of microenterprises or small businesses. The time-limited nature of most household support activities makes these services critical, since their goal is to ensure that PLHIV have opportunities to reestablish sustainable livelihoods.

Traditionally popular programs that can be adapted to HIV and TB contexts include:

- Employment in public works (food or cash for work)
- Development of productive and social assets, such as communal infrastructure and agricultural, horticultural, and livestock assets (food or cash for assets)
- Vocational and lifeskills training, as well as the development of basic skills for community volunteers, counselors, and caregivers (food for training)

Food or cash provided by livelihood support programs enable the participation of PLHIV and OVC by compensating them for associated opportunity costs and cash outlays. Other material and capacity inputs, such as tools, livestock, seeds, and training, can be provided to support implementation. An impact evaluation of similar programs to assist 3.7 million poor people in Bangladesh irrespective of their HIV or TB status found improvements in caloric consumption and reductions in poverty that ranged from 15 to 30 percent.[25]

Tool #1: Overview of the Global Fund Application Process

Target group: Applicants advocating for food and nutrition programs in Global Fund proposals.

Purpose: To acquaint applicants unfamiliar with the Global Fund application process with its basic structure, inform them what they should be doing and when, and explain which tools in this toolkit can assist them with their application

Key messages:

1) Advocates for food and nutrition activities need to form a coalition and work together to increase their chances of having a proposal included in the Global Fund application.

2) Start as early as possible to prepare a quality proposal with broad support.

3) Figure 4 (at the end of this tool) provides guidance on what needs to be done and when.

This tool discusses the most common methods of application to the Global Fund: a disease-specific proposal through the general funding pool, which receives 90 percent or more of the available funds. The remainder is allocated to a targeted funding pool, which must be entirely focused on special groups and interventions. Applications to the general pool do not have a budget ceiling, while applications to the targeted pool cannot exceed $12.5m over 5 years.[71]

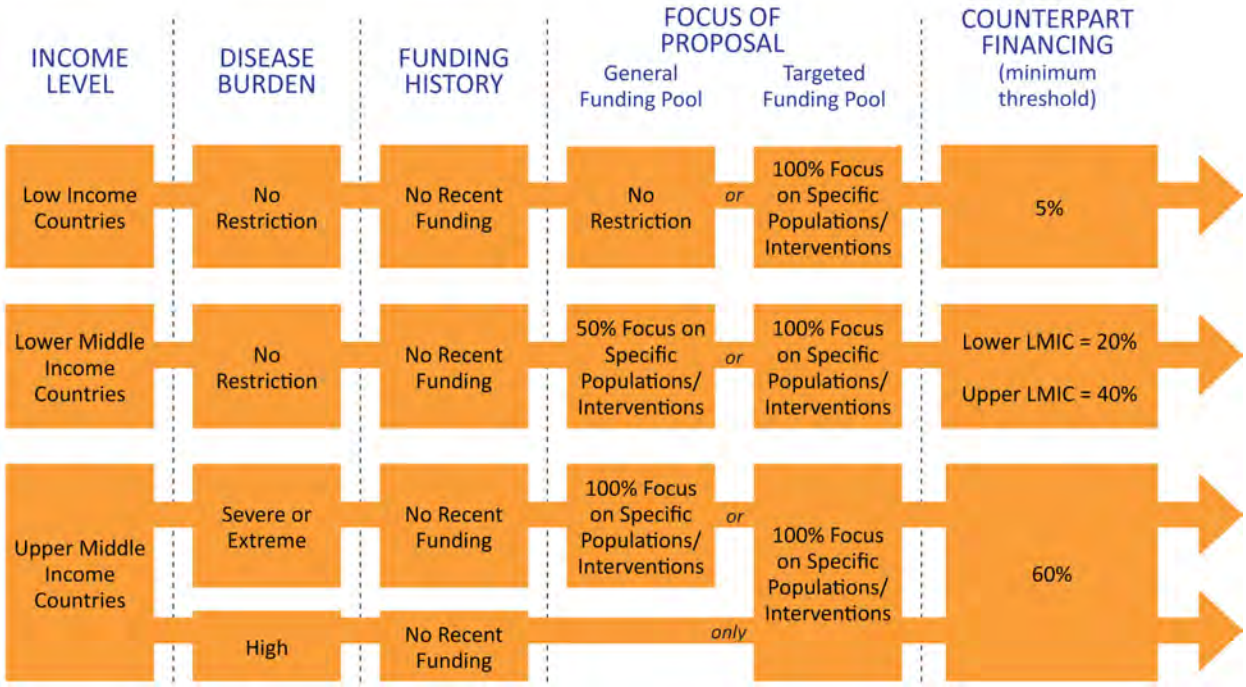
As shown in Figure 3 on the next page, eligibility for funding depends on a country's income classification and disease burden, as well as the pool to which they are applying. A country-by-country listing of eligibility for the two funding channels is available from the Global Fund.[72] Applications to the general pool can be consolidated single-disease proposals, national strategic applications (NSAs), or HSS activities across two or more diseases.

Basic Structures[74]

The Global Fund is governed by a board whose members represent donor and recipient governments, civil society, the private sector, private foundations, and communities living with and affected by the three diseases. The board is responsible for establishing strategies and policies, setting budgets, calling for proposals, and making funding decisions.

Day-to-day administration of the Global Fund is the responsibility of its Secretariat, which screens applications for compliance with formal requirements, negotiates detailed implementation plans for approved grants, and manages the grant portfolio in line with the performance-based funding. Once screened for compliance, applications go to an independent TRP of international experts in the three diseases and HSS. The TRP reviews the technical aspects of the applications and makes funding recommendations to the board.

Figure 3: Eligibility and Required Focus for General and Targeted Funding Pools[73]



In countries applying for Global Fund funds, the CCM is responsible for managing application processes and overseeing grant implementation. The CCM is a partnership of all stakeholders in the country who are engaged in the response to the three diseases, and includes representatives of people living with the disease, the government, NGOs, multilateral and bilateral development partners in country. Nongovernment representatives are selected by their own constituencies in a transparent process. The CCM usually has a large membership, and may assign responsibility for application development to a smaller sub-committee (called a sub-CCM). Where this is the case, the sub-CCM makes recommendations to the CCM, but the CCM must approve and submit the application.

As part of the application process, the CCM appoints one or more principal recipients (PRs) who sign the grant contracts with the Global Fund and take responsibility for managing the funds and implementing the grant, should it be successful. Each PR may implement funds directly or may appoint one or more sub-recipients (SRs) who contract with the PR to implement part of the proposal.

An important semi-formal structure in the process is the application-writing team. It is appointed by the CCM or the sub-CCM and supported by key technical partners from the U.N, family, in particular WHO and UNAIDS country offices. This team helps applicants to develop and refine proposals to the point that they can be included in the application and condenses and integrates the different proposed activities into a structured and coherent narrative and budget.

Formal Aspects of the Application Process

In 2011, there are two parallel application processes to the general pool: the second wave of the NSA process or the Round-11 process. Formal aspects of these application processes are outlined below. It should be noted, however, that their implementation will differ from country to country.

Countries applying through the NSA process submitted an expression of interest (EOI) by 11 April 2011. At the time of writing, they are involved in joint assessments of their national strategies. The assessment of the national strategy is conducted jointly by national stakeholders and international partners, who review its technical soundness and feasibility, including the planned implementation arrangements for the next few years. Following the assessment, the country will prepare an NSA proposal for submission by 16 December 2011.

A joint assessment can be conducted for one or more of the three diseases. The second wave of NSA applications was restricted to a maximum of 12 countries, but future waves are expected to be open to all countries. After the joint assessment, a country must still prepare a single-disease proposal for each disease applied for, according to the timelines specified for the Round 11 process, but on a simplified application form.

The Round 11 application process formally begins when the Global Fund announces a call for proposals, currently scheduled for 15 August 2011. The CCM then meets to determine broad priorities for the Round and appoints a sub-CCM responsible for proposal development. The sub-CCM meets soon after this to call for proposals— sometimes referred to as EOIs or concept notes—from organizations that wish to apply for funding through the application. The amount of detail required and the proposal deadline are at the discretion of the CCM or sub-CCM.

The procedure for calling for applications from non-government organizations must be transparent. The CCM or sub-CCM must make reasonable efforts to ensure that all interested applicants are informed of the process through, for example, public advertising. Non-government applications will be screened and some selected by a transparent process. These are then included in the next stage of the application process: further development, working with the Global Fund writing team. Government applicants may follow a similar process.

Applicants should ensure a full description of the food and nutrition strategy, not just those activities for which funding is requested. This allows technical appraisal of the overall strategy and provides a context for the proposed activities. The proposal also needs to identify clearly the activities for which funding is being requested. The writing team will guide applicants in formulating and reformulating their proposals to ensure compliance with the themes approved by CCM and that proposed service activities are integrated with other elements of the application and with current service delivery provision. The team meets with each applicant to discuss the key elements of the proposal. These include the strategic basis for the activities, as indicated by national and international policy documents; the details of the gap analysis; the coherence of the program model and proposed indicators; and the justification of budget elements. If an application looks likely to be included, the writing team will reformulate budgeting elements in line with Global Fund requirements. For NGOs or government bodies seeking to apply as a separate SR, the organization has to demonstrate that it has the administrative capacity and experience to manage the funding.

The writing team structures the application into functional chapters, which are referred to as service delivery areas (SDAs). Food and nutrition services will usually be integrated with other activities as part of one or more SDAs with a broader focus—for example, care and support for PLHIV or care and support for OVC. The writing team presents the completed draft application to sub-CCM and revises, as necessary, before the sub-CCM presents it to the CCM. Once the CCM approves the application, the application has to be packaged together with a myriad of detailed attachments and submitted to the Secretariat. For Round 11, as for NSA applications, the closing date is 15 December 2011.

Important Informal Aspects of the Application Development Process

The CCM is essentially a political process among stakeholders. The following actions enhance the likelihood of the inclusion of food and nutrition in an application:

- Building a coalition of proponents of food and nutrition services that covers government and NGO stakeholders as well as people infected with the disease
- Reviewing disease-specific policies, protocols, and strategies to ensure that food and nutrition is appropriately addressed
- Undertaking an assessment of current and anticipated future need and current and anticipated provision to identify the service delivery gap
- Developing a high-quality proposal, with clear objectives and strategies, a viable management structure for implementation (government department, NGO with clear capacity, or both), and a feasible plan for rollout
- Advocating for support from stakeholders not directly involved in food and nutrition

The Joint United Nations Special Team on HIV/AIDS[75] has an assigned role in coordinating the in-country advice provided by the U.N. family, including in relation to Global Fund applications. Many of its members are key participants in the CCM process. Other CCM members, including the chair and deputy, PLHIV or people with TB, multilateral and bilateral donors, and academics are likely to be involved in the sub-CCM (if any).

Ideally, these strategies should be implemented early, several months before the call for proposals so that there is an opportunity to establish food and nutrition as a country theme for the application round. If the opportunity for an early start was missed, it nevertheless remains crucial that this development and advocacy process is implemented to influence other key decisions that have to be taken: What should be removed as inappropriate? What should be deferred because it requires further development? And among the quality proposals ready to go, what is of sufficiently high priority for the final package?

Health System Strengthening in the Context of the Global Fund's Mandate

An effective health system is central to improving the population's health status. The Global Fund's major objective in providing support for HSS is to maximize the overall impact of the response to HIV, TB, and malaria. The Global Fund views HSS as a means to an end. Based on country circumstances, HSS interventions may be designed to address a wide range of health system bottlenecks. Global Fund experience has highlighted a number of components that are key to building a well-functioning health system, including: an effective healthcare delivery system; easy access to the health workforce; a well-functioning health information system; a well-functioning system for procurement, supply, and logistics; a strong system of health financing; an effective leadership and governance system; and effective community system that supports and enables access and utilization of services.[76] Any of these activities can be funded.

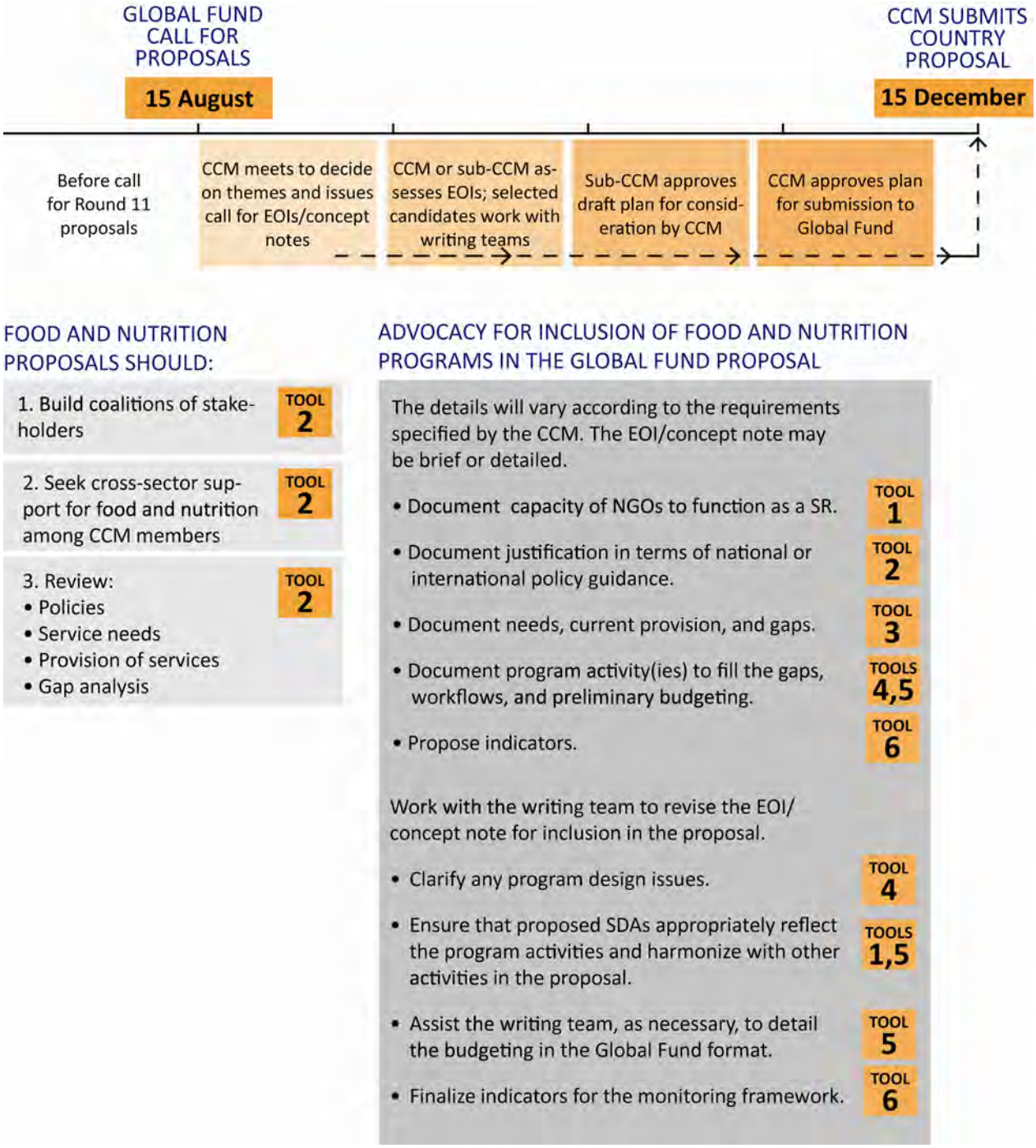
HSS activities can be proposed in one of two ways. If the HSS proposal relates to only one of the diseases (e.g., improving the logistics system for therapeutic food dispensed by HIV clinical services), it should be included as part of a single disease proposal. If the HSS proposal affects more than one of the three diseases (e.g., improving the logistics system for both HIV and TB), a cross-cutting HSS proposal is

required on an additional set of forms. The development of HSS proposals goes through processes similar to those described above.

Map of the Tools in This Kit

The process discussed above is schematically depicted in the upper half of Figure 4, while the broad activities recommended at each phase are summarized in the lower half. For each proposed activity, the schematic indicates which tool in the toolkit should be consulted.

Figure 4: Timeline for the Round 11 Global Fund Application Process



Tool #2: Country Policy Framework

Target group: Applicants advocating for food and nutrition programs in Global Fund proposals

Purpose: Outline the importance of the national policy framework for food and nutrition, the benefits of reviewing policies and guidelines as part of proposal development, and the process of reviewing policies and guidelines.

Key messages:

1) The process of developing or reviewing a national food and nutrition strategy is as important as the outcome, as it brings together a coalition of interested parties and helps to build broad support for food and nutrition activities.

2) Developing or reviewing a national food and nutrition strategy encourages the coalition to address many of the issues which are important for developing a strong Global Fund proposal.

The Global Fund application process asks applicants to outline the national strategy for the disease of interest, and to attach a copy of it and all relevant subsector strategy documents. The purpose of this request is to assess whether the Global Fund application fits within a national strategic framework that is, in turn, an appropriate response to the local epidemic.

The absence of detailed strategy documents that include food and nutrition does not prevent these activities from being considered for funding, but applicants that can show that their proposals reflect a national strategy will clearly demonstrate the relevance of the application to the national disease response. This requirement provides an opportunity for countries to review the food and nutrition components of national policies, protocols, and strategies; placing their proposals within this framework or proposing the development of new or revised policies, protocols, and strategies, if needed.

For NSAs, it is important that national strategy documents address the role of food and nutrition activities as part of the comprehensive continuum of care, treatment, and support. The Global Fund appoints a team to engage with the country in undertaking a joint assessment of the national strategy, using a tool developed by International Health Partnership (IHP+). (The currently available draft tool focuses on the coherence of the strategy in the context of the situation analysis.[77]) It is anticipated that the international partners in the joint review will identify the need for food and nutrition activities even if these are not addressed in the situation analysis, but it is preferable to have these issues addressed in the national strategy documents in the first place.

National strategy documents may be of two broad types:

- Disease-specific strategy documents that reference food and nutrition
- National food and nutrition strategy documents that reference the disease

A disease-specific strategy document may simply acknowledge the importance of integrating food and nutrition activities as part of a comprehensive response to the disease, while a general strategy document for food and nutrition may make reference to the need for specific programs for people with particular diseases. A specific strategy document on food and nutrition for the disease would detail the problems and the response by: documenting identified food and nutrition needs; defining specific service models to address them; and specifying indicators for monitoring and targets against which the program can be evaluated.

A policy development process for food and nutrition should bring together all interested parties, including government and NGO service providers, international agencies providing technical advice,[9] and people living with the disease. Interaction between all parties interested in food and nutrition services can lead to a number of positive developments:

- If service provision is fragmented and different funding sources operate in different regions, sharing information leads to more complete understanding of the program at the national level and better understanding of gaps in service provision.
- Sharing of ideas on how best to address local challenges can lead to more rapid adoption of innovative policies and practices.
- Forming a community of interest at a national level enhances the status of food and nutrition programs and draws attention to its importance within each of the constituent organizations.

The coalition should also consider advocating for food and nutrition indicators to be included in national strategy documents. Such indicators would be an important statement of the program's aspirations and reflect an intention to act on them.

Box 5: Forming Food and Nutrition Coalitions in Namibia

A 2007 situation analysis by FANTA-2 identified the need for a number of food and nutrition activities to support the national HIV program in Namibia. These identified needs could not be addressed, however, until a coalition of interested parties had been established. An international study tour for key stakeholders in 2009 was followed by the establishment of a Ministry of Health (MOH) Technical Working Group on food and nutrition and HIV, which created a forum for HIV managers to share ideas with food and nutrition managers. A NACS program was launched in 2009, with food support added in 2011.

The vision of improved food and nutrition services was embraced by the Office of the Prime Minister, which established the Namibia Alliance for Improved Nutrition. The alliance brought together the MoH and other government departments, including education and agriculture, and it developed Namibia's Strategic Plan for Nutrition 2010–2014.

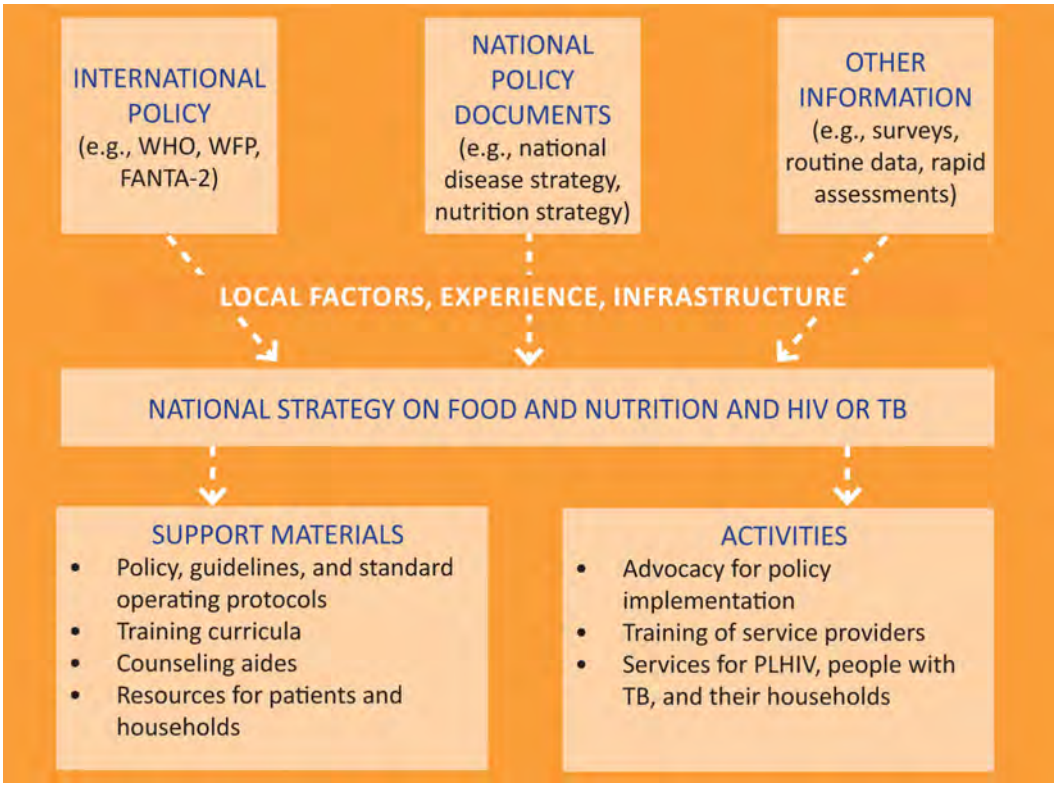
The existence of relevant national strategy documents that address food and nutrition is also likely to confer a benefit on advocates during the pre-application CCM process. The CCM process is designed to bring together in a committee-wide, deliberative and decision-making process all parties with an interest in the relevant disease(s). A novel idea presented to the CCM by a single agency is less likely to be supported than an idea that has been previously discussed by a number of the different organizations represented on the CCM.

In addition, many applicants to the CCM are unsuccessful simply because the activities they propose are insufficiently developed. The process of discussion and negotiation that accompanies the inclusion of an activity in a national strategy document focuses attention on food and nutrition issues. This raises the

awareness of policymakers working in other technical areas and leads to testing and refinement of program models.

Figure 5 shows a schematic representation of the inputs used in developing a national strategy and the outputs produced (support materials or activities). Creating and maintaining stakeholder consensus is an overarching element, essential to the success of the entire strategy development process. This group can act together to review the strategy from time to time and can develop and support activities for Global Fund applications.

Figure 5: Development and Application of National Strategy on Nutrition and HIV or TB[9]



The rest of the process entailed in developing a national strategy can be summarized as follows:[9]

1. Establishing a technical working group led by the local institution, whose mandate is to develop the food and nutrition strategy for the disease process and specify the role of each participant

2. Creating a detailed workplan for the strategy development process and a funding proposal, if external technical assistance is required to support the workplan

3. Assessing local nutritional care and support needs, using routine data or a rapid assessment, if routine data are inadequate

4. Drafting a national strategy, combining external guidance with local information and taking into account funding for technical assistance, if external expertise is needed.

5. Translating the strategy into all relevant languages for review

6. Reviewing the draft, pre-testing the revised draft in pilot sites, revising as necessary, and obtaining the endorsement of the stakeholders themselves, an official body such as the MOH, or a special body assigned responsibility for the disease

7. Disseminating the strategy widely

8. Defining an M&E process for strategy development and implementation, including indicators, data collection, and reporting mechanisms, and a date for formal review and, if necessary, revision of the strategy

Implementation of the strategy should be a planned process to optimize its use by specifically targeted groups. The key elements of an implementation plan are an advocacy and communications plan to encourage guideline uptake and the development of tools to support implementers, including training packages and materials.[9]

Tool #3: Documenting the Gaps in Service Provision

Target group: Applicants advocating for food and nutrition programs in Global Fund proposals

Purpose: To outline the process for documenting food and nutrition needs and current service provision as a basis for identifying gaps to be addressed by the proposal.

Key messages:

1) Identifying the gaps in service provision is a key element of a Global Fund proposal and involves comparing estimated needs with current and pledged service provision.

2) Where service needs are not already documented, they must be estimated using the best available data, sometimes informed by rapid assessments. All assumptions must be justified.

3) All service providers must be taken into account when determining current and pledged service provision.

The Global Fund seeks to direct funds to gaps identified by applicants in the national disease response, such as missing service types or underserviced regions. A robust analysis of both programmatic and financial gaps is therefore an essential foundation of a Global Fund funding application.[78] Taken together, the following processes form the basis of the required situation analysis in preparation for a Global Fund application:[3]

1. Identify food and nutrition needs in relation to HIV and TB, and thus the priorities for intervention
2. Identify national priorities in HIV and TB, noting where food and nutrition are already incorporated and where they can be added to contribute to achievement of national priorities (see Tool #2)
3. Document the current provision of services and pledges of future provision
4. Compare the three to identify the gaps that must be addressed

While the Global Fund can be asked to consider filling the whole gap, the actual amount requested will reflect the pace of scale-up that the applicant considers feasible. Other factors may also impact what can be requested. For example, Round 11 eligibility rules mean that lower-income countries must contribute at least 5 percent of the total expenditure on the disease, while middle-income countries must contribute at least 20, 40, or 60 percent, depending on their subclassification within that income range.[71] Countries near these thresholds have to manage their budget requests carefully to comply. A listing of each country's status for Round 11 is available from Global Fund.[72]

The situation analysis should be guided by a technical working group specially appointed to the task. Ideally, the working group would be appointed by a coalition of all stakeholders, similar in membership to that required for the policy development process identified in Tool #2. The actual analysis could be done by members of the working group or external technical assistance could be engaged if required.

Identifying Target Groups and the Need for Food and Nutrition Programs

The most vulnerable individuals and groups must be identified and their needs understood. Currently, many nutrition interventions focus on the infected individual at the time of initiation of treatment, the most sensitive phase characterized by high mortality. While this is an important target group, it is not the only one. Poor uptake of PMTCT and ART, for example, and poor adherence to the regimen are often attributed to socioeconomic issues affecting the household and the community. A comprehensive understanding of the need for food and nutrition services requires an exploration of the needs of individuals and households in each demographic and socioeconomic group at different stages of the disease and at different times of the year.

The following activities can contribute to a disease-specific assessment of need. They are discussed in more detail in the WFP food and nutrition manual for Global Fund applicants[3]:

1. *Desk Review of Existing Data Sources*

   Population data on the food and nutrition context in country can be gained from demographic surveys that include information on food security and nutritional status—e.g., the Multi-Indicator Cluster Surveys, (MICS). In some countries, WFP's extensive vulnerability assessment and mapping (VAM) surveys can complement this information. The food and nutrition security situation of the broader population is the backdrop for the HIV and TB epidemics. If a population is food insecure, its ability to cope with the nutritional implications of HIV or TB will be limited.

   Data on the geographic distribution of the disease should also be collected at this stage, as a basis for identifying geographic regions at particularly high risk due to high rates of background malnutrition and high rates of the disease. Where routine data systems provide information about mortality and loss-to-follow-up rates, these too can suggest areas of high need. When using facility-based data sources in this way, however, it is important to be conscious of the possibility that some areas are underserviced and may have higher needs than areas with existing facilities.

2. *Field-Based Assessment and Primary Data Collection Targeting the Disease Groups*

   If the desk review reveals a lack of data on the nutritional status of patients (as is often the case), field assessments could be performed to provide this information. Rapid assessments based on the review of registers containing weight and height data can provide initial estimates of the rate of malnutrition in cohorts of newly registering clients at strategically chosen health facilities. In some cases, height and weight data may not be available in the registers and it may be useful to collect this data from a convenience sample of patients at clinics. For PLHIV, if CD4 data are also available in these registers, these analyses can adjust for differences in disease progression at treatment initiation. Register-based data can also be used in this way to examine rates of mortality and loss to follow-up.

   While systematic quantitative data are important, interviews with key informants may help make sense of the data collected and provide important insights. Structured data collection methods tend to explore what is already in our experience and often reinforces what we already know. The insights of practitioners involved in service delivery are frequently novel and sometimes critical to the success of program implementation at the local level.

   Tool #5 references a budgeting tool for commodities for malnourished patients. This tool requires information on the estimated number of ART and pre-ART clients; the proportion of patients by category (PMTCT and non-PMTCT adults and children); the estimate rate of malnutrition (severe and

moderate) in each client category; and the assumed proportion of potentially eligible clients receiving support at any time and the average duration of treatment. Where this information is unavailable through routine data systems, the rapid analysis should seek to collect relevant information.

3. *Analysis of Assessment Findings*

A preliminary analysis should provide an overview of the food and nutrition situation for PLHIV of TB patients against the background of the broader food security situation. Findings should shed light on these questions: What are their needs; which of them are being met; and by whom?

Assessment findings will inform the design of M&E systems and the selection of outcome indicators. If the data are robust and representative, they can also be used as a baseline for program evaluation. Where possible, M&E systems should align with national systems, rather than creating parallel structures.

Mapping Service Provision, Current and Pledged

The Global Fund is conscious of the need to avoid duplication in service provision that arises as a result of fragmented coordination. The Global Fund's role is to supplement existing funding sources, not to replace them so that funds can be diverted to other funding priorities, and thus requires a detailed description of food and nutrition services as an attachment to the application.

If a detailed listing of food and nutrition services by target group and region is not already available, establishing a coalition comprising all main stakeholders is an excellent method for ensuring that all providers are identified. Some stakeholders may not be able to participate in the coalition for practical reasons (for example, non-government partners may only operate in specific remote regions), but the coalition should include members who can identify such stakeholders.

Questionnaires and/or (semi)structured interviews should be used to collect relevant information in a consistent format across all providers and used to develop a map of all services, by target group and region. The census of food and nutrition providers should also collect information about the policies and practices in all programs. This information is essential for a subsequent assessment of compliance with national policy and may also assist with interpretation of the routine service data reported.

Planned future provision of services often creates difficulties for gap analysis. While program staff are hopeful that funding will be made available, managers cannot guarantee those funds until financial commitments have been formalized. This creates difficulties in planning and gap analysis. Where this uncertainty merely impacts the extent of future regional coverage, proposals can be restricted to uncovered regions, but with a contingency plan that allows the relocation of services to higher-priority regions, should the anticipated funds fail to materialize. The situation is more complex where the provision of a service at a lower level is contingent on the provision of some other service at a higher level. For example, where it is anticipated but not certain that the government will fund central staff for procurement of commodities at the national level, it may be prudent to budget for the position in the Global Fund proposal. A note should be added that advises on the possibility of government funding for the position and provides assurance that resources will be reallocated to expand service coverage if this funding is provided.

Identifying Gaps

A desk review of the national strategy can identify gaps at the policy level in relation to either target groups or program activities. A detailed discussion of the local epidemic must be included in these deliberations, as this determines the relevance of programs suggested by international guidance. If gaps are identified in national strategy or policy, the coalition should agree on and recommend amendments.

Gaps of many types may be recognized through the situation analysis, including:[78]

- Gaps that were known to exist but were not priorities for implementation at an earlier stage
- Gaps arising from revision to the objectives and/or targets of the national program (including the addition of new service models)
- Gaps arising from the changing dynamics of the epidemic
- Gaps arising from changes in technical advice (for example, commencing treatment at CD4 count of 350 cells/mm^3 or below, rather than 200)
- Gaps arising from the expansion of service provision to regions with poorer access
- Gaps in the capacity of government and nongovernment partners that need to be addressed to enhance access or uptake

Protocols used by different service providers should be reviewed to ensure consistency with national and international strategy and policy, while recognizing that regional variation in service activities may be appropriate to reflect variation in local circumstances. This process may highlight the need for

Box 6: Gap Analysis in Zimbabwe

Zimbabwe intends to apply for Global Fund Round 11 support for their HIV, TB, and HSS programs. A consultant was employed to prepare a gap analysis, and the WFP supported the consultant with the food and nutrition elements of this analysis.

An initial desk review of national strategy and policy documents in the area of HIV, TB, and food and nutrition was accompanied by a review of available data. While data were available on the incidence and prevalence of HIV and TB, there was no relevant data on the nutritional status of patients with HIV or TB. Meetings with key stakeholders provided information about the main programmatic and financial gaps, but no one could provide data on the prevalence of malnutrition among patients.

To provide additional insight, WFP undertook field visits to hospitals in Harare where WFP, in collaboration with the MOH, provides food and nutrition services for PLHIV and TB patients. Patient flows were mapped and staff members were interviewed to gain a deeper understanding of the challenges facing food and nutrition services. When data systems were examined to see if useful information could be sourced from these clinics, it was discovered that the WFP/MOH electronic information systems at these hospitals could provide key data to inform the gap analysis. While it is likely that these data are not representative of the needs of the broader target population for food and nutrition services, they are sufficient to provide an initial estimate of need. These estimates can be refined as new services are rolled out with Global Fund funding.

(re-)development of or compliance with standard national guidelines for one or more program activities. The administration of programs may be highly fragmented, due to multiple funding sources, each with preferred program activities. If so, the coalition of stakeholders should, at a minimum, attempt to standardize service provision to the extent that M&E indicators have consistent meaning across providers. This level of standardization is essential to the management of the program at the national level.

As far as possible, countries should address these policy-level gaps using their own resources, as this demonstrates commitment to the program and ensures ownership. In some circumstances, however, external technical assistance may be required to facilitate the review and revision of national policy documents, and the Global Fund encourages the use of technical assistance for these purposes.

Technical assistance may also be required when the identified gaps are service activities that are demonstrated to be efficacious elsewhere but new to the country. At an early stage, study tours should be considered for local technical specialists and policymakers to expose them to these activities and programs and the practical challenges of implementation.

Funding to fill gaps arising from growth in national targets or changes in technical parameters for commencement of care are the easiest to apply for, as the policy infrastructure has already been established and existing programs give a good indication of cost.

When evidence is relatively scarce, a proposal can gain from including specific pieces of operational research that would address some of the most critical knowledge gaps. While the Global Fund is not a research fund, it considers operational research to be an integral component of M&E. The Global Fund encourages operational research that addresses barriers to scale up or targets improvement of program performance[79, 80] (see Tool #6).

Tool #4: Program Activities

Target group: 1) Applicants advocating for food and nutrition programs in Global Fund proposals

2) Global Fund writing teams.

Purpose: To summarize the main program activities currently in use for providing food and nutrition services to PLHIV and people with TB.

Key messages: 1) Service activities listed in the tables of this tool are designed to introduce advocates and writing teams to a broad range of service activities available for food and nutrition in the context of HIV or TB.

2) Advocates should select the activities that best address client and program needs.

A variety of activities have been advocated for food and nutrition programs targeting PLHIV and people with active TB or broader populations where HIV-infection and malnutrition are widespread. These include:

1. Nutrition care and support in the context of PMTCT targets for HIV-infected pregnant women and new mothers, integrated with maternal and child health nutrition programs where available (Table 1)

2. Nutrition care and support for PLHIV and people with active TB, as part of a comprehensive package of services (Table 2)

3. Food security through impact mitigation and livelihood promotion (Table 3).

For each activity described, the tables show the target group(s), the selection criteria, the usual location of service provision, and the service provider responsible. Program activity summaries in Tables 1, 2, and 3 share the following core requirements: 1) policy and guidelines; 2) standard operating procedures; 3) staff training; and 4) a monitoring system that provides service providers, administrators, and policymakers with information about program achievement (e.g., percentage of PLHIV receiving nutritional counseling). Additional activity-specific core requirements are discussed in the tables. A program model can be composed of one or more program activities in the tables, depending on local circumstances. The evidence supporting these activities is discussed in the chapter on evidence that precedes Tool #1.

PMTCT and comprehensive care programs are relevant where testing and treatment programs are available, and apply to both generalized and concentrated epidemics. A nutritional assessment of the individual patient is the usual entry point for these services, and leads to education, counseling, and needed supplementation. These programs can be clinic-based or provided collaboratively between clinic- and community-based services. PMTCT interventions provide support to the mother and her child for at least the first year after delivery. (The support continues beyond this point if the infant is still breastfeeding and for one week after cessation).[43] Nutrition interventions for HIV-exposed children can include provision of complementary foods appropriate beyond 6 months of age until weaning. The interventions can also include a basic preventative care package for HIV-free survival, including ongoing growth monitoring, micronutrient supplements, and immunizations. Nutrition support services usually end when the malnourished patient achieves a pre-determined anthropometric threshold (e.g., BMI ≥ 18.5).

Impact mitigation and livelihood programs target generalized epidemics in regions or population groups with high levels of food insecurity, irrespective of the availability of testing and treatment. These programs, which are usually community-based, have an assessment of household food security as their entry point.

Household-level interventions to mitigate the impact of HIV may also be relevant to targeted most-at-risk populations (MARPs) experiencing food insecurity. Many of the livelihood activity activities that have been developed focus on improving farming methods to increase self-sufficiency, but programs are also required for urban populations or targeted MARPs to ensure sustainable livelihood and food security in the face of HIV. These programs are time-limited, with exit depending on a reassessment of the household's socioeconomic status or on the completion of some activity (e.g., school, a specific training program, or a work program). In areas with testing and treatment programs and food insecurity that is either generalized or MARP-specific, both sets of programs may run alongside one another and must be coordinated at policy and program levels.

The program activities presented in Tables 1, 2, and 3 are associated with different cost models (Tool #5, Tables 4, 5, and 6) and performance monitoring or M&E indicators (Tool #6, Tables 7, 8, and 9).

Table 1: Nutrition Care and Support in the Context of PMTCT ◆

Objectives: 1. To maintain or reestablish adequate nutritional status for pregnant women and support uptake and adherence for PMTCT treatment					
Activity	Target population	Selection criteria	Location of service	Service provider responsible	Core requirements in addition to: 1) Policy guidance 2) Standard operating procedures 3) Staff training 4) Basic M&E system
What?	*To whom?*	*How identified?*	*Where?*	*By whom?*	
Patient awareness of infant and young child feeding (IYCF) and Integrated Management of Acute Malnutrition (IM-AM)	Pregnant and lactating HIV-positive women	All patients	- Health facility - Community	- Health workers - Lay counselors - Community workers	• Integrated with other support services at facilities or in the community • Scales, height board, BMI chart, mid-upper arm circumference (MUAC) tape for assessment • Other methods of nutritional assessment: biochemical, clinical, dietary
Nutrition assessment and counseling		All patients	- Health facility - Community	- Health workers - Lay counselors (with facility staff) - Community workers	
Individual rations	Malnourished pregnant and lactating women	Anthropometric criteria	- Health facility - Community	- Health workers - Lay counselors (with facility staff) - Community workers	In addition to the above: • Specialized commodities & supplements (incl. information, education, and communication materials) • Commodity storage facilities at health facilities or in the community • Logistics information system tracking purchase, transport, storage, and distribution
Complementary foods	HIV-exposed children ages 6–24 months	All HIV-exposed children 6–24 months old	- Health facility - Community	- Health workers - Community workers	
Micronutrient supplements (e.g., iron, folate)	Pregnant and breastfeeding HIV-infected women.	Biochemical assessments (or policy guidance)	- Health facility - Community	- Health workers	In addition to the above: • Micronutrient-testing laboratories
Complementary household support	Client households	Household food-security assessment	- Health facility - Community - Social welfare institutions	- Social workers - Lay counselors - Community workers	In addition to the above (excluding laboratories): • Enhanced patient-tracking and referral system to coordinate community and facility-based activities

Table 2: Nutrition care and support for individual patients

Objectives:

1. To reduce the likelihood of primary progressive TB or the activation of latent TB in PLHIV
2. To maintain or reestablish nutritional status of PLHIV patients to delay disease progression
3. To ensure nutritional recovery and contribute to treatment uptake and success

Activity *What?*	Target population *To whom?*	Selection criteria *How identified?*	Location of service *Where?*	Service provider responsible *By whom?*	Core requirements in addition to: 1) Policy guidance 2) Standard operating procedures 3) Staff training 4) Basic M&E system
Nutrition assessment and counseling	PLHIV and TB patients	All patients	- Health facility - Community	- Health workers - Lay counselors - Community workers	• Integrated with other support services at facilities or in the community • Scales, height board, BMI chart, MUAC tape
Individual rations	Malnourished PLHIV and TB patients	Anthropometric measures	- Health facility - Community	- Health workers - Community workers	In addition to the above: • Specialized commodities and supplements • Commodity storage facilities at health facilities or in the community • Logistics information system tracking purchases, transport, storage, and distribution • Micronutrient testing facilities
Complementary food supplements	Recovered and malnourished PLHIV pre-ART and TB patients	Biochemical assessments (or policy guidance)			
Micronutrient supplements	PLHIV and TB patients				
Complementary household support	Client households	Household food-security assessment available only to clients eligible on anthropometric measures	- Health facility - Community - Social welfare institutions	- Social workers - Lay counselors - Community workers	In addition to the above: • Enhanced patient tracking and referral system to coordinate community and facility-based activities

Table 3: Food Security through Impact Mitigation and Livelihood Promotion

Objectives:
1) To mitigate the effect of HIV and/or active TB on households and OVC
2) To enable PLHIV and those affected by HIV to engage in sustainable livelihood activities

Activity	Target population	Selection criteria	Location of service	Service provider responsible	Core requirements in addition to: 1) Policy guidance 2) Standard operating procedures 3) Staff training 4) Basic M&E system
What?	*To whom?*	*How identified?*	*Where?*	*By whom?*	
Temporary household cash, vouchers, or food support for households caring for chronically ill persons	Households of PMTCT and ART clients	See Tables 1 and 2			
	HIV- and TB-affected households	Household food-security assessment	- Community	- Community workers	• Logistics information system tracking purchases, transport, storage, and distribution • Community-based storage and distribution system
Food assistance to OVC	OVC	Children identified where they live and when attending educational facilities	- Community - Social assistance institutions - Education and care facilities	- Community workers - Social workers - Education /care center staff	• Logistics information system tracking purchases, transport, storage, and distribution • Storage and distribution system for the education provider at its site
Livelihood activities in the education system	OVC	Children attending educational facilities	Community-based education settings	- Health workers - Lay counselors - Community workers	• Farming inputs • Training of trainers • Training for OVC
Employment, assets, and skills-creation for HIV- and TB-affected households	Able-bodied members of households with PLHIV	Household food-security assessment	- Community - Social assistance institutions	- Community workers - Social workers - Agricultural extension workers	• Equipment: Construction materials, farming and livestock tools, seeds, fertilizers, livestock • Inputs for income-generation and microcredit activities • Training for PLHIV or family members in their households • Linkages to facility- and community-based services to ensure continuity

Tool #5: Budgeting of Food and Nutrition Programs

Target Group: 1) Applicants advocating for food and nutrition programs in Global Fund proposals

2) Global Fund writing teams

Purpose: To outline the budgeting process for Global Fund proposals and list issues that need to be addressed in budgeting each program activity

Key messages: 1) Budgets must be consistent with the proposal and performance framework, must be detailed and accurate, and must reflect a realistic rate of grant implementation. Poorly prepared budgets and budgets that are inconsistent with the proposal and performance framework are among the commonest weaknesses in Global Fund proposals.

2) Budgeting is time-consuming; begin as early as you can. The process of budgeting also helps to make activity planning more focused.

3) All assumptions must be clearly documented and detailed workings must be available to allow the budget to be translated into the format used by the Global Fund.

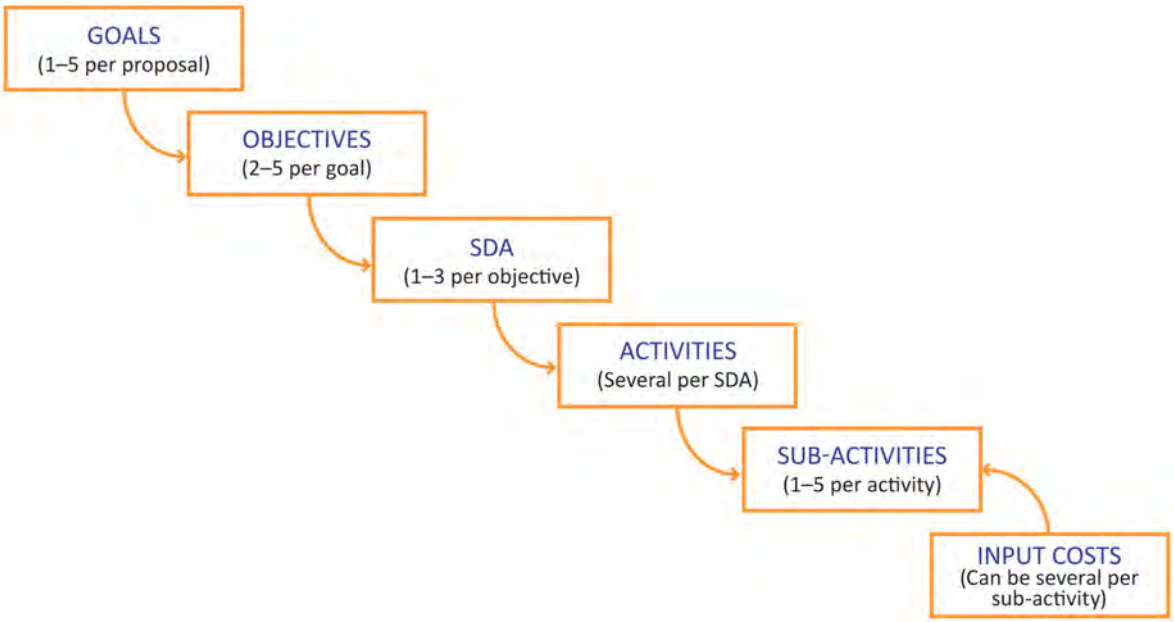
The Global Fund will not commit funds without detailed budget items and clear justifications for them, and will pay only an amount it deems reasonable in each case.[81] In determining the reasonableness of individual budget lines and the total budget, the Global Fund takes into account a number of attributes. These include but are not limited to the following: arithmetic accuracy; consistency with the proposal and the performance framework, including consistency with programmatic targets for each time period; clearly identified and reasonable quantities and unit costs; and a realistic rate of grant implementation.

The TRP identified five common weaknesses in Round 10 applications including two relating to budget: 1) inconsistencies between the logical framework of the proposal, the budget, and indicators; and 2) inaccurate, questionable, or insufficiently detailed budget information.[82]

Overview of Global Fund Budget Requirements

The logical framework of a Global Fund application is shown in Figure 6. The goals, objectives, SDAs, and activities are defined in the text of the application. Subactivities are usually only defined in the budget, and each of these generates a unique planning element number (for example, “1.2.2.4.6” refers to subactivity 6, activity 4, SDA 2, objective 2, and goal 1). More simplified structures are possible—for example, the whole proposal could have one goal and one objective per SDA. Planning elements can be summed to calculate costs of each activity, SDA, objective, or goal.

Figure 6: WHO Hierarchy of Global Fund Planning Elements[83]



Each input cost element is created as a multiple of a unit cost. For example, a unit cost could be created for one training program on NAC, to cover the cost of training 20 staff. Ten such training programs may be required in the southern region in Year 1 (at a cost of 10 x unit cost), and 20 in the northern region in Year 2 (at 20 x unit cost). Each unit cost calculation must be fully detailed. These calculations are usually harmonized within and between program areas by one or more Global Fund budget experts on the writing team.

WHO has developed an Excel-based tool that assists in producing budgets for a Global Fund application.[83] This tool produces a detailed budget and workplan that follows the structure of the Global Fund logical framework, reducing the risk of inconsistency between the proposal and the budget. Food and nutrition advocates do not need to master this tool; this responsibility is usually assigned to someone on the writing team appointed by the CCM.

Nonetheless, applicants submitting proposals to CCM for inclusion in a Global Fund application need to make the work of the writing team as simple as possible by preparing their budgets appropriately. The budget needs to specify the sources of data as well as the assumptions on which the all cost-estimates are based, which the writing team needs to understand and document. Costs can be calculated for the application year, as standard factors are used to adjust for annual inflation across the entire proposal budget. If the food and nutrition component has been budgeted in a previous Global Fund round, the standard cost elements from the earlier applications should be used.

In Round 11, countries can apply for funding for up to 5 years, and are required to provide a detailed workplan showing all activities (including no cost activities) planned for the first 3 years.[81] The workplan has to be budgeted quarter-by-quarter over the first 3 years, but only yearly thereafter. Applicants submitting proposals to CCM should prepare their workplans and budgets to match these requirements.

Standard Costs

The Global Fund budgeting guidelines for Round 11 specifically address the issue of standard costs:

> "Food supplement schemes, such as Food Care Packages, where possible, should follow recognized feeding regimes and pricing, such as those provided by the World Food Program, adjusted to local contexts and conditions. Standard contents for the packages to be provided should be developed and approved by appropriate experts. The contents should be costed at the lowest possible price, which meets the required standards. Benchmarking to standard pricing of specialized agencies for basic food packages is strongly recommended."[81]

A recent assessment of WFP programs in 42 low- and middle-income countries has estimated standard costs for the provision of food rations.[84] The estimates relate to the cost of these services provided by WFP rather than governments. They also relate to mature programs, so do not include start-up costs. Nevertheless, the cost estimates provide a broad indication of the range of costs of food ration programs:

- The cost per client per day ranges from $US0.43 for OVC to $US0.83 for PMTCT programs, and costs of $US 0.70 for food support for ART and TB patients. The rations provided at this price cover 80–85 percent of the daily caloric requirements for each client type. This is a standard ration for households and reduces the likelihood that the patient ration will be shared.

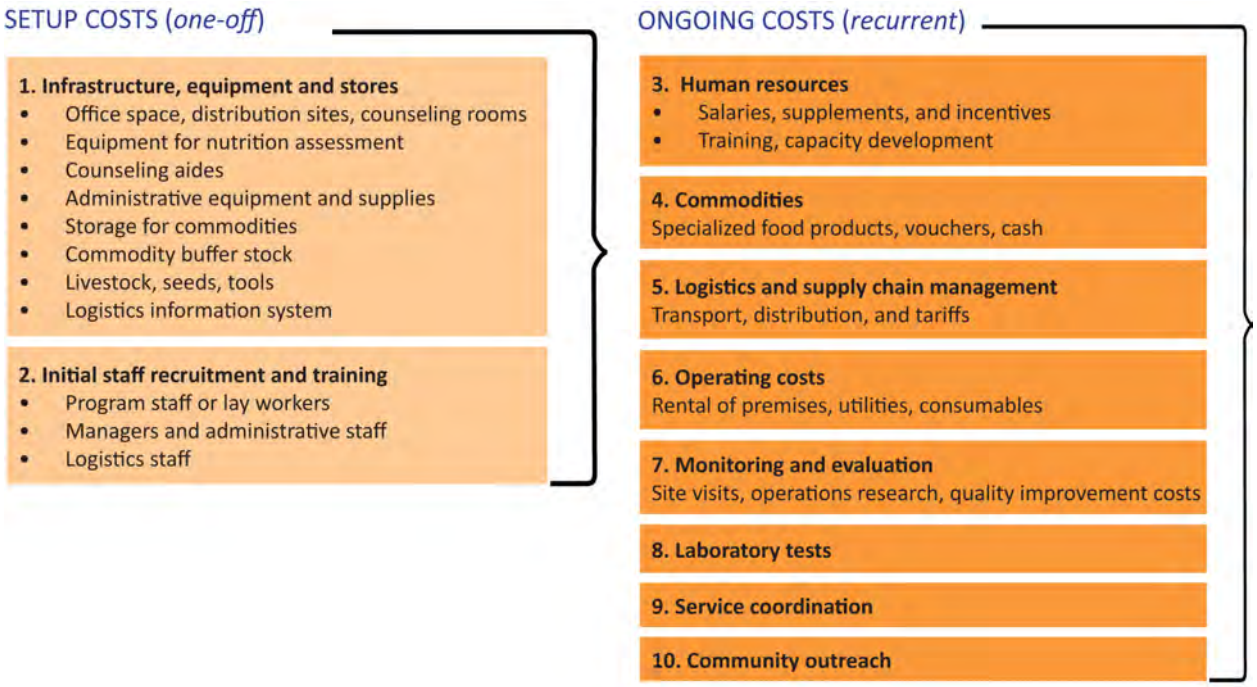
- A breakdown of cost components shows that the food makes up about 55 percent of the total program costs, while logistics costs (transport, storage, handling, and tariffs) make up about 30 percent. The remainder is shared roughly equally between other direct costs (such as human resources and training) and central office overheads. (A standard 7 percent is charged by WFP programs).

Applicants could compare their budget estimates against the figures in this report. If there are marked differences in either total cost per client per day or in the composition of costs, applicants should consider the possible reasons for the differences (e.g., use of RUF rather than daily rations, including FBF). They should then assess whether their budgets require revision. Similar standard cost data is not currently available on the costs of education and counseling services.

Overview of Cost Elements

Tables 4, 5, and 6 list cost elements that may be needed for the implementation of each of the program activities specified in Tables 1, 2, and 3. The columns of the cost tables relate to individual cost elements; an 'X' in a column indicates that that cost element may need to be included in the program budget. As shown in Figure 7, the columns are categorized as set-up or operational costs. They are further subclassified into a series of cost components described in more detail in the text that follows.

Figure 7: Food and Nutrition Cost Elements for Inclusion in Global Fund Budgets



Setup Costs: Infrastructure, Equipment, and Stores

Office space, distribution sites, and counseling rooms: This cost element is included if premises need to be built or renovated for the program to operate. The Global Fund can consider one-off capital contributions where it is essential for program operation, but the fund is not intended as a large-scale provider of capital-intensive infrastructure. Other funding sources, including international development banks, should be considered for capital components, as the Global Fund is one of the few sources willing to fund recurrent costs.

If capital costs are requested as part of a Global Fund application, a standard cost should be calculated across the program (i.e., a standard cost for each counseling room built or renovated). If infrastructure costs are a significant part of the amount requested, a detailed justification is required. The capital costs of establishing laboratory facilities are not likely to be funded solely for the purpose of the limited testing required for food and nutrition services. Any infrastructure costs will require a detailed justification that shows it is essential to implementation.

Equipment for nutrition assessment: The basic equipment for nutritional assessment includes:

- Scales for adults and/or infants
- Height boards for children and adults and length boards for infants
- MUAC tapes for children and/or adults
- BMI, weight-for-height, and MUAC charts

Several of each of these items may be required in large clinics. Equipment of this kind may also be required by community workers responsible for anthropometric assessments.

Counseling aides: Services that offer counseling will require adequate numbers of job aides for education and counseling, such as flip charts, pamphlets, counseling cards, charts, and posters in waiting areas. Quantities should be carefully calculated and costs justified.

Administrative equipment and supplies: This cost element includes equipment and supplies (such as stationery) needed for efficient program management and for reporting M&E indicators (including registers or computers, if these are not already available). This section can also include the cost of enhancing manual or electronic patient information systems for M&E.

Storage for commodities: Many food and nutrition program activities require storage of general foods, micronutrients, and/or therapeutic foods. Capital costs can be included to build or renovate safe, secure storage facilities that reduce the risk of commodity wastage or loss.

Commodity buffer stock: There is a one-off cost associated with establishing a buffer stock of commodities at program commencement. Thereafter, commodities are purchased through recurrent funding sources. Central purchasing of commodities reduces costs and ensures that purchasing staff are familiar with Global Fund procurement procedures.

Livestock, seeds, tools: Livelihood programs can require a one-off purchase of livestock, seeds, tools, and inputs such as fertilizers to support subsistence farming or assist program recipients to establish income-generating small businesses. A detailed rationale is required for the quantities required, and unit costs must be justified against local norms.

Logistics information system: Programs that manage commodities require a system for tracking incoming and outgoing quantities so stock is maintained at appropriate levels and outages and wastage prevented. If existing infrastructure is insufficient, a computer may need to be purchased for the program.

Setup Costs: Initial Staff Recruitment and Training

Employee recruitment costs can be includes in budgets of Global Fund proposals. All staff training requires detailed budgets that cover the costs of the venue, teaching staff, travel, and subsistence for attendees.

Program staff or lay workers: Program staff, based at a health facility or in the community, can include health workers, community workers, or lay staff acting in a voluntary capacity. Staff in institutions or community-based education facilities may also require training to fulfill their roles as providers of food or livelihood programs for OVC. A comprehensive plan is required to ensure that all staff involved in the program receive initial training. Wherever possible, training for health workers should be integrated with routine training to ensure that the food and nutrition program is incorporated into routine health facility workflows.

Managers and administrative staff: Managers and administrative staff should be trained to manage information systems to ensure consistent data collection, use, and reporting across sites. Managers need technical training in using this information to minimize commodity wastage and maximize client outcomes. This cost category must include training for staff at levels higher than service delivery (e.g., regional and national staff). These staff may need to attend international training or undertake study tours to countries with long experience implementing relevant programs. Alternately, on-the-job training can be provided by consultants engaged for the purpose.

Logistics staff: Training for staff involved in receipt, storage, and distribution of commodities is essential to effective commodity management. Commodity loss or wastage is potentially a major component of commodity costs, and procedures must be closely followed if the logistics information system is to work.

Ongoing Costs

Human resources—Salaries, salary supplements, and incentives: The Global Fund can pay salaries of newly established positions at national, regional, or service delivery levels. Some positions may be temporary—for example, national and regional staff may be required on a temporary basis to update the existing M&E system. Salary supplements can be paid to staff who must take on expanded roles to implement a program, and incentive payments can be made to volunteers, lay staff, or established staff to undertake specific activities.

In Global Fund applications, the level of these payments should be consistent across different programs and in line with national norms. Salary supplements and incentive payments will require detailed justification that demonstrates that the payments are essential for program implementation. Where salary supplements or incentives are proposed, their purpose should be identified (e.g., motivation for additional effort or retention of staff), and the sustainability of these payments after the end of the grant should be addressed.[85] This is now an area of particular concern, following a recent Global Fund review in several countries.[86]

Identifying and justifying staffing requests is one of the most important elements of the budget. Client flow maps (such as the one shown in Figure 9) can help to define the categories of staff required, and their numbers can be determined by estimating the number of clients.

Program activities must be built around the expertise available. For example, a country lacking sufficient trained nutritionists must identify what category of staff can be trained to perform assessment, education, and counseling. In the same way that flow maps can help to define staffing requirements at service delivery levels, organizational diagrams and program management procedures can reveal staffing requirements at higher levels (e.g., the need for additional staff to coordinate or facilitate quality improvement (QI) activities, if current staff cannot be assigned to these roles).

Human resources—Training updates and capacity development: Ongoing training and retraining will always be needed to cover staff turnover and address the program's evolution over time. The principles applied when budgeting for initial training remain relevant. Decisions on the frequency of training must be based on the estimated rate of staff turnover and the changing needs of the program. All staff training requires detailed budgets that cover the cost of the training venue, teaching staff, travel, and subsistence for attendees.

Commodities: This is the principal cost element of programs that provide food support, so must be carefully calculated. A costing recently undertaken in Ghana to estimate the quantities and costs of RUTF and CSB commodities for clinic-based services included the following elements:

- The estimated number of ART and pre-ART clients
- The proportion of clients who are children, PMTCT clients, and non-PMTCT adults, as the type and quantity of the daily ration required varies for each of these groups
- The estimated proportion of PLHIV who are severely and moderately malnourished in each client category and the proportion of each these groups who are expected to access treatment
- The type and quantity of ration for each patient group

- The average duration of treatment

Where detailed data are not available, this information can be estimated, with assumptions documented. The rapid analysis undertaken in Tool #3 should target providing information relevant to these calculations. Estimated rates of malnutrition are central to these estimates. So are estimates of product spoilage rates, since these affect the total commodity requirement.

Food and nutrition programs of other types will require manual calculation of commodity costs, but the logic of the calculation is the same: number of clients, multiplied by average number of days per client, multiplied by the cost of the daily ration. International support agencies can provide useful technical guidance and help ensure that budgeting for commodities is rational and comprehensive.

Programs distributing cash, vouchers, and/or food as compensation for work or training need the funds to distribute or purchase vouchers or food. They also need to maintain excellent information systems to track clients' participation and calculate the program's compensation obligations, and they need systems that support the efficient disbursement of these obligations.

Logistics and supply chain management: In addition to commodities, it is critical that all elements of the logistics chain are budgeted, including transport, handling, management, storage, packing, distribution, and monitoring. What is sometimes referred to as "stakeholder management" is included: tenders, identification, negotiation, coordination, and review of all stakeholders involved in the supply chain.

Operating costs: A standard cost model for operating costs should be developed for each program activity. Operating costs may include any of the following:

- Rental of premises for administration, service provision, or commodity storage
- The cost of utilities (such as power, water, and telephone)
- Consumables for administrative and programmatic purposes

Monitoring and evaluation: Ongoing costs of M&E should be included (see Tool #6). Global Fund should only be asked for the additional incremental costs of these activities. M&E costs may include data quality audits or other additional expenditures needed to maintain an efficient system. (These may be required more frequently in the early years, as staff become familiar with new indicators, but their frequency will be reduced as the program matures.)

Operations research: The costs of OR to improve program efficiency and effectiveness should also be included in the application, including funding for individual research projects and their infrastructure.

Quality improvement: There are numerous costs associated with a QI program. These include:

- Costs of visits to program sites by QI facilitation staff, at a frequency determined by policy and reduced over time
- Costs of regular conferences to provide program updates and share information across sites
- Costs of the unit that manages the QI program
- Costs of training staff at all levels in QI processes

Laboratory tests: The costs of relevant reagents for laboratory tests can be included, with careful estimations of the quantities required.

Service coordination: While services are provided in a variety of settings, it is essential that regular coordination meetings are held to ensure an efficient continuum of care within a region. Any costs associated with such meetings should be budgeted.

Community outreach: Community outreach costs can include all those associated with the promotion of available food and nutrition services.

Other Costs

Some generic program elements not listed in Tables 4, 5, and 6 include the following:

- Technical assistance, at any point from policy development through program evaluation
- Any activity aimed at increasing country capacity , such as international study tours
- Program evaluation (e.g., multi-indicator surveys) included under a separate SDA for program-wide M&E activities

Budgeting Examples

Annex A presents some simplified budgeting examples—one for ART clinic counseling and one for a community-based food program—that can help applicants start thinking about how to budget their food and nutrition costs. Applicants needing additional guidance should seek support from USAID, PEPFAR, or FANTA-2, or from their local WFP country or regional office by emailing WFP headquarters (HQ.PSN@wfp.org).

A detailed cost-calculator has recently been created for estimating the full costs of community-based SAM in children.[87] This calculator covers all major elements that determine costs for this type of activity, including scale (number of areas and clinics); epidemiological and related data; prices of commodities, salaries, and fixed costs; key information on the logistics system (e.g., distances and frequency of deliveries); and data on cost elements expected to change over time. The cost-calculator is accompanied by a detailed guide and includes a worked example (see http://www.fantaproject.org/publications/CMAM costing tool.shtml).

This cost-calculator cannot be used for other program activities, but is useful in demonstrating the range of elements that need to be considered. FANTA-2 is planning a similarly detailed cost-calculator for NACS, but it is unlikely to be available in time for Round 11.

Table 4: Nutrition Care and Support in the Context of PMTCT ◆

Activity	Establishment costs											Ongoing costs							
	Infrastructure, equipment, stores								Staff recruitment and initial training										
	Office space, distribution sites, counseling rooms	Equipment for nutritional assessment	Counseling aides	Administrative equipment and supplies	Storage for commodities	Commodity buffer stock	Livestock, seeds, tools	Logistics information system	Program staff or lay workers	Managers and administrative staff	Logistics staff	Human resources	Commodities	Logistics and supply chain management	Operating costs	M&E	Laboratory tests	Service coordination	Community outreach
Patient awareness of IYCF and IM-AM	X	X	X	X					X	X		X			X	X		X	X
Nutrition assessment and counseling	X	X	X	X					X	X		X			X	X		X	X
Individual rations	X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Micronutrient supplements (e.g., iron, folate)	X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Complementary foods	X		X	X	X	X		X	X	X	X	X	X	X	X	X		X	X
Complementary household support	X			X	X	X		X	X	X	X	X	X	X	X	X		X	X

Table 5: Nutrition Care and Support for Individual Patients

Activity	Establishment costs													Ongoing costs					
	Infrastructure, equipment, stores								Staff recruitment and initial training										
	Office space, distribution sites, counseling rooms	Equipment for nutritional assessment	Counseling aides	Administrative equipment and supplies	Storage for commodities	Commodity buffer stock	Livestock, seeds, tools	Logistics information system	Program staff or lay workers	Managers and administrative staff	Logistics staff	Human resources	Commodities	Logistics and supply chain management	Operating costs	Monitoring and evaluation	Laboratory tests	Service coordination	Community outreach
Nutrition assessment and counseling	X	X	X	X					X	X		X			X	X		X	X
Individual rations	X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Complementary food supplements	X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Micronutrient supplements	X		X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X
Complementary household support	X			X	X	X		X	X	X	X	X	X	X	X	X		X	X

Table 6: Food Security Through Impact Mitigation and Livelihood Promotion

Activity	Establishment costs											Ongoing costs							
	Infrastructure, equipment, stores								Staff recruitment and initial training*										
	Office space, distribution sites, counseling rooms	Equipment for nutritional assessment	Counseling aides	Administrative equipment and supplies	Storage for commodities	Commodity buffer stock	Livestock, seeds, tools	Logistics information system	Program staff or lay workers	Managers and administrative staff	Logistics staff	Human resources	Commodities	Logistics and supply chain management	Operating costs	Monitoring and evaluation	Laboratory tests	Service coordination	Community outreach
Temporary provision of cash, vouchers, or food support for households caring for chronically ill persons	If linked to PMTCT or care and treatment, see complementary household support in Tables 4 and 5																		
	X	X		X	X	X		X	X	X	X	X	X	X	X	X		X	X
Food assistance for OVC	X			X	X	X		X		X	X	X	X	X	X	X		X	X
Livelihood activities in the education system	X		X	X	X	X	X	X	X*	X	X*	X	X	X	X	X		X	X
Employment, assets, and skills creation for HIV- and TB-affected households	X		X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	X

* May relate to staff in the education system, rather than staff or lay workers directly employed by the program.

Tool #6: Monitoring and Evaluation

Target group: 1) Applicants advocating for food and nutrition programs in Global Fund proposals

2) Global Fund writing teams

Purpose: To provide an overview of the role of M&E, OR, and QI in Global Fund applications.

Key messages: 1) The Global Fund places high priority on M&E and suggests that 5-10 percent of the grant budget be allocated for this purpose.

2) No internationally agreed-upon set of food and nutrition indicators for HIV interventions currently exists. A proposed set is under review and is likely be finalized in late 2011. Some indicators from the proposed set are included in this tool.

3) OR focuses on providing high-quality evidence to guide important practical decisions in program design and implementation. The Global Fund considers OR to be an important part of M&E and assigns a high priority to it.

4) QI programs provide timely feedback to managers so they can monitor program performance, react quickly to changing conditions, and focus on continuously improving service provision. Funds requested for QI are not considered as part of the 5–10 percent recommended for M&E.

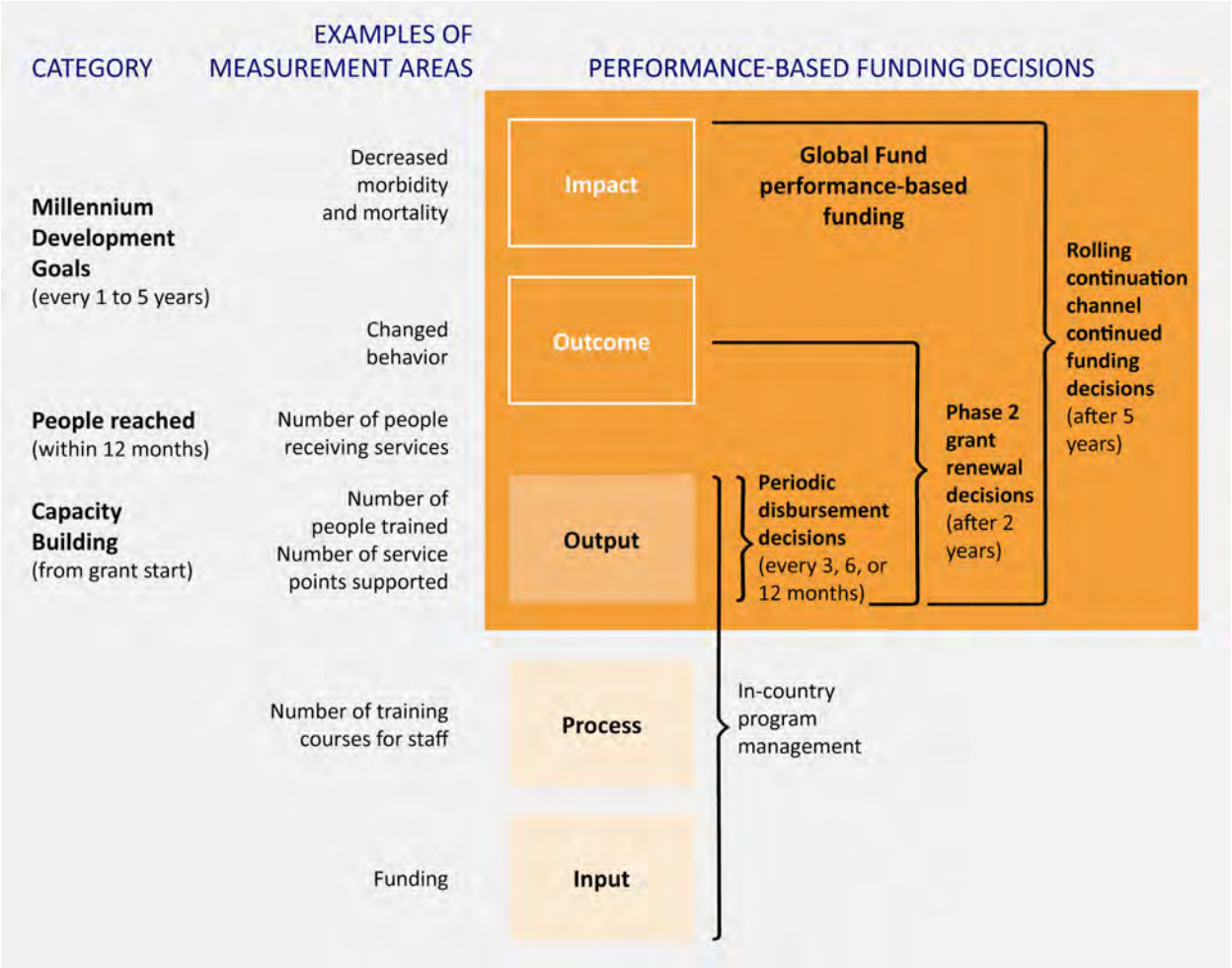
Monitoring and Evaluation

The Global Fund requires applicants to operate within a tight performance monitoring framework. Measuring performance through the use of appropriate indicators is key, not only to ensure that donor funds are provided where they will do the most good, but also to improve operational effectiveness and inform policy makers.

The initial review of the application scrutinizes the quality of the framework, and is a significant determinant of the decision whether or not to fund it. If funding is provided, the performance monitoring framework provides the basis for ongoing monitoring of the overall program. Achievement against indicators specified in the performance monitoring framework is assessed to make decisions about periodic disbursements (at 3, 6, or 12 months) during Phase I, as well as about Phase II funding during Years 3–5 of the grant (see Figure 8).

The quality of the performance monitoring framework specified in the initial application is a crucial element of the proposal. Each application must clearly specify one or more overarching goals, specific objectives that contribute to the achievement of the goals, and SDAs that specify the nature of the activities conducted to achieve the objectives. In Global Fund terminology, goals relate to the impact level, objectives correspond to the outcome level, and SDAs refer to outputs. This results framework must be both transparent and logical, and it must be used as the basis for a Global Fund performance monitoring framework by the addition of appropriate indicators.

Figure 8: Use of Indicators in Global Fund Performance-Based Funding[88]



As shown in Figure 8, input and process indicators are required solely for in-country program management; they are not used as part of Global Fund performance-based funding. The Global Fund recommends that a typical application contain no more than 2–5 impact or outcome indicators and up to 15 output indicators.[88] While every application has to include indicators at all three levels, it is important to understand that food and nutrition interventions should also contribute to goals (impact) and objectives (outcomes) that go beyond nutritional status; for example, the provision of food and nutritional support can contribute to the outcome "better adherence to treatment."

In summary then, it is essential that each program area has a comprehensive M&E plan that provides data relevant to the results framework and is appropriately funded in the application, if necessary, to support in-country program management. The overall M&E plan is a critical element of the proposal as a whole. The performance monitoring framework selects a subset of indicators from this plan and is used by the Global Fund to measure program performance and inform disbursement decisions.

The Global Fund provides a number of standard indicators and encourages applicants to use them. At the time of writing, there is no specific food and nutrition indicator in this list, although some existing indicators (for example TB-1.2.1, or HIV-CS3) include food and nutrition services as one of many support services.[88] There has been, however, a process underway since 2009 to harmonize M&E indicators for food and nutrition. While the process is not yet complete, a draft summary indicator set for PMTCT,

food and nutrition for individual patients, and food security is available. It is included in Tables 7, 8, and 9 below.

Managers may elect to use an indicator from these lists or may choose to use other indicators that better reflect their program. Once approved, the indicators in these tables will likely be endorsed by Global Fund, WHO, UNAIDS, and WFP and placed in the UNAIDS indicator registry. If a food and nutrition indicator is to be included for the performance management framework, it is recommended that an indicator from the nutrition care set should be considered.

Operations Research

The information provided by OR enables decision-makers to improve the performance of their programs.[79] The Global Fund considers OR to be part of M&E, which it recommends should be allocated 5-10 percent of the total grant budget.[80] In Round 10, Global Fund allocated additional funding for proposals that include OR elements as part of the overall strategy. Specific OR activities could include, for example, comparisons of food commodities or food assistance with cash transfers, since this information could lead to increased program efficiency and improved outcomes. In developing OR, rigorous protocols with clear outcome indicators are critical, as are sample sizes large enough to allow reliable conclusions to be reached.

The Global Fund was one of many agencies that contributed to developing the WHO-led framework for OR or implementation research (IR).[89] This framework notes that the research can be used to:

- identify and solve program problems in a timely manner
- help policy makers and program managers make evidence-based program decisions
- improve program quality and performance using scientifically valid methods
- help program managers and staff understand how their programs work

A formalized and systematic process for OR or IR is outlined in the framework.[89] In brief, it involves three phases: planning, implementation, and follow-through. The planning phase brings together key decision-makers and researchers to identify and prioritize important operational questions and a subset that is feasible to investigate. This is followed by the development of detailed research protocols. If the research entails ethical or safety issues, approvals must be sought from ethics committees. The implementation phase is concerned with overseeing the conduct of the research and bringing together stakeholders to assist with interpretation of the results. The follow-through phase includes disseminating results in line with a formal plan, documenting ensuing changes to policy and programs, and monitoring the results. The OR or IR framework could either be applied to food and nutrition activities on their own or to programs as broad as a national response to HIV or TB.

To cite a simple and single example, consider a single OR proposal focused on food and nutrition. A meeting brings together relevant decision-makers—nutrition experts, a manager of an ART program, research experts from the MOH, local universities, and the U.S. Centers for Disease Control and Prevention. They choose to address the need for OR that focuses on the best way to provide food and nutrition counseling as part of ART. Because there are no clinic-level nutritionists, counselors will need to be trained, either drawn from the nursing staff or a pool of peer-counselors attached to PLHIV support groups.

Table 7: Nutrition Care and Support in the Context of PMTCT ◆

Indicator level	Name and definition
Impact	**Twelve-month infant HIV-free survival**: The percentage of infants born to HIV-positive women in PMTCT programs who are alive at 12 months of age and HIV-negative.
Outcome	**1. Maternal nutritional status at postnatal care:** The number and percentage of HIV-positive women who have a MUAC of less than 22 cm at first postnatal visit.
	2. Infant nutritional status: The number and percentage of HIV-exposed infants who have a weight-for-height z-score (WHZ) < −2 at 12 months of age.
	3. Infant feeding: This indicator measures three percentages relating to HIV-exposed infants at 3 months of age: 1) the percentage who are exclusively breastfeeding; 2) the percentage who are replacement feeding; and 3) the percentage who are mixed feeding.

Table 8: Nutrition Care and Support for Individual Patients ●

Indicator level	Name and definition
Impact	**Undernutrition in PLHIV**: The number and proportion of PLHIV in care and treatment identified as undernourished at any point during the reporting period.
Output	**1. Nutrition assessment for PLHIV:** The number and proportion of PLHIV in care and treatment nutritionally assessed during the reporting period.
	2. Nutrition counseling for PLHIV: The number and proportion of PLHIV in care and treatment nutritionally assessed with anthropometric measurement who received nutrition counseling at any point during the reporting period.
	3. Provision of therapeutic or supplementary food to undernourished PLHIV: The number and proportion of undernourished PLHIV who received therapeutic or supplementary food at any point during the reporting period.

Table 9: Food Security Through Impact Mitigation and Livelihood Promotion ■

Indicator level	Name and definition
Impact	**Food security of PLHIV**: The number and proportion of PLHIV receiving care and treatment services whose households have poor access to food based on the Household Hunger Scale.
Outcome	**1. Per capita household expenditures in HIV-affected households:** The percentage change in average per capita household expenditures among HIV-affected households.
	2. Percentage of total expenditures spent on food in HIV-affected households: The average percentage of total household expenditures spent on food in HIV-affected households.
Output	**1. Referral to food security services**: The number and percentage of HIV care and treatment clients vulnerable to food insecurity who are referred from clinical facilities to food security services.
	2. Receipt of food security services: The number and percentage of HIV-affected households who receive food security services.
	3. Referral from food security services to HIV clinical services: The number and percentage of clients receiving food security services who are referred to HIV clinical services.

Both these options have risks, benefits, and costs. Nurses may be easier to train and may provide a technically superior consultation and one better integrated with other aspects of clinical care. However, nurses are already in short supply, so have less time for consultations. Peer-counselors may be able to spend more time with clinic clients, and their better understanding of clients' circumstances may improve the support they can provide. These lay counselors will require additional training, but they may still lack the technical knowledge to provide counseling for complex cases.

In light of these factors, a number of overlapping OR questions could be asked: 1) Do the two service models lead to different outcomes, such as smaller and larger proportions of malnourished clients? 2) What are the relative costs of the two models? 3) How do patients, staff, and managers experience the two models, based on individual interviews and focus groups?

Quality Improvement

QI can be defined as a systematic approach to assessing, monitoring, and improving the quality of health services on a continuous basis.[90] It is an essential element of all programs, including food and nutrition activities for PLHIV and people with TB. If there is an existing QI program, the task of food and nutrition advocates is to ensure that the new activities are incorporated into it.

Providing the best quality of care possible relies on the adoption of evidence-informed policy, standards, and protocols. Implementing these evidence-informed activities always requires adaptation to overcome barriers in local settings. Traditional QI methods relied exclusively on tools, such as training and supervision. Modern methods use these same tools, but have shifted from didactic methods to joint problem-solving approaches. Current QI methodology places a much greater focus on teamwork, process analysis, monitoring and learning, and client satisfaction.[90, 91] Box 7 lists common elements of QI programs identified by a recent review of different QI models.

A formal QI structure, standardized across many services providers, creates opportunities for shared learning. Among them are regular conferences of service providers that aim to accelerate the diffusion of innovation. This kind of continuous monitoring and refinement of service

Box 7: Common Elements in QI Models

A number of different QI models are currently in use. This tool focuses on one developed by the Improvement Collaborative. A recent review identified the following common elements for QI models:[92]

1. *Standards* specific to the particular set of health services addressed by the model
2. *Organizational drivers* (persons, teams, and/or organizations) that facilitate and support the QI process
3. *A situation analysis to* identify differences between the standards and actual practices
4. *Specific aims* that provide a coherent focus for the QI effort
5. *Identification and selection of interventions* that can narrow the performance gap
6. *Implementation*, usually with a deliberate set of steps, to close the performance gap
7. *Monitoring and documenting of results* to track performance over time and achievement of aims
8. *Community involvement*, where important to effective service provision
9. *Incentives,* sometimes included to inspire providers to change and sustain behaviors
10. *A scale-up plan,* after an intervention is shown to have improved performance
11. *A sustainability plan*, developed to institutionalize the scaled-up system

provision, using QI's participative methods, should lead to improved client outcomes and enhanced client and staff satisfaction.

Where food and nutrition programs have been newly introduced, QI begins with an assessment of baseline performance. While priority can be given to ensuring that poorly performing sites are complying with minimum standards, the goal of QI programs is to encourage all services—from weakest to strongest—to focus on continuously improving the quality of services being provided. At this stage of implementation, QI activities may be superficially similar to traditional supervision processes; checklists are used systematically to assess compliance with standards.

Annex B provides a sample checklist for nutrition assessment, education, and counseling programs. The fact that it is designed for self-assessment is an indication that the process is trying to tap different resources to affect change. External supervision at this stage of service delivery can be conceptualized as on-the-job training. It is designed to supplement a workshop-based training program, providing clarification and adapting to local circumstances. External supervision in a more mature program is a process of facilitating local problem solving.

Annex C presents examples of possible QI focus areas for food and nutrition activities. Indicators will change from time to time as the program matures but should be measurable and, wherever possible, integrated into the M&E framework for food and nutrition activities. When indicators used at the national level are relevant at the service delivery level, this increases the likelihood that service delivery sites will provide accurate data. The M&E plan should define methods of data collection.

Questions about the status of premises can be assessed through a checklist completed during a supervisory facilitation visit (see Annex B). Mapping patient flow is a useful method for understanding how a service is provided. A client flow map schematically depicts a client's steps through a facility or a service delivery process. This is a very important process in service planning. It should be specified as part of the standard operating procedures for any service model, as it systematizes treatment to ensure that no client who requires a service is missed. A client flow map can be enhanced by estimating the time spent by the client in each of the stages of the flow. These maps can help to identify systemic inefficiencies at local levels, which may be addressed by reconfiguring processes or flows to avoid duplication or task-shifting or re-skilling to reduce bottlenecks.

Figure 9 shows a sample flow diagram for ART clients attending an outpatient clinic and issues that might be considered to reduce waiting times, which are not only a source of annoyance for patients but a barrier to treatment compliance. (This diagram is kept simple for the sake of clarity; a more realistic clinic flow that focuses on nutrition counseling for clinic patients is seen in Annex D). In Figure 9, the waiting time to see the nutritionist is longer than other waiting times at the clinic, suggesting that the current resource distribution may not be ideal. In addition to mapping client flows and measuring the time taken at each step, it is important that clients are interviewed to explore their experiences and invite their suggestions for improving the process of care.

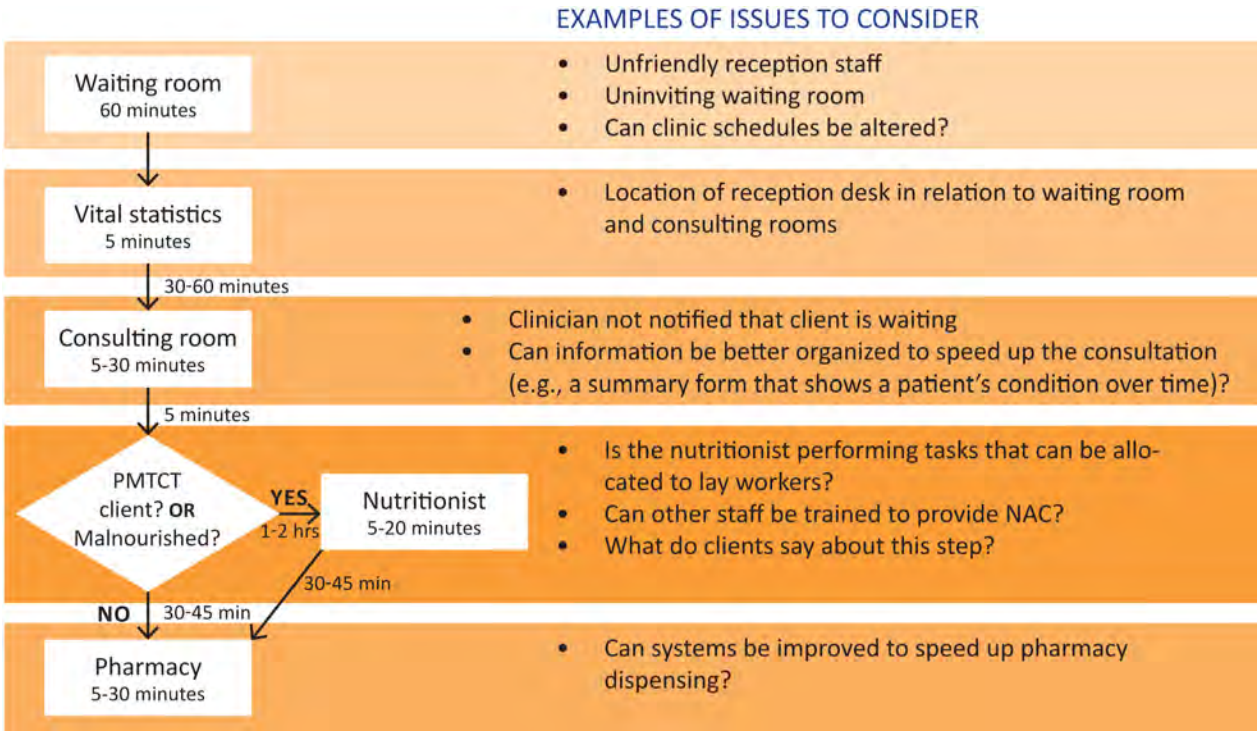
The successful implementation of QI processes across a program or technical area is more likely when the following elements are in place:

- Clear policies, guidelines, and standards against which services can assess their performance and a systematic process for reviewing these instruments in light of QI experiences
- A monitoring system that provides site managers with timely feedback on key elements of system performance at their sites (ideally, using data derived from regular assessments of client satisfaction)

- Clear policy on the frequency of internal QI processes (e.g., quarterly) and their frequency with external facilitation (e.g., six monthly or annually)
- An administrative unit with responsibility for establishing QI policy across multiple program areas and managing a monitoring system that aggregates information from regular QI processes to inform managers at higher levels about the trajectory of program QI
- A strategy for sharing information and accelerated diffusion of innovations through the service delivery network

Global Fund applicants should consider which of these elements require budget line items and include them in their budgets for the relevant programs. Again, it is important to note that Global Fund does not specify QI activities as part of the 5–10 percent of grant budget allocated to M&E activities.

Figure 9: Sample Client Flow Diagram for Assessment, Education, and Counseling in an Outpatient Clinic



Annex A: Budgeting Example

Information in this annex is only provided as an example. Local contexts, priorities, and costs will differ. Those designing a program for their country need to review the gap analysis and program activities tools.

A country applying to Global Fund Round 11 for support for its HIV program decides to incorporate a food nutrition component. After considering evidence of need and existing programs and infrastructure, the CCM identifies two food and nutrition activities to be included:

- Nutritional counseling for all malnourished PLHIV
- Nutritional support for all severely malnourished PLHIV

The CCM asked the nutrition department in the ministry of health (MOH) to convene a nutrition team to develop the program, workplan, and budget. As discussed in Tool #5, applicants need to include a workplan that breaks down activities and costs—on a quarterly basis for the first 3 years and annually thereafter.

These examples are only budgeted annually, in the interest of simplicity, and further simplified by ignoring the critical issue of a feasible timetable for scale-up. Examples are written as if the whole program will be implemented from the first day. In reality, roll-out will necessarily be limited in Year 1, as staff are employed, materials developed, and practical problems of implementation solved. Roll-out will scale up in the second and third years, and real budgets need to reflect this.

Budget summary tables below are all estimated as current day costs, with no allowance for inflation. The writing team will calculate standard inflation factors to apply to the budget as a whole. The average unit costs used each need to be supported by detailed workings, including assumptions, and with individual items (e.g., per diems) justified in line with national standards.

Nutritional Counseling for All Malnourished PLHIV

The clinics already have suitable rooms that can be made available for counseling. The core cost elements are: 1) training of health staff to provide counseling and 2) materials to support food and nutrition counseling.

Training of Health Staff

For each of 80 districts, it was decided that 10 nurses (2 per clinic) would be trained in three-day workshops every 2 years. Training workshops would be held in regional centers covering four districts at a time, so 20 workshops would be required for each round of training. Trainings will be hosted in MOH-owned facilities.

	Measurement unit	Unit costs	Quantity	Assumptions	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Per diem, facilitators	Cost per facilitator per day	50	60	20 regional trainings with 1 facilitator for 3 days	3,000	–	3,000	–	3,000	9,000
Transport, facilitators	Cost per facilitator per workshop	100	20	Facilitators (from capital) need to travel into regions	2,000	–	2,000	–	2,000	6,000
Per diem, participants	Cost per participant per day	50	2,400	10 participants from each of the 80 districts for 3 days	120,000	–	120,000	–	120,000	360,000
Transport, participants	Cost per participant per workshop	50	800	Participant travel to regional training site (from district)	40,000	–	40,000	–	40,000	120,000
Coffee break	Cost per facilitator and participant per coffee break	2	4,920	2 coffee breaks per day for 3 days (820 facilitators and participants)	9,840	–	9,840	–	9,840	29,520
Lunch	Cost per facilitator and participant per lunch	5	2,460	1 lunch per day for 3 days (820 facilitators and participants)	12,300	–	12,300	–	12,300	36,900
Manual	Cost per participant	7	800	1 training manual per participant	5,600	–	5,600	–	5,600	16,800
				Total	192,740	–	192,740	–	192,740	578,220

Materials to Support Food and Nutrition Counseling

Based on data from the gap analysis, the nutrition team estimated that each of the 400 health facilities (5 per district) would expect an average of four malnourished clients for nutritional counseling per day, with clinics open about 260 days per year. Health facilities should be able to provide each client with a pamphlet and should have posters for display. Nutrition counseling aides are already available and will be funded by the MOH.

	Measurement unit	Unit costs	Quantity	Assumptions	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Pamphlets	Per pamphlet	0.05	416,000	Four clients per day (260 days per year) in each of the 400 health facilities receives 1 pamphlet	20,800	20,800	20,800	20,800	20,800	104,000
Posters	Per poster	0.50	4,000	10 posters per health facility (400)	2,000	2,000	2,000	2,000	2,000	10,000
				Total	22,800	22,800	22,800	22,800	22,800	114,000

Nutritional Support for Severely Malnourished PLHIV

The two major components of food support programs are: 1) the cost of food products and 2) handling and transport of food products to health facilities. Other costs will be absorbed by the MOH and are not included. The country is seeking support from the Global Fund for food support to treat severe malnutrition; other donors will be approached to provide food support for moderately malnourished patients.

Procurement of Food Products

According to the national projections and estimates, the country has 300,000 PHLIV, among whom 200,000 are actively in care in HIV programs (either on ART or pre-ART). Of those in care and treatment, 40,000 are children. A recent study of malnutrition rates in HIV clinics found that 2 percent of ART and pre-ART clients were severely malnourished and 20 percent were moderately malnourished.

The country has decided to provide therapeutic foods to *severely* malnourished ART and pre-ART patients. For adults, the daily food ration will consist of ready-to-use therapeutic food (RUTF) (184 g Plumpy'nut®) and a fortified blended flour (300g CSB) to cover 80–85 percent of total kcal required. For children, the daily food rations will consist solely of RUTF—dependent on weight of the child and an average of 276g Plumpy'nut®—to meet 100 percent of the total kcal required. Food support with therapeutic food is provided for an average of 90 days. For simplicity, the calculations in the example do not account for food wastage.

Note that the treatment options used in this example are not going to be appropriate in every country. Each country needs to go through the process of identifying local needs and planning priorities for their target population that reflect the existing infrastructure. In addition, some countries may choose to add rations for other household members to reduce the likelihood that the patient's ration will be shared.

	Measurement unit	Unit costs	Quantity	Assumptions	Year 1	Year 2	Year 3	Year 4	Year 5	Total
Child food ration	Food ration (daily)	1.11	72,000	2% of 40,000 HIV-positive children are severely malnourished and in need of food support for an average of 90 days	79,920	79,920	79,920	79,920	79,920	399,600
Adult food ration	Food ration (daily)	1.10	288,000	2% of 160,000 HIV-positive adults are severely malnourished and in need of food support for an average of 90 days	316,800	316,800	316,800	316,800	316,800	1,584,000
Procurement	Percentage	3%	–	Procurement is handled by procurement agent, who charges 3% of order value (for tender, order handling, etc.)	11,902	11,902	11,902	11,902	11,902	59,510
				Total	408,622	408,622	408,622	408,622	408,622	2,043,110

While the country in this example will not be applying to the Global Fund for funding to provide food support for moderately malnourished patients, it should be noted that some countries provide a simple ration of fortified, blended flour (for example, 300g/day for 90 days) for treating MAM in adults and children. Alternatively, a review of World Food Programme (WFP) costs in 42 countries found that the ration for this target group can comprise CSB, fortified maize, dried beans, and oil. The study found that the food cost of a model ration, which includes additional CSB for a household averaging five people, was about $0.36 per patient per day for 180 days.[84] These costs are averages over a large number of programs and can vary widely, according to individual country circumstances.

Handling and Transport of Food Products to Health Facilities

Food products are shipped to the capital, where they are received by the principal recipient (PR) responsible for the food and nutrition program. The ministry of finance has issued a tax and duty exemption, though inspection by the local food and drug administration is mandatory. After release of the products at the port, transport to district warehouses and health facilities is managed by a partner

development aid agency (in full-cost-recovery mode) as a fixed percentage of total food value. Both of these costs are, in this case, set at a negotiated percentage of the cost of the purchased food.

	Measurement unit	Unit costs	Quantity	Assumptions	Year 1	Year 2	Year 3	Year 4	Year 5	Total
FDA inspection	Percentage of food value	2%	–	FDA inspection is charged at 2% of order value	7,934	7,934	7,934	7,934	7,934	39,670
Transport	Percentage of food value	65%	–	Transport of food products handled by partners at full cost recovery of 65% of order value	257,868	257,868	257,868	257,868	257,868	1,289,340
				Total	265,802	265,802	265,802	265,802	265,802	1,329,010

Annex B: Sample Quality Improvement Checklist

This quality improvement (QI) checklist is used for self-assessments of nutrition assessment, education, and counseling programs at sites.[93]

Review the following statements and check the "Yes" or "No" column, based on what is currently happening in your facility. Please conduct this assessment every quarter.

Equipment and Materials		Yes	No
1.	Site has at least one functioning scale for adults that measures weight in kg.	☐	☐
2.	Site has at least one functioning scale for adults that measures weight in kg to the nearest 100 g.	☐	☐
3.	Site has at least one functioning scale for children that measures weight in kg to the nearest 100 g.	☐	☐
4.	Site has at least one height/length board that measures in cm to the nearest cm.	☐	☐
5.	Site has mid-upper arm circumference (MUAC) tapes that measure in mm to the nearest mm for pregnant and postpartum women and other adults whose height cannot be measured.	☐	☐
6.	Site has MUAC tapes for children.	☐	☐
7.	Site has copies of algorithms/guidelines for managing malnutrition in HIV-infected adults.	☐	☐
8.	Site has copies of algorithms/guidelines for managing malnutrition in HIV-infected children.	☐	☐
9.	Site has at least one set of nutrition and HIV counseling cards (if these exist in the country).	☐	☐
10.	Site has forms for recording and evaluating dietary intake.	☐	☐
11.	Site has a chart with body mass index (BMI) cutoffs for adults and BMI-for-age in adolescents.	☐	☐
12.	Site has a chart with weight-for-height z-score (WHZ) cutoffs, using the 2006 WHO child growth standards.	☐	☐
13.	Site has utensils, cookware, and equipment (e.g., bowls, serving spoons, pan, cooker) to demonstrate the use and preparation of specialized food products for people living with HIV (PLHIV).	☐	☐
Nutrition Assessment and Classification		**Yes**	**No**
14.	At least two health care providers on staff are trained in nutrition care and support for PLHIV.	☐	☐
15.	Every adult and adolescent person living with HIV coming to the site for the first time is weighed to the nearest 100 g and measured to the nearest cm, with BMI calculated for adults and BMI-for-age for adolescents.	☐	☐
16.	MUAC is measured for pregnant or lactating women (up to 6 months postpartum) or clients whose weight or height cannot be measured.	☐	☐
17.	For all HIV-exposed children coming to the site for the first time, weight is measured to the nearest 100 g, height is measured to the nearest cm, weight-for-height is calculated, and/or MUAC is measured to the nearest mm.	☐	☐
18.	WHZ and/or MUAC is recorded on client record sheets for children under 5, and BMI is recorded for adults.	☐	☐
19.	Every client is assessed on each clinical visit for critical symptoms (e.g., severe dehydration, severe anemia, diarrhea, vomiting, oral sores or thrush, anorexia, and TB or other opportunistic infections) that could affect nutritional status.	☐	☐
Nutrition Care Plan		**Yes**	**No**
20.	Every person living with HIV, orphan, and vulnerable child receives nutrition care based on a nutrition care plan developed for his/her nutritional status and health condition.	☐	☐
21.	Every person living with HIV, orphan, and vulnerable child who qualifies for specialized food products (or their caregivers) is given an explanation of the entry and exit criteria, the purpose of the food, and how to prepare and eat the food.	☐	☐
22.	Entry and exit criteria for access to specialized food products are posted where service providers and clients can see them clearly.	☐	☐

Nutrition Care Plan (*continued*)		
23. Every person living with HIV is counseled on the need to:		
a. Be weighed periodically.	☐	☐
b. Eat more energy-rich food.	☐	☐
c. Maintain good sanitation and hygiene.	☐	☐
d. Drink plenty of clean and safe water.	☐	☐
e. Maintain a healthy lifestyle to prevent stress and depression.	☐	☐
f. Engage in physical activity.	☐	☐
g. Manage diet-related symptoms.	☐	☐
h. Manage drug-food interactions.	☐	☐
24. Every person living with HIV, orphan, and vulnerable child who qualifies for specialized food products is weighed on each visit, and the weight is recorded on the client record form.	☐	☐
25. Every severely malnourished person living with HIV, orphan, and vulnerable child is given an appetite test before being put on home management of severe malnutrition.	☐	☐
26. Every person living with HIV, orphan, and vulnerable child who qualifies for specialized food products is prescribed enough therapeutic and/or supplementary food to last until the next visit, following guidelines used at the facility.	☐	☐
27. Health care providers inform clients that specialized food products like ready-to-use therapeutic food (RUTF) and fortified-blended food (FBF) are not suitable for infants under 6 months.	☐	☐
28. Mothers who choose to breastfeed are counseled to breastfeed their HIV-infected and HIV-exposed infants exclusively for the first 6 months of life, introduce appropriate complementary food thereafter, continue breast-feeding for the first 12 months of life, and stop breastfeeding only when they can feed their infants a nutritionally adequate and safe diet without breast milk. Mothers should be encouraged to exclusively breastfeed for the first 6 months of life unless they can provide a replacement diet that is acceptable, feasible, affordable, sustainable, and safe.	☐	☐
Commodities and Infrastructure for Sites Offering Specialized Food	**Yes**	**No**
29. The site has adequate stores of RUTF for nutrition assessment, counseling, and support (NACS) clients.	☐	☐
30. The site has adequate stores of FBF for NACS clients.	☐	☐
31. The site has access to adequate and appropriate space to store specialized food products, nutrition supplements, and related commodities.	☐	☐
Stock Management and Record-Keeping for Sites Offering Food by Prescription (FBP)	**Yes**	**No**
32. The site's in-charge or nutrition focal person submits a summary of clients receiving specialized food products according to the agreed schedule.	☐	☐
33. The site's in-charge or nutrition focal person orders estimated specialized food products and other supply needs according to the agreed schedule.	☐	☐
34. The site's in-charge person maintains stock records of specialized food products.	☐	☐
35. The health care provider providing nutrition care services fills in the nutrition/FBP register for each client counseled.	☐	☐
36. The site's data clerk compiles nutrition data according to the agreed schedule.	☐	☐
37. "First to expire, first out" procedures and stock management are used for food and other commodities.	☐	☐
38. FBP supplies are ordered in advance to avoid running out of stocks.	☐	☐

Great! Have you improved since last quarter? Now, look at any areas where you ticked "No." Discuss with your colleagues whether those activities could improve nutritional care for PLHIV at your facility. Discuss why these activities are not done and how they could be included in the future. You can review your progress when you conduct your self-assessment next quarter.

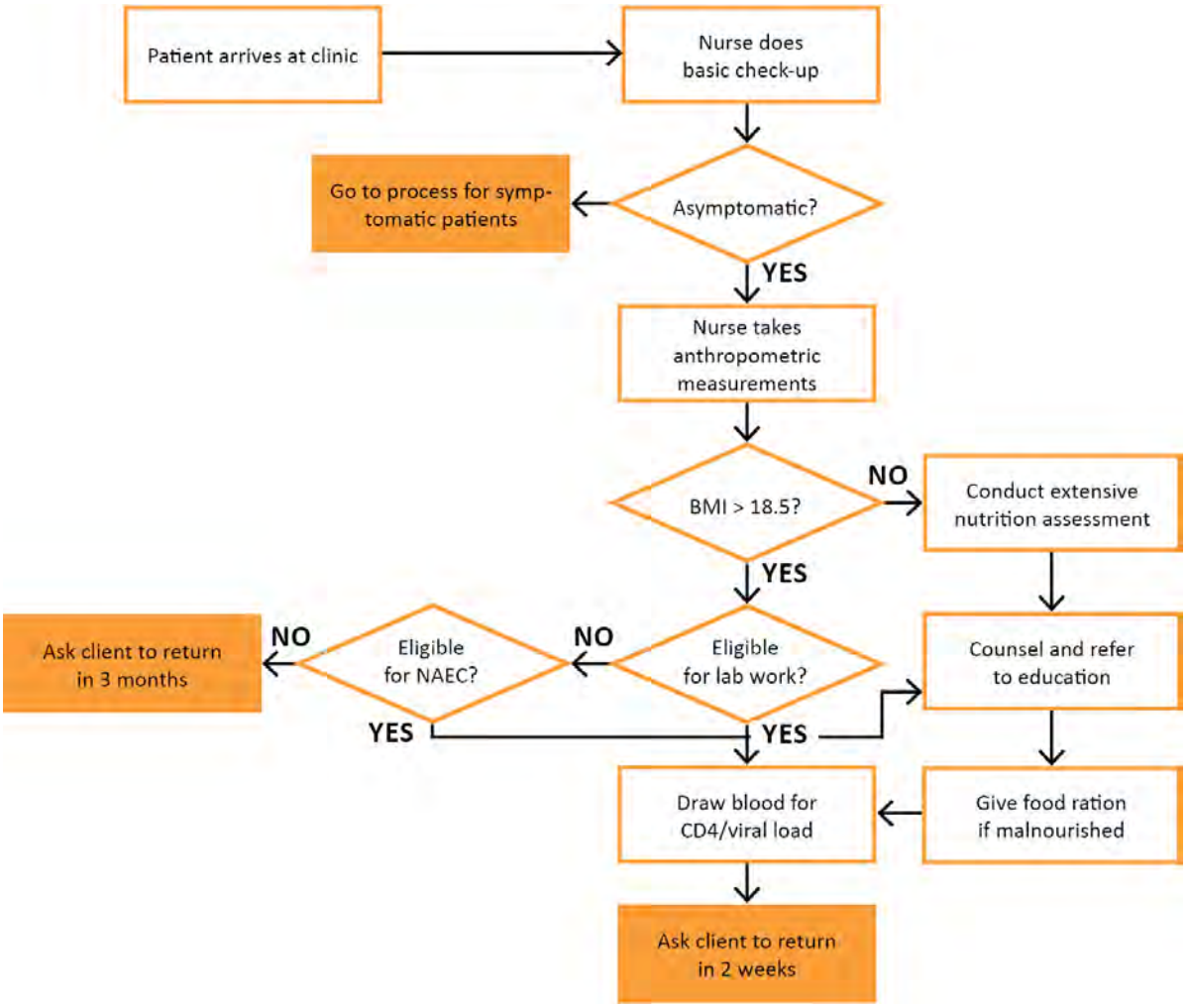
Annex C: Examples of Possible Focus Areas for Quality Improvement

Below are examples of possible areas that may be chosen for quality improvement (QI) interventions if a situation analysis identifies performance gaps in meeting standards. This is not intended as a comprehensive listing; the examples indicate areas in which QI can be implemented in a clinic setting. Other settings will require other relevant indicators.

Premises:	Are the premises clean and accessible to clients?
	Are the clinic environments inviting and comfortable?
	Does the site have adequate and appropriate storage for commodities?
Staff:	Are at least two health care providers trained in nutrition assessment, counseling, and support (NACS)?
	Do NACS staff have positive attitudes to the clients they are serving?
	Have NACS staff members received relevant training updates during the previous 12 months?
Equipment/ materials:	Does the site have adequate equipment/materials to provide services?
Care & Support:	What percentage of first-time attendees have been assessed and had their BMI calculated?
	What percentage of persons living with HIV (PLHIV) and orphans and vulnerable children (OVC) have a personalized nutrition care plan?
	What percentage of PLHIV have been assessed for severe acute malnutrition (SAM) and/or moderate acute malnutrition (MAM).
Record keeping:	Does the site maintain adequate stock records for commodities?
Process of care:	What are the waiting times for different types of services?
QI structures:	Does the site have regular meetings for implementing QI?
	Does the site have systems for providing quality data on QI indicators?
	Does the site have formal system for assessing client satisfaction?
	Has the site received QI facilitation visit during the past 12 months?
Outcomes:	What percentage of clients are satisfied or very satisfied with NACS?
	What percentage of clients have been lost to follow-up?
	What percentage of stock has been lost to spoilage, wastage, and pilfering?

Annex D: Example of a More Complex Clinic Flow

The chart below shows a more complete clinic flow and the process by which asymptomatic patients are referred to nutrition education and counseling within a clinic setting. A separate flow chart would show the relevant clinic flow for symptomatic patients. This flow chart is simplified to highlight nutrition counseling. In reality, this process would be embedded within a larger flow, which would show how clinic patients are assessed and counseled as part of the process of their routine visits. These also include consultations with clinicians, adherence counseling, and pharmacy attendance.



Glossary of Terms

Body mass index (BMI)

- An index of weight for height, defined as weight (kg) divided by the square of height (m), leading to a value in kg/m^2.
- Used to diagnose malnutrition in non-pregnant adults and adolescents.
- The following BMI thresholds are in common use to identify malnutrition:
  - < 16.0 = severe acute malnutrition (SAM)
  - 16.0–16.9 = moderate acute malnutrition (MAM)
  - 17.0–18.4 = mild acute malnutrition

Corn-soy blend (CSB)

- The generic term for a type of fortified, blended food made from maize and soy beans, milled, blended, pre-cooked, and fortified with vitamins and minerals.
- CSB+ (also known as Super Cereal) is formulated for children over 24 months of age and adults, while CSB++ (also known as Super Cereal Plus) is formulated for treatment of moderate acute malnutrition among children 6–59 months and as a complement to breastfeeding (not as a replacement) for children 6–24 months.

F-75 or F-100

- Therapeutic milk, usually given to children, adolescents, and adults with severe malnutrition with medical complications. In line with WHO guidelines, these clients are inpatients in medically staffed feeding facilities. [51]
- The product needs to be prepared hygienically with clean water; once prepared, it needs to be adequately stored to prevent spoilage.

Fortified-blended food (FBF)

- A mixture of cereals and other ingredients (e.g., soybeans, pulses, oilseeds, dried skim milk, and possibly sugar and/or vegetable oil) that is milled, blended, pre-cooked by extrusion or roasting, and fortified with a pre-mix of vitamins and minerals. The most common example is CSB.
- Preparing the food requires adding dry FBF to water, bringing it to the boil and boiling it for 10 minutes.

Food by Prescription (FBP)

- Food prescribed to treat SAM or MAM among people on ART or TB treatment.

Kwashiorkor

- A clinical syndrome for which one of the signs is bilateral pitting edema of nutritional origin.
- Bilateral pitting edema is identified when thumb pressure is applied to the tops of both feet for three seconds and leaves indentations. Considered mild (or grade +) when it is only in both feet (can include ankles); moderate (grade ++) when in both feet, lower legs, hands, or lower arms; severe (grade +++) when in both feet, legs, hands, arms, and face.

Marasmus

- According to the current WHO definition, < −3 standard deviations of the weight-for-height standards and/or MUAC < 115 mm for children 6–59 months.

Moderate acute malnutrition (MAM)

- Wasting at a lower level than SAM, but requiring nutritional support (see BMI, MUAC, and weight-for-height) for cutoffs for different target groups.

Mid-upper arm circumference (MUAC)

- Measured on the non-preferred arm (e.g., left arm in a right-handed person), halfway between the shoulder and the elbow (mm).
- Used as a measure of acute undernutrition; a low value indicates low peripheral protein and fat stores.
- The following MUAC thresholds are used to identify malnutrition in children 6–59 months:
  - < 115 mm = severe acute malnutrition (SAM)
  - 115–124 mm = moderate acute malnutrition (MAM)
- In pregnant and lactating women and adolescents, a variety of MUAC thresholds are used to identify malnutrition; there is no fixed threshold for SAM or MAM. Thresholds of 210 and 220mm have been used. Swaziland decided to use 220mm as a screening threshold to identify possible undernutrition as early as possible.

Ready-to-use supplementary food (RUSF)

- A lipid-based, energy-dense paste that resists bacterial contamination and requires no cooking.
- Has a similar composition to RUTF, but the skimmed milk powder is replaced by soy and whey powder.

Ready-to-use therapeutic food (RUTF)

- An energy-dense food that resists microbial contamination, made of powdered ingredients embedded in a lipid-rich paste. Requires no preparation and is ready to be consumed.
- Products nutritionally equivalent to F-100, which is widely used to treat outpatients.

- A generic term that includes different types of food, such as spreads or compressed products with a very specific nutritional profile.

Recommended nutrient intake (RNI)

- A recommended daily intake of micronutrients (vitamins and minerals), set at two standard deviations above the estimated average requirement. At this level, it is estimated that the needs of 97.5 percent of the population will be met.
- Equivalent to the definition of the recommended daily allowance or RDA.

Severe acute malnutrition (SAM)

- Wasting requiring immediate medical and nutritional intervention (see BMI, MUAC and weight-for-height) for cutoffs for different target groups.
- In children, SAM is also called marasmus or kwashiorkor.

Wasting

- Thinness, as measured by BMI, weight-for-height, or MUAC:
  - Adults and adolescents: BMI
  - Children: weight for height or MUAC
  - Pregnant or lactating women or adolescents: MUAC

Weight-for-height z-score

- An index of wasting calculated from a child's weight and height. The weight is compared against a reference standard for children of the same height to calculate a standard deviation (z) score.
- The following thresholds are used to identify wasting:
  - < 3 standard deviations below the reference population median = severe acute malnutrition (SAM)
  - 2–3 standard deviations below the reference population median = moderate acute malnutrition (MAM)

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