TECHNICAL REPORT

FANTA · 2
FOOD AND NUTRITION TECHNICAL ASSISTANCE

USAID
FROM THE AMERICAN PEOPLE

Assessment Report on the Integration of Nutrition, Food and HIV Programming in Côte d'Ivoire

Pierre Adou
Earnest Muyunda
Phil Moses

August 2009

fhi360
THE SCIENCE OF IMPROVING LIVES

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Acronyms and Abbreviations

AFASS	Acceptable, feasible, affordable, safe and sustainable
AIDS	Acquired immune deficiency syndrome
AIS	AIDS Indicator Survey
AMEPOUH	*Association de femmes vivant avec le VIH «Nous Vaincrons »*
ANADER	National Agency for the Support of Rural Development (*Agence Nationale d'Appui au Développement Rural)*
ANC	Antenatal care
ANSCI	*Alliance Nationale contre le SIDA en Côte d'Ivoire*
ART	Antiretroviral therapy
ARV	Antiretroviral
ASC	Community health agent
BCC	Behavior change communication
BMI	Body mass index
CAC	Communal AIDS Committee
CARE	Cooperative Assistance for Relief Everywhere
CBO	Community-based organization
CED	Chronic energy deficiency
CEPREF	Center for Care, Research and Training (*Centre de Prise en Charge, de Recherche et de Formation*)
CGECI	Ivory Coast General Confederation of Companies (*Confédération Générale des Entreprises de Côte d'Ivoire*)
CHR	Regional hospital center
CHS	Specialist hospital center
CHU	University hospital center
CIRBA	Integrated Center of Bioclinical Research of Abidjan (*Centre Intégré de Recherche Bio-clinique d'Abidjan*)
cm	Centimeter(s)
CMAM	Community-based management of acute malnutrition
COP	Country Operational Plan
COSCI	Group of Non-Governmental Organizations against HIV/AIDS in Côte d'Ivoire (*Collectif des Organisation Non Gouvernementales de Sida de Côte d'Ivoire)*
CSB	Corn-soy blend
CSRS	Swiss Center for Scientific Research (*Centre Suisse de Recherches Scientifiques*)
DAC	Departmental AIDS committee
DGS	General Health Office
DIPE	Department of Information, Planning and Evaluation
dL	Deciliter
DSC	Community Health Office
EGAPF	Elizabeth Glazer Pediatric AIDS Foundation
ESPC	Health facilities of first contact (*Etablissements Sanitaires de Premiers Contacts*)
ESTHER	*Ensemble pour une Solidarité Thérapeutique Hospitalière en Réseau*
FANTA	Food and Nutrition Technical Assistance Project
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
FNLS	National AIDS Fund (*Fond National de Lutte contre le SIDA*)
g	Gram(s)
GAIN	Global Alliance for Improved Nutrition
GAM	Global acute malnutrition

GDP	Gross domestic product
Global Fund	Global Fund to Fight AIDS, Tuberculosis and Malaria
GOCI	Government of Côte d'Ivoire
GSA	Scientific Support Group
HAZ	Height-for-age Z-score
Hb	Hemoglobin
HDI	Human Development Index
HG	General hospital
HIV	Human immunodeficiency virus
HKI	Helen Keller International
HMIS	Health Management Information System
IAC	Inter-ministerial AIDS Committee
IAPSO	Inter-Agency Procurement Services Organization
ICAP	International Center for AIDS Care and Treatment Programs
INS	*Institut National de la Statistique*
INSP	National Institute of Public Health (*Institut National de la Santé Publique*)
IP	PEFPAR/Côte d'Ivoire implementing partner
IS	Instituts spécialisés
IYCN	Infant and Young Child Nutrition Project
kcal	Kilocalorie(s)
kg	Kilogram(s)
L	Liter(s)
LBW	Low birth weight
m	Meter(s)
M&E	Monitoring and evaluation
MAM	Moderate acute malnutrition
mg	Milligram(s)
MICS	Multiple Indicator Cluster Survey
MLS	Ministry of AIDS (*Ministère de la Lutte contre le SIDA*)
mm	Millimeter(s)
MSHP	Ministry of Health and Public Hygiene (*Ministère de la Santé et de l'Hygiène Publique*)
MFFAS	Ministry of Family, Women and Social Affairs (Ministère de la Famille, la Femme et les Affaires Sociales)
MT	Metric ton
MUAC	Mid-upper arm circumference
NAC	National AIDS Council
National Guidelines	National Guidelines on Nutrition Care of PLHIV and TB Patients
NGO	Nongovernmental organization
OCHA	Office for Coordination of Humanitarian Affairs
OGAC	United States Office of the Global AIDS Coordinator
OVC	Orphans and vulnerable children
OVC Guidelines	Guidelines for Nutritional Care of OVC in Côte d'Ivoire
PATH	Program for Appropriate Technology in Health
PEPFAR	United States President's Emergency Plan for AIDS Relief
PKL	Protein Kissée La
PLHIV	People living with HIV
PLHIV Protocol	National Protocol for Nutrition Care of PLHIV and TB Patients
PMTCT	Prevention of mother-to-child transmission of HIV
PNN	National Nutrition Program (*Programme national de la nutrition)*
PNOEV	National Program for Orphans and Vulnerable Children (*Programme National de Prise en Charge des Orphelins et autres Enfants Rendus Vulnérables du Fait du VIH/SIDA*)
PNPEC	National Program for Treatment and Care of PLHIV (*Programme National de la Prise en Charges des PVVIH)*
PSP	Public Health Pharmacy (*Pharmacie de la Santé Publique)*

RAC	Regional AIDS committee
RIP+	Ivorian Network of People Living with HIV (*Reseau Ivoirien des Personnes Vivant avec le VIH*)
RUTF	Ready-to-use therapeutic food
SAC	Sectoral AIDS committee
SAM	Severe acute malnutrition
SC	Social center
SC/UK	Save the Children United Kingdom
SCMS	Supply Chain Management Systems
Severe Malnutrition Protocol	National Protocol for the Management of Severe Malnutrition
SFP	Specialized food products
SMART	Standardized Monitoring and Assessment of Relief and Transition
SMI	Infectious Disease Services (*Services des maladies infectieuses*)
STI	Sexually transmitted infection
TWG	Technical working group
UN	United Nations
UNAIDS	United Nations Joint Program for HIV/AIDS
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFPA	United Nations Population Fund
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children's Fund
US	United States
USAC	Outpatient Care and Counseling Unit (*Unité de Soins Ambulatoires et de Conseils*)
USAID	United States Agency for International Development
US$	United States dollar
UV	Ultraviolet
VAC	Village AIDS Committee
VCT	Voluntary counseling and testing
WAZ	Weight-for-age Z-score
WFH	Weight-for-height
WFP	World Food Program
WHO	World Health Organization
WHZ	Weight-for-height Z-score
WRA	Women of reproductive age

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Executive Summary

BACKGROUND

In 2008, the United States President's Emergency Plan for AIDS Relief (PEPFAR)/Côte d'Ivoire expressed interest in the possibility of introducing a Food by Prescription (FBP) program, carried out with PEPFAR funds.[1] To better inform decisions regarding FBP, PEPFAR/Côte d'Ivoire and the National Nutrition Program (*Programme National de la Nutrition* [PNN]) of Côte d'Ivoire's Ministry of Health and Public Hygiene (*Ministère de la Santé et de l'Hygiène Publique* [MSHP]) requested The Food and Nutrition Technical Assistance II Project (FANTA-2) assist them to determine what type of nutrition services should be put into place to initiate a FBP program and how much it would cost in the Côte d'Ivoire context, and to recommend a standard package of nutrition services for PLHIV and OVC which would eventually include a FBP program. FANTA-2 conducted an assessment in Côte d'Ivoire on January 12–23, 2009, to examine the current situation of nutrition services for people living with HIV (PLHIV) and orphans and vulnerable children (OVC), and to provide recommendations on the integration of nutrition, food and HIV programming, including FBP.

Objectives

The objectives of the assessment were to:

1. Assess opportunities for integrating nutrition, food and HIV programming and services
2. Assess the capacity for implementing a FBP program at PEFPAR/Côte d'Ivoire sites
3. Assess the potential for local/regional procurement of therapeutic and supplementary foods for use in a FBP program
4. Recommend a standardized package of nutrition services for PLHIV and OVC (which would include FBP) for consideration by PEPFAR/Côte d'Ivoire and PNN.

Context

There were approximately 420,000 PLHIV in Côte d'Ivoire in 2007. According to the 2005 AIDS Indicator Survey (AIS) for Côte d'Ivoire, HIV prevalence is 4.7 percent among adults 15–49 years of age with a higher prevalence among women (6.4 percent) than among men (2.9 percent), and is 8.2 percent among pregnant women. An estimated 540,000 children are orphaned by AIDS. Côte d'Ivoire also suffers from high rates of malnutrition: 33.9 percent of children under five years of age are stunted, 20.2 percent are underweight and 6.7 percent are wasted. The malnutrition rate among PLHIV is not known at the national level, however data from three antiretroviral therapy (ART) clinics suggests malnutrition prevalence among adult PLHIV ranges from 16 to 27 percent. No study of national scope has yet been conducted on this issue. Nutrition assessment methods and indicators are not harmonized and vary among the different sites providing services to PLHIV.

ACTIVITIES AND METHODS

The assessment team consisted of Dr. Earnest Muyunda (FANTA-2 Regional Nutrition and HIV Advisor), Phil Moses (FANTA-2 Nutrition and HIV Specialist), Dr. Pierre Adou (consultant to FANTA-2 in Côte

[1] The current US Office of the Global AIDS Coordinator (OGAC) guidance allows the use of PEPFAR funds to provide food support to the following groups: OVC born to an HIV-infected mother (regardless of the child's HIV or nutritional status); HIV-positive pregnant and lactating women in programs for the prevention of mother-to child transmission of HIV (PMTCT); and adult patients in antiretroviral therapy (ART) and care programs who have clinical signs of malnutrition. PEPFAR funds may be used to support the development of national guidelines and policies; nutrition assessment; nutrition education and counseling; micronutrient supplementation; the promotion of hygiene and sanitation; linkages to community-based support activities related to food security and livelihoods; and the provision of therapeutic and supplementary foods to patients within the context of specific eligibility and exit anthropometric criteria consistent with World Health Organization (WHO) and/or national guidelines, with plans for patients to transition to more sustainable food access and security.

d'Ivoire) and Dr. Patricia N'Goran (PNN Director). The assessment included interviews with PEPFAR/Côte d'Ivoire, six government ministries providing health and social services to PLHIV and OVC, five PEFPAR/Côte d'Ivoire implementing partners (IPs) providing ART and PMTCT services, three United Nations (UN) organizations supporting health care or nutrition services for PLHIV and OVC, five service delivery sites for PLHIV and OVC, two research institutions, two private food manufacturing companies and one PLHIV association; **Annex 8** lists each organization visited. All organizations visited were selected by PNN in consultation with FANTA-2. The five service delivery sites selected were among those designated by PNN as potential sites in which a FBP program would be initiated as learning sites for an eventual scale-up to the national level. The interviews were semi-structured using a standardized interview guide, shown in **Annex 11**.

The assessment team met with stakeholders at various points throughout the assessment process to share relevant information. At the beginning, the team oriented stakeholders on the purpose and methodology of the assessment. The assessment team also presented basic information about a package of nutrition services for PLHIV being implemented in other countries, which includes nutrition assessment, nutrition education and counseling, hygiene promotion, linkages to community-based income generation and food security activities, and provision of therapeutic and supplementary foods. At the end of the assessment, the assessment team presented preliminary findings and recommendations for introducing a standard package of nutrition services for PLHIV.

Throughout the assessment, the team reviewed a number of relevant documents, such as program reports, treatment protocols and national strategies, to gather data needed to inform the final recommendations and the writing of the report.

Definition of key terms

In this report, "standard package" of nutrition services for PLHIV refers to the following five services:

1. Nutrition assessment
2. Nutrition education and counseling
3. Hygiene promotion
4. Linkages to community-based income generation and food security activities
5. Provision of therapeutic and supplementary foods

"Food by Prescription" (FBP) refers to a specific approach for organizing and delivering these five services in an integrated manner within a treatment setting and includes clear eligibility, transition and exit criteria for the provision of therapeutic and supplementary foods. At each site implementing FBP, the first four services listed should be in place before the introduction of food provision.

FINDINGS

The findings address assessment objectives 1, 2 and 3 (above) and are organized into two sections. The first section examines the environment for providing nutrition services to PLHIV and OVC. The second describes the current state of the nutrition services for PLHIV and OVC in the context of the five services provided through a standard package of nutrition services for PLHIV.

The environment for providing nutrition services to PLHIV and OVC in Côte d'Ivoire

The policy environment

- The Government of Côte d'Ivoire (GOCI), through PNN, is ready to take the lead in implementing nutrition services for PLHIV and OVC.
- Favorable policies are in place for the implementation of nutrition services for PLHIV and OVC.
- There is a high degree of collaboration among government ministries and programs, UN partners and PEFPAR/Côte d'Ivoire IPs around nutrition and HIV.

- The *National Protocol for the Management of Severe Malnutrition*[2] (Severe Malnutrition Protocol) exists but is not consistently followed in all health facilities and does not yet include a community-based management of acute malnutrition (CMAM) component.

The existing capacity to provide nutrition services

- Nutrition services are currently provided in a number of health facilities by doctors, nurses and social workers who have received nutrition training.
- Many social centers (SCs) provide nutrition services to OVC and could serve as a point of referral for malnourished OVC into FBP services.
- Record-keeping and reporting for nutrition and HIV vary from facility to facility and such data are not reported nationally.
- There is sufficient research capacity within Côte d'Ivoire to support the documentation needs of a FBP program.
- There is capacity to produce fortified-blended foods (FBF) in-country.
- The supply system for therapeutic and supplementary foods (e.g., ready-to-use therapeutic food [RUTF]) is in the process of being improved.

The current state of the nutrition services for PLHIV and OVC in Côte d'Ivoire

Nutrition assessment, nutrition education and counseling, hygiene and sanitation, and linkages to community support

- Nutrition assessment is not conducted at most ART and PMTCT sites.
- Some health facilities collect nutrition data, but they are not used in the nutritional management of the client.
- Nutrition education and counseling is not conducted in most ART and PMTCT sites.
- There are no nutrition education and counseling materials for PLHIV available that are appropriate to the Ivoirian context.
- The assessment did not find any programs or projects that promote hygiene and sanitation among PLHIV.
- There are a number of linkages between health facilities and community-based support activities.

Food provision

- Very few health facilities in Côte d'Ivoire provide food to adult PLHIV.
- Therapeutic foods being used in Côte d'Ivoire include F-100 and F-75 therapeutic milks and Plumpy'Nut® (an RUTF). Plumpy'Nut® is currently supplied to PNN by the United Nations Children's Fund (UNICEF) for the rehabilitation of severely malnourished children. A number of ART treatment facilities offer Plumpy'Nut® to severely malnourished adult PLHIV.
- Supplementary foods available in Côte d'Ivoire for adults include a variety of FBF manufactured by a local company.

RECOMMENDATIONS

Based on the above findings, FANTA-2 proposes a package of nutrition services for PLHIV and OVC and offers a number of recommendations for the implementation of the proposed package. FANTA-2 also offers cross-cutting recommendations to improve the environment for implementing the proposed package as well as specific recommendations for Phase One of implementation. The recommendations in this section are grouped thematically. Major recommendations are grouped according to a proposed sequence of events for introducing FBP in Côte d'Ivoire in **Annex 1**.

[2] *Protocole national de prise en charge de la malnutrition sévère en Côte d'Ivoire,* May 2005.

Proposed standard package of nutrition services for PLHIV and OVC in Côte d'Ivoire

- PNN and its partners should use FBP to ensure the implementation of the standard package of nutrition services for PLHIV to all PLHIV enrolled in ART (including those patients enrolled but not yet eligible for ART) or PMTCT programs, as well as all OVC receiving services through the SC administered by the National Program for Orphans and Vulnerable Children (*Programme National de Prise en Charge des Orphelins et autres Enfants rendus Vulnérables du fait du VIH/SIDA* [PNOEV]).
- The first four services should be in place at each site implementing FBP before the introduction of food provision.
- PNN should ensure that all PLHIV and OVC or their caregivers (clients) receive regular high quality **nutrition assessment** using body mass index (BMI) for non-pregnant/non-postpartum adults; mid-upper arm circumference (MUAC) for pregnant and postpartum women; and weight-for-height (WFH), BMI-for-age or MUAC for children under 18 years of age.
- PNN should ensure that all clients receive **education and counseling** on how to improve the quality and diversity of their diets, increase energy intake using balanced diets, manage drug-food interactions, and maintain hygiene and food/water safety. Clients receiving ART should be counseled on the nutritional management of side effects from antiretrovirals (ARVs).
- PNN should ensure that all clients are counseled on **hygiene and sanitation** (i.e., hand washing, the safe storage and handling of drinking water in the home, the proper use of sanitary facilities, point-of-use water purification to reduce diarrhea).
- The National Program for Treatment and Care of PLHIV (*Programme National de la Prise en Charges des PVVIH* [PNPEC]*)*, PNOEV and PNN should ensure that all clients are referred to community-based income generation and food security activities.
- PNN should provide therapeutic and supplementary food (FBP) to clients at facilities that have put the first four services of the standard package into place. Foods should be provided as described in **Section 5.1** and the dosing tables in **Annex 9**.
- PNN should ensure that health care providers promote and support **exclusive breastfeeding** of children until 6 months of age by mothers who are HIV-positive unless exclusive replacement feeding is acceptable, feasible, affordable, safe and sustainable (AFASS).

Recommendations on cross-cutting issues: Training needs and harmonization across guidelines and protocols

- PNN should incorporate indicators specific to nutrition assessment, nutrition education and counseling, hygiene and sanitation promotion, linkages to community-based support activities and food provision into the **Monitoring and Evaluation** (M&E) system described in the *National Protocol for Nutrition Care of PLHIV and TB Patients* (PLHIV Protocol).[3] Prior to the roll out of the standard package of nutrition services, PNN and PEFPAR/Côte d'Ivoire should conduct a workshop with partners to incorporate key indicators into the monitoring and reporting tools proposed in the PLHIV Protocol. All training sessions on FBP should include training on the M&E system in the PLHIV Protocol with any modifications relevant to FBP. Training should also include the use of client tools, the analysis of program data to inform program decisions and improve the quality of services, and reporting formats and schedules.
- There is a need to strengthen the capacity of health care providers in the provision of nutrition services to PLHIV and OVC. In-service training in nutrition should be strengthened and expanded and pre-service training should be introduced. For example, the possibility of developing a course of study leading to a certification in nutrition within the school of nursing or social work should be explored.

[3] *Protocole national de prise en charge nutritionnelle des personnes infectées et affectées par le VIH et/ou malades de la tuberculose*, MSHP, PNN, WFP, 2009 (Approved by stakeholders and recommended for adoption in April 2009).

Management of clinical malnutrition

- PNN should work with the MSHP to ensure that all referral centers for nutritional rehabilitation have a central nutritional rehabilitation unit dedicated to rehabilitating children suffering from severe acute malnutrition (SAM) in accordance with the Severe Malnutrition Protocol.[4]
- PNN should continue its efforts to introduce CMAM in accordance with the 2007 Joint Statement on CMAM.[5]
- PNN should continue with its plans to produce and disseminate the PLHIV Protocol[6] and conduct training on its use.
- PNN should produce and disseminate the *Guidelines for Nutritional Care of OVC in Côte d'Ivoire* (OVC Guidelines) developed with the support of th**e** United States Agency for International Development (USAID) Infant and Young Child Nutrition Project (IYCN)[7] (approved by stakeholders and recommended for adoption) and train health care providers leading nutrition services of OVC at health facilities and SCs around the country in their use.
- PNN (with the support of PEFPAR/Côte d'*Ivoire through FANTA-2) should produce and disseminat***e** the recently approved *National Guidelines on Nutr**i**tion Care of PLHIV and TB Patients*[8] (National Guidelines) and train health care providers leading nutrition services of PLHIV and OVC at health facilities around the country in the use of the National Guidelines.
- PNN should ensure that the PLHIV Protocol and OVC Guidelines are harmonized with CMAM guidelines.

Training for nutrition assessment, education and counseling, the provision of equipment and job aids

- With support from PEFPAR/Côte d'Ivoire through FANTA-2, PNN should proceed with its plan to adapt a nutrition and HIV training manual for use by health care providers in Côte d'Ivoire.
- Based on the training manual described above, PNN should provide nutrition and HIV training to personnel in charge of nutrition services at all ART and PMTCT sites, as well as all SC that provide nutrition services targeting OVC.
- PNN should develop and produce wall matrices for estimating BMI for adults, BMI-for-age and WFH for children with the support of PEFPAR/Côte d'Ivoire through FANTA-2.
- PNN should ensure that personnel in charge of nutrition services at all ART and PMTCT sites and all SC that offer nutrition services to OVC receive training and supervision and have access to functioning **equipment** and **job aids** (such as the wall matrices described above) needed to conduct high quality nutrition assessment.
- PNN should continue with its plans to produce **nutrition education and counseling** materials for PLHIV and provide training in their use to the above personnel with support from PEPFAR/Côte d'Ivoire through FANTA-2.
- To better inform program decisions for current and future nutrition efforts (such as the development and refining of nutrition education and counseling materials), PEFPAR/Côte d'Ivoire should make use of available studies and program data to better understand the determinants of the nutritional status among malnourished and non-malnourished members of the general population, PLHIV, PMTCT clients, and OVC 5–18 years of age.

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[4] *Protocole national de prise en charge de la malnutrition sévère en Côte d'Ivoire,* May 2005.
[5] *Community-based management of severe acute malnutrition: A joint statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund*, 2007, http://www.who.int/nutrition/publications/severemalnutrition/978-92-806-4147-9/en/index.html.
[6] *Protocole national de prise en charge nutritionnelle des personnes infectées et affectées par le VIH et/ou malades de la tuberculose*, MSHP, PNN, WFP, 2009 (Approved by stakeholders and recommented for adoption in April 2009).
[7] *Guide de Prise en Charge Nutritionnelle des Orphelins et Enfants Vulnérable du Fait du VIH en Côte d'Ivoire*.
[8] *Guide national de soins et soutien nutritionnels et alimentaires pour les personnes affectées et infectées par le VIH et/ou la tuberculose*, PNN 2009. (Approved June 2009, pending printing).

Recommendations for implementing Food by Prescription: Phase One

- PNN, with support from PEFPAR/Côte d'Ivoire, should phase in FBP gradually, beginning with the nine sites listed below. These sites were identified by PNN in consultation with FANTA-2 as having high managerial, technical and logistical capacity and are located in areas where PNN can easily conduct supervision and monitoring. These are learning sites from which lessons learned and innovations can be disseminated easily to other facilities:
    - Hôpital Général d'Abobo, the Center for Care
    - Research and Training at Yopougon (*Centre de Prise en charge, de Recherche et de Formation* [CEPREF])
    - Hôpital Général de Port Bouët
    - Outpatient Care and Counseling Unit (*Unité de Soins Ambulatoires et de Conseils* [USAC])
    - Integrated Center of Bioclinical Research of Abidjan (*Centre Intégré de Recherche Bio-clinique d'Abidjan* [CIRBA]),
    - Infectious Disease Services (*Services des maladies Infectieuses* [SMI]) at the University Hospital Center in Treichville
    - Centre Hospitalier Régional (CHR) de San Pédro
    - Centre Hospitalier Régional (CHR) d'Abengourou
    - Centre Antituberculeux d'Abengourou
- PNN should conduct an assessment of therapeutic and supplementary foods for use in FBP. With the support of PEFPAR/Côte d'Ivoire through FANTA-2, PNN should conduct the assessment in the early stages of implementation so that the findings may be used to inform the program. The assessment should determine the nutrient specifications indicated for the therapeutic and supplementary foods recommended for FBP and test the acceptability of the recommended therapeutic foods among targeted beneficiaries. The acceptability testing should take place at CEPREF Youpogon and at USAC since these two sites have a large number of clients, have strong research capacity and are easily accessible to the PNN headquarters to facilitate oversight of the testing. The assessment should also determine the potential for procuring the recommended therapeutic and supplementary foods at the national and regional levels and possible non-PEFPAR/Côte d'Ivoire sources of funding for their procurement.
- Once PNN finalizes plans for the implementation of FBP and determines the types and amounts of therapeutic and supplementary foods required, PNN should move forward with the negotiation of an agreement with PSP for the procurement, storage and supply of therapeutic and supplementary foods.
- PNN should introduce strong M&E activities, the periodic review of results and the documentation of lessons learned during Phase One of FBP implementation. As appropriate, PNN should consider obtaining technical assistance from the National Institute of Public Health (*Institut National de la Santé Publique* [INSP]) and the Swiss Center for Scientific Research (*Centre Suisse de Recherches Scientifiques* [CSRS]), both of which have strong capacity in areas such as M&E and case studies.
- Each Phase One facility should designate at least two staff members from outpatient services who will be trained in nutrition and HIV, in FBP and in the use of the PLHIV Protocol, the National Guidelines and in the use of the nutrition education and counseling materials for PLHIV. Each facility should also designate a person to provide nutrition education and counseling.
- Each Phase One facility should be linked to a nearby SC that would act as the point of referral for malnourished OVC into FBP services.
- Each Phase One facility and corresponding SC should have a focal point from among those trained to coordinate nutrition activities for the site and liaise with PNN on FBP activities.
- Before introducing food provision, each Phase One facility and corresponding SC should have the **equipment** and **job aids** needed for **nutrition assessment** and **nutrition education and counseling**. These include scales, MUAC tapes, height/length boards, algorithms for the

management of SAM and moderate acute malnutrition (MAM) among children and among adults, and the wall matrices, nutrition education and counseling materials described above.

- Each Phase One facility and corresponding SC should identify a space to store therapeutic and supplementary foods for use in FBP.
- PNN should ensure technical support in the logistics, management and quality assurance of therapeutic and supplementary foods to each Phase One facility and corresponding SC. PNN should do this with the support of PEFPAR/Côte d'Ivoire through Supply Chain Management Systems (SCMS).

QUANTIFICATION AND COSTING OF Food by Prescription IN CÔTE D'IVOIRE

Based on currently available data, if a national FBP program were to be established today, an estimated 41,534 clients would be eligible for provision of therapeutic and supplementary foods with an annual cost of US$2,411,200. The FBP implementation at nine learning sites would cover an estimated 8,307 clients (one-fifth of those eligible at the national level) at an annual cost of approximately US$652,800. This estimate is for food costs only and does not include administrative costs, transportation of food to the sites, storage, training costs, the procurement of equipment and other program costs. These cost estimates are based on the estimated number of clients; the proposed eligibility, transition and exit criteria for FBP clients; as well as a recommended food package per beneficiary by target group; all of which are described in detail in **Section 5**.

1. Background

1.1 PURPOSE

In 2008, the United States President's Emergency Plan for AIDS Relief (PEPFAR)/Côte d'Ivoire expressed interest in the possibility of introducing a Food by Prescription (FBP) program, carried out with PEPFAR funds.[9] To better inform decisions regarding FBP, PEPFAR/Côte d'Ivoire and the National Nutrition Program (*Programme National de la Nutrition* [PNN]) of Côte d'Ivoire's Ministry of Health and Public Hygiene (*Le Ministère de la Santé et de l'Hygiène Publique* [MSHP]) requested that the Food and Nutrition Technical Assistance II Project (FANTA-2) assist them to determine what type of nutrition services should be put into place to initiate a FBP program. They also requested assistance in determining how much it would cost in the Côte d'Ivoire context, and to recommend a standard package of nutrition services for PLHIV and OVC which would eventually include a FBP program. FANTA-2 conducted an assessment in Côte d'Ivoire on January 12–23, 2009, to examine the current situation of nutrition services for people living with HIV (PLHIV) and orphans and vulnerable children (OVC), and to provide recommendations on the integration of nutrition, food and HIV programming, including FBP.

1.2 OBJECTIVES

The objectives of this activity were to:

1. Assess opportunities for integrating nutrition, food and HIV programming and services
2. Assess the capacity for implementing a FBP program at PEFPAR/Côte d'Ivoire sites
3. Assess the potential for local/regional procurement of therapeutic and supplementary foods for use in a FBP program
4. Recommend a standardized package of nutrition services for PLHIV and OVC (which would include FBP) for consideration by PEPFAR/Côte d'Ivoire and PNN

1.3 OVERVIEW OF CÔTE D'IVOIRE

Located in West Africa, Côte d'Ivoire borders Burkina Faso and Mali to the north, Liberia and Guinea to the west, Ghana to the east and the Gulf of Guinea to the south. Côte d'Ivoire's population was estimated at 21,261,000 in 2008. Forty-three percent of the population is under 15 years of age. Women make up 49 percent of the population and 51 percent of women are of reproductive age.[10] Fifty-two percent of the population is rural while 48 percent is urban. The annual population growth rate is estimated at 2.8 percent. The crude birth rate is 38 (per 1,000 inhabitants) and the total fertility rate is 4.6.

The military and political crisis arising in September 2002 resulted in a partitioning of the country into two zones. As a result, government health services were greatly reduced in the north, west and central areas of the country. The Ouagadougou Accords of March 2007 permitted the establishment of a transition government accompanied by the reintroduction of government health services into these areas, which is still underway. In 2006, the United Nations Development Programme (UNDP) determined the Human

[9] The current US Office of the Global AIDS Coordinator (OGAC) guidance allows the use of PEPFAR funds to provide food support to the following groups: OVC born to an HIV-infected mother (regardless of the child's HIV or nutritional status); HIV-positive pregnant and lactating women in programs for the prevention of mother-to child transmission of HIV (PMTCT); and adult patients in antiretroviral therapy (ART) and care programs who have clinical signs of malnutrition. PEPFAR funds may be used to support the development of national guidelines and policies; nutrition assessment; nutrition education and counseling; micronutrient supplementation; the promotion of hygiene and sanitation; linkages to community-based support activities related to food security and livelihoods; and the provision of therapeutic and supplementary foods to patients within the context of specific eligibility and exit anthropometric criteria consistent with World Health Organization (WHO) and/or national guidelines, with plans for patients to transition to more sustainable food access and security.

[10] Population data base, Institut National de la Statistique (INS), Département de la Démographie et des Statistiques Sociales, 2006.

Development Index (HDI) for Côte d'Ivoire as 42 percent,[11] which ranks in the bottom quartile of all countries. In 2008, 49 percent of households were below the poverty level.

Figure 1. Map of Côte d'Ivoire

Map available at http://www.nationsonline.org/oneworld/map/cote-dIvoire-administrative-map.htm.

Côte d'Ivoire had approximately 420,000 PLHIV in 2007.[12] According to the 2005 AIS[13] for Côte d'Ivoire, HIV prevalence is 4.7 percent with a higher prevalence among women (6.4 percent) than among men (2.9 percent), and is 8.2 percent among pregnant women. As of March 2008, 39,700 individuals were receiving ART with support from PEPFAR.[14] An estimated 540,000 children are orphaned by AIDS.

[11] The HDI combines normalized measures of life expectancy, literacy, educational attainment and gross domestic product (GDP) per capita for countries worldwide as a standard means of measuring human development. Index value is expressed as a percentage with the highest level of human development at 100 percent. Côte d'Ivoire was ranked at 164 out of 177 countries. http://hdr.undp.org/en/.

[12] UNAIDS 2008 Report on the Global AIDS Epidemic, 2008. http://www.unaids.org/en/KnowledgeCentre/HIVData/GlobalReport/2008/2008_Global_report.asp.

[13] INS, Ministère de la Lutte contre le Sida (Côte d'Ivoire) et ORC Macro. *Enquête sur les Indicateurs du Sida, Côte d'Ivoire 2005. Calverton, Maryland, USA : INS et ORC Macro.*

[14] The Power of Partnerships: Latest PEPFAR Results (June 2008). http://www.pepfar.gov/press/106290.htm

The regions with the highest HIV prevalence are the Center East (5.8 percent), the South (5.5 percent) and the city of Abidjan (6.1 percent). Prevalence is higher in urban areas (5.4 percent) than in rural areas (4.1 percent). Prevalence is highest among those 15–49 years of age, with a spike in prevalence among those 30–34 years of age. Both the HIV-1 and HIV-2 virus are found in Côte d'Ivoire. Since 1990, HIV has become the second leading cause of death among women, after complications related to pregnancy and childbirth, and a significant cause of death among children under 5 years of age.[15]

Côte d'Ivoire also suffers from high rates of malnutrition. Malnutrition can worsen the impact of HIV and poses significant challenges to care and treatment. HIV and malnutrition interact in a vicious cycle that is exacerbated by and results in reduced food intake, increased energy needs and poor nutrient absorption. Strong nutrition interventions can help alleviate this vicious cycle by improving food intake/utilization, immune response, management of symptoms, nutritional status, adherence to treatment, and quality of life and productivity.

According to the 2006 Multiple Indicator Cluster Survey (MICS),[16] the prevalence of chronic malnutrition (stunting – height-for-age Z-score [HAZ] < -2) among children under five years of age was 34 percent, with severe stunting (HAZ < -3) at 16 percent. Prevalence of global acute malnutrition (GAM; wasting - weight-for-height Z-score [WHZ] < -2) was 6.7 percent, with severe wasting (WHZ < -3) at 1 percent. Prevalence of underweight (weight-for-age Z-score [WAZ] < -2) was 20 percent, with severe underweight (WAZ < -3) at 4.3 percent. The prevalence of low birth weight (LBW) was 16 percent. A recent Standardized Monitoring and Assessment of Relief and Transition (SMART) survey[17] found GAM among children 6–59 months of age in peri-urban areas of Abidjan and in five regions in the north of Côte d'Ivoire at 4.7 percent and 17.5 percent, respectively, and anemia at 75 percent and 81 percent, respectively. Women of reproductive age (WRA) suffer from malnutrition (body mass index [BMI] < 18.5) at 6.8 percent and 7.2 percent in Abidjan and the north, respectively, and from anemia (hemoglobin [Hb] < 12) at 62 percent and 65 percent, respectively.

Vitamin and mineral deficiencies are widespread in Côte d'Ivoire. Anemia prevalence is regularly over 50 percent. Among preschool-aged children, anemia increased from 50 percent in 2001 to 73 percent in 2007.[18] Anemia prevalence was 54 percent among school-aged children in 2001. In 2007, anemia prevalence among women was 51 percent. Iron deficiency is less wide-spread among women (17 percent) than among preschool-aged children (50 percent). Iron deficiency is higher among children in urban areas (60 percent) than in rural areas (36 percent). Among preschool-aged children, vitamin A deficiency has a prevalence of 16 percent (12 percent in urban areas and 19 percent in rural areas). Only 0.4 percent of WRA were vitamin A deficient.

While the rate of malnutrition among PLHIV at the national level is not known, the Outpatient Care and Counseling Unit (*Unité de Soins Ambulatoires et de Conseils* [USAC]) estimates that 70 percent of PLHIV receiving care at their facility lack the resources to secure an adequate diet. The Ministry of AIDS (*Ministère de la Lutte contre le SIDA* [MLS]) estimates that only 9.3 percent of PLHIV are involved in organized income-generating activities. No study of national scope has been published to-date on this issue. Nutrition assessment methods and indicators are not harmonized and vary among the different sites providing services to PLHIV. The Center for Care, Research and Training (*Centre de Prise en Charge, de Recherche et de Formation* [CEPREF]) in Abidjan reported that 27 percent of their newly-admitted adult ART clients in 2008 suffered from malnutrition (BMI < 18.5).[19] Among the adult PLHIV admitted into the treatment program at the Integrated Center of Bioclinical Research of Abidjan (*Centre Intégré de Recherche Bio-clinique d'Abidjan* [CIRBA]) in Abidjan in 2008, 16 percent suffered from malnutrition and 4 percent suffered from severe malnutrition (BMI <16). Among beneficiaries of the World

[15] Data from this paragraph are from AIS 2005.
[16] Malnutrition data available at http://www.childinfo.org/undernutrition.html.
[17] *Rapport d'enquête de nutrition SMART : Nord de la Côte d'Ivoire et zone périurbaine d'Abijan,* juillet 2008. MSHP, PNN, Programme Alimentaire Mondiale (PAM), United Nations Children's Fund (UNICEF).
[18] *Evaluation des carences en vitamine A, fer et folâtre en CI*, Helen Keller International (HKI), Swiss Center for Scientific Research (CSRS), National Institute of Public Health (INSP), UFR SBP, 2007.
[19] Personal communication with staff during assessment visit, January 2009.

Food Programme's (WFP) program supporting PLHIV in treatment in the central, north, and west regions, 27 percent suffered from malnutrition and 7.6 percent from severe malnutrition.

While these data are fragmented and difficult to compare with each other, they provide an indication of the prevalence of malnutrition among PLHIV. See **Tables 1** and **2** for more details.

Table 1. CIRBA adult PLHIV admitted to ART and pre-ART in 2008[20]

Nutritional Status	Number	Percentage
Total	**399**	**100.0**
BMI ≥ 18.5	334	83.7
BMI < 18.5 and > 16	49	12.3
BMI ≤ 16	16	4.0
Total Malnourished	**65**	**16.3**

Table 2. Prevalence of acute malnutrition among participants of a WFP program supporting PLHIV on ART[21]

BMI (kg/m²)	Women		Men		Combined	
	Number	Prevalence (%)	Number	Prevalence (%)	Number	Prevalence (%)
< 10	5	0.2	2	0.3	7	0.2
10 - 12.9	8	0.4	3	0.4	11	0.4
13 - 15.9	146	6.5	53	6.9	199	6.6
16 - 16.9	111	5.0	55	7.1	166	5.5
17 - 18.4	301	13.5	131	17	432	14.4
Cumulative Malnourished	**571**	**25.6**	**244**	**31.7**	**815**	**27.1**
18.5 - 24.9	1367	61.3	469	60.8	1836	61.1
25 - 29.9	249	11.1	53	6.7	302	10.1
>= 30	44	2.0	6	0.8	50	1.7
TOTAL	**2231**	**100**	**772**	**100**	**3003**	**100**

1.4 NUTRITION AND HIV SERVICES IN CÔTE D'IVOIRE

Recognizing the critical role nutrition and food can play in effective responses to HIV, PEPFAR/Côte d'Ivoire works with a number of partners to strengthen nutrition and food interventions for PLHIV and OVC, including FANTA-2, the Infant and Young Child Nutrition Project (IYCN) and WFP. Under Country Operational Plan (COP) 08, FANTA-2 coordinates closely with IYCN, WFP and PNN to complete and produce the *National Guidelines for the Nutrition Care and Support of PLHIV* and to develop nutrition education and counseling materials for PLHIV.

See **Table 3** for a description of the GOCI's ministries and programs that play a leading role in HIV-related services.

[20] Source: Database of clinical records provided by CIRBA staff during visit by assessment team.
[21] Data was provided to the assessment team by Ellen Kramer of WFP in the form of a PowerPoint presentation: "Profile des ménages affectés par le VIH bénéficiaires de l'appui alimentaire du PAM" Côte d'Ivoire, April 2008.

Table 3. GOCI 'HIV-related ministries and programs

Ministry of AIDS (MLS)	
MLS	MLS monitors government policy and implementation of the multi-sectoral response to the HIV epidemic. It ensures the coordination of all HIV activities, mobilizes needed funds for care of PLHIV, is responsible for social mobilization and promotes community actions against HIV.
Ministry of Health and Public Hygiene (MSHP)	
PNN	PNN is responsible for programs improving the nutritional status of the Ivoirian population and in particular that of the most vulnerable groups, such as children under 5 years of age, WRA, PLHIV, OVC and individuals coming out of crisis situations, emergencies and natural catastrophes. PNN conducts curative and preventative activities.
PNPEC	The National Program for Treatment and Care of PLHIV (*Programme National de la Prise en Charges des PVVIH)* is in charge of the treatment of PLHIV and the provision of prevention of mother-to-child transmission of HIV (PMTCT) services.
Ministry of Family, Women and Social Affairs (MFFAS: *Ministère de la Famille, la Femme et les Affaires Sociales)*	
PNOEV	The National Program for Orphans and Vulnerable Children (*Programme National de Prise en Charge des Orphelins et autres Enfants Rendus Vulnérables du Fait du VIH/SIDA*) is in charge of providing services to OVC.

1.4.1 ART and PMTCT

Currently ART is offered to 39,324 PLHIV at 160 facilities. PEFPAR/Côte d'Ivoire and the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund) are the major donors supporting ART and prevention of mother-to-child transmission of HIV (PMTCT) services. **Table 4** illustrates the evolution of HIV treatment services provided with PEFPAR/Côte d'Ivoire support since 2005.

Table 4. Number of sites and patients under treatment with PEFPAR/Côte d'Ivoire support 2005–2008[22]

	2005	**2006**	**2007**	**2008**
PMTCT sites	44	69	146	236
HIV+ pregnant women receiving ARV prophylaxis	1,888	3,997	4,963	4,620
Voluntary counseling and testing (VCT) sites	54	81	159	209
Persons tested who have received their results.	23,708	66,972	90,870	206,147
Persons receiving care and treatment	25,902	42,561	74,319	84,270
OVC receiving care	7,946	22,566	41,147	68,061
ART sites	33	58	99	160
Persons receiving antiretrovirals (ARVs)	11,097	20,923	34,900	39,324

Côte d'Ivoire's general PMTCT strategy includes voluntary counseling and testing (VCT) offered to pregnant women enrolled in antenatal care (ANC) and their partners, ART prophylaxis towards the end of pregnancy (AZT / 3TC / NVP), infant feeding counseling, diagnosis and treatment of sexually transmitted infections (STIs), family planning counseling, medical and nutritional monitoring of mother and child, behavior change communication (BCC) and community mobilization. The PMTCT program achieved the results shown in **Table 5** from January to July 2007.

[22] Source: OGAC 2008-02-29 Section 2 Result and Target Trends and Analyses (with FY07 downstream results).

Table 5. Results of the PMTCT program in Côte d'Ivoire, January-July 2007[23]

	Total
Women in ANC receiving pre-test counseling for HIV test	**97,681**
Women tested for HIV	**48,574** (49.7% of counseled)
Women testing HIV+	**3,172** (3.89% of tested)
Women on ARV prophylaxis	**1,890** (1.93% of tested)
Children exposed to HIV (receiving ARVs)	**1,672** (1.71% of tested)

Numerous financial partners support PMTCT services. These include PEPFAR/Côte d'Ivoire, the Global Fund, the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the United Nations Population Fund (UNFPA), UNITAID (an international drug purchase facility), *Ensemble pour une Solidarité Thérapeutique Hospitalière en Réseau* (ESTHER) and GOCI. PEFPAR/Côte d'Ivoire implementing partners (IPs) that offer PMTCT services include the Elizabeth Glazer Pediatric AIDS Foundation (EGPAF), the International Center for AIDS Care and Treatment Programs (ICAP), ACONDA and the Program for Appropriate Technology in Health (PATH). Despite the fact that the number of PMTCT sites in the country more than tripled between 2006 and 2008, the number of PMTCT clients increased only 15 percent over the same period. A joint mission of WHO, UNICEF and PEFPAR/Côte d'Ivoire was conducted in October 2008 to discuss how to improve PMTCT service delivery and scale-up.

1.4.2 OVC

The National Program for Orphans and Vulnerable Children (*Programme National de Prise en Charge des Orphelins et autres Enfants Rendus Vulnérables du Fiat du VIH/*SIDA [PNOEV]) defines an orphan or a child made vulnerable due to HIV (OVC) as:

- A child 0–18 years of age born to an HIV-positive mother
- A child living in a family that cares for a person living with HIV (who may or may not be a family member)
- A child with a family a member of who is a person living with HIV
- A child infected with HIV
- A child whose parent has died from AIDS

Financial partners supporting OVC services include PEPFAR/Côte d'Ivoire, the Global Fund, WHO, UNICEF, UNITAID and GOCI. PEFPAR/Côte d'Ivoire IPs that offer OVC services include EGPAF, ICAP, Family Health International (FHI), Cooperative Assistance for Relief Everywhere (CARE), Hope World Wide, the National Agency for the Support of Rural Development (*Agence Nationale d'Appui au Développement Rural* [ANADER]), Le Soutien, Save the Children United Kingdom (SC/UK), Geneva Global, WFP, the National Alliance against AIDS in Côte d'Ivoire (*Alliance Nationale contre le SIDA en Côte d'Ivoire* [ANSCI]) and PNOEV.

PNOEV provides care to 63,435 OVC, of whom 43,235 are girls, and is active in 16 zones. Activities are based in social centers (SCs) that are linked with health facilities and community organizations. Nutrition activities at SCs consist of growth monitoring and promotion for young children, culinary demonstrations and nutrition counseling of mothers, nutritional rehabilitation, referral to health facilities for cases of severe malnutrition, and home visits.

[23] Source: *Rapport semestriel des activités VIH/SIDA dans le secteur de la sante en CÔTE D'IVOIRE, Janvier-Juillet 2007, Octobre 2007, En collaboration avec le PNPEC et la PSP-CI Avec l'appui Technique de Measure Evaluation/JSI et Financier l'Unité de Gestion du Fonds Mondial*.

1.4.3 Nutrition Services

PEPFAR supported nutrition activities for PLHIV and OVC

PEPFAR-supported activities that support the integration of nutrition services into PLHIV and OVC services include the development of guidelines and protocols on nutrition and HIV, development of practical tools and job aids for nutrition such as counseling materials, provision of in-service training on nutrition and HIV, integration of nutrition and HIV in pre-service health provider training, development of nutrition and HIV training manuals and tools, provision of services to control micronutrient deficiencies among PLHIV, integration of nutrition into ART and PMTCT services, and development of a clearly defined package of essential nutrition services to PLHIV and OVC.

2. Activities and Methods

The assessment team consisted of Dr. Earnest Muyunda (FANTA-2 Regional Nutrition and HIV Advisor), Phil Moses (FANTA-2 Nutrition and HIV Specialist), Dr. Pierre Adou (consultant to FANTA-2 in Côte d'Ivoire), Dr. Patricia N'Goran (PNN Director) and Dr. Faustin N'dri (PNN). The assessment included interviews with PEPFAR/Côte d'Ivoire, six government ministries providing health and social services to PLHIV and OVC, five PEFPAR/Côte d'Ivoire implementing partners (IPs) providing ART and PMTCT services, three United Nations (UN) organizations supporting health care or nutrition services for PLHIV and OVC, five service delivery sites for PLHIV and OVC, two research institutions, two private food manufacturing companies and one PLHIV association; **Annex 8** lists each organization visited. All organizations visited were selected by PNN in consultation with FANTA-2. The five service delivery sites selected were among those designated by PNN as potential sites in which a FBP program would be initiated as learning sites for an eventual scale-up to the national level. The interviews were semi-structured using a standardized interview guide, shown in **Annex 11**.

The assessment team met with stakeholders at various points throughout the assessment process to share relevant information. At the beginning, the team oriented stakeholders on the purpose and methodology of the assessment. The assessment team also presented basic information about a package of nutrition services for PLHIV being implemented in other countries, which includes nutrition assessment, nutrition education and counseling, hygiene promotion, linkages to community-based income generation and food security activities, and provision of therapeutic and supplementary foods. At the end of the assessment, the assessment team presented preliminary findings and recommendations for introducing a standard package of nutrition services for PLHIV.

Throughout the assessment, the team reviewed a number of relevant documents, such as program reports, treatment protocols and national strategies, to gather data needed to inform the final recommendations and the writing of the report.

2.1 Definition of key terms

In this report, "standard package" of nutrition services for PLHIV refers to the following five services:

1. Nutrition assessment
2. Nutrition education and counseling
3. Hygiene promotion
4. Linkages to community-based income generation and food security activities
5. Provision of therapeutic and supplementary foods

"Food by Prescription" (FBP) refers to a specific approach for organizing and delivering these five services in an integrated manner within a treatment setting and includes clear eligibility, transition and exit criteria for the provision of therapeutic and supplementary foods. At each site implementing FBP, the first four services listed should be in place before the introduction of food provision.

3. Findings

The assessment findings are organized into two sections. The first section examines the environment for providing nutrition services to PLHIV and OVC. The second describes the current state of the nutrition services for PLHIV and OVC in the context of the five services provided through a standard package of nutrition services for PLHIV.

3.1 THE ENVIRONMENT IN CÔTE D'IVOIRE FOR PROVIDING NUTRITION SERVICES TO PLHIV AND OVC

3.1.1 The policy environment

The government of Côte d'Ivoire, through the PNN, is ready to take the lead in implementing nutrition services for PLHIV and OVC once the process of implementation is well spelled out and sources of support are secured particularly for the supply of therapeutic and supplementary foods, logistical support and other related services.

Favorable policies are in place for the implementation of nutrition services for PLHIV and OVC. Nutrition services for PLHIV is included as an approach in the national nutrition policy, and related activities are included in PNN's strategic plan. *National Guidelines on Nutrition Care of PLHIV and TB Patients*[24] (National Guidelines) have been developed and validated and are in the process of being printed with the support of FANTA-2. PNN has included a number of related activities in its operational plan for 2009. PNN has developed the *National Protocol for Nutrition Care of PLHIV and TB Patients* (PLHIV Protocol)[25] with the support of WFP. The purpose of the protocol is to harmonize nutrition care of PLHIV across facilities.

There is a high degree of collaboration among government ministries and programs, UN partners and PEFPAR/Côte d'Ivoire IPs around nutrition and HIV. PNN, PNOEV and the National Program for Treatment and Care of PLHIV (*Programme National de la Prise en Charges des PVVIH* [PNPEC]) meet regularly to coordinate activities. PNN and MLS have held discussions on Nutrition and HIV. There is a high degree of collaboration among PEFPAR/Côte d'Ivoire implementing partners. WFP, PATH, FANTA-2 and PNN have elaborated a consolidated workplan to coordinate their nutrition and HIV activities. PNN has put in place a nutrition and HIV technical working group (TWG) whose role is to give guidance in the development and use of guidelines, protocols and materials, and to ensure harmonization in the way these are implemented by food and nutrition programs supported by various partners in the country.

The *National Protocol for the Management of Severe Malnutrition*[26] (Severe Malnutrition Protocol) exists but is not consistently followed in all health facilities and does not yet include a community-based management of acute malnutrition (CMAM) component. The referral center for nutritional rehabilitation of children visited by the assessment team did not admit cases of SAM without medical complications. Children suffering from SAM were admitted to the nutritional rehabilitation unit only on the basis of a specific medical complication, and were admitted to the specific medical or surgical ward appropriate to the pathology which they presented (e.g., pneumonia, malaria). This poses problems since, in the absence of CMAM, cases of severe acute malnutrition (SAM) without medical complications need to be admitted and managed according to WHO recommendations and the MSHP protocol.[27] In addition, even in the case of those admitted, it is often difficult for the health workers in charge of nutritional rehabilitation to attend to many patients scattered throughout the facility in various wards.

[24] *Guide national de soins et soutien nutritionnels et alimentaires pour les personnes affectées et infectées par le VIH et/ou la tuberculose*, PNN 2009 (Approved June 2009, pending printing).
[25] *Protocole national de prise en charge nutritionnelle des personnes infectées et affectées par le VIH et/ou malades de la tuberculose*, MSHP, PNN, WFP, 2009 (Validated in April 2009).
[26] *Protocole national de prise en charge de la malnutrition sévère en Côte d'Ivoire,* May 2005.
[27] *Management of severe malnutrition: A manual for physicians and other senior health workers*, WHO 1999 http://www.who.int/nutrition/publications/severemalnutrition/9241545119/en/; Protocol *national de prise en charge de la malnutrition sévère en Côte d'Ivoire*, MSHP, 2005.

3.1.2 The existing capacity to provide nutrition services

Nutrition services are currently provided in a number of health facilities by doctors, nurses and social workers who have received nutrition training. Although a system of in-service training exists for these staff members, training on nutrition and HIV has not been integrated into this system. With support from FANTA-2 and WFP, PNN plans to develop a training manual on nutrition and HIV, implement in-service training in 2009, and integrate nutrition and HIV into pre-service training.

Many SCs provide nutrition services to OVC and could act as a point of referral for malnourished OVC into FBP services. SCs are MFFAS facilities and serve as the point of referral for OVC services provided by PNOEV. Social workers at SCs routinely offer nutrition services consisting of weighing children, identifying cases of severe malnutrition and referring them to a health facility for treatment. Social workers provide nutrition counseling to mothers and conduct culinary demonstrations to help mothers learn to use local foods for proper feeding of their children. Social workers also conduct home visits to ensure compliance with advice given during nutrition counseling. PNOEV recently introduced VCT at all SCs, which is conducted by nurses from local health facilities.

Record-keeping and reporting for nutrition and HIV vary from facility to facility and such data are not reported nationally. There is no standard procedure for data collection related to nutrition in the context of HIV. While nutrition indicators are included in the national health management information system (HMIS), these have not been reported on for several years. However, the HMIS will be revised this year and PNN plans to incorporate nutrition and HIV indicators into the new HMIS.

There is sufficient research capacity within Côte d'Ivoire to support the documentation needs of a FBP program. The National Institute of Public Health (*Institut National de la Santé Publique* [INSP]) has conducted research on topics relevant to public health nutrition. INSP has nutrition, microbiology and biology laboratories, and houses a referral center for outpatient rehabilitation of malnourished children. The Swiss Center for Scientific Research (*Centre Suisse de Recherches Scientifiques* [CSRS]) also has laboratory facilities and has conducted successful studies in the area of community mobilization and HIV in the commune of Yopougon. Both facilities expressed a willingness to enter into an agreement with PNN to provide technical assistance in the area of monitoring and evaluation (M&E) and documentation of lessons learned and case studies relevant to FBP.

There is capacity to produce fortified-blended food (FBF) in-country. For many years, the Abidjan-based company Protein Kissée La (PKL) has produced corn-soy blend (CSB) in large sacks, small boxes and sachets. In the past they have supplied WFP with CSB that conforms to international norms of quality. Their production capacity is approximately 500 metric tons (MT) per month, and PKL has expressed willingness to supply CSB to a FBP program.

The supply system for therapeutic and supplementary foods (such as ready-to-use therapeutic food [RUTF]) is in the process of being improved. UNICEF currently provides F-100, F-75 and Plumpy'Nut® to PNN which channels them to the health facilities. Negotiations are underway between PNN and the Public Health Pharmacy (Pharmacie de la Santé Publique [PSP]) for the supply of therapeutic and supplementary foods to the health districts which in-turn will supply the health facilities. PSP's regional warehouses have the capacity to deliver therapeutic and supplementary foods to the nutrition focal points in each health district as long as warehouse personnel are trained in the management of therapeutic and supplementary foods. A nutrition focal point will be designated in each health district to ensure the proper management of stocks. PNN has indicated that there is a possibility that the Global Fund may support the personnel charged with managing stock. Through its regional sub-offices in Man, Bouaké and Odienné, WFP supplies FBF to sub-partners who distribute it to HIV-affected households. WFP has expressed willingness to supply FBP sites in its intervention zones, dependent on support from PEFPAR/Côte d'Ivoire or other sources.

3.2 THE CURRENT STATE OF THE NUTRITION SERVICES FOR PLHIV AND OVC IN CÔTE D'IVOIRE

3.2.1 Nutrition assessment, nutrition education and counseling, hygiene and sanitation and linkages to community support

Nutrition assessment is not conducted at most ART and PMTCT sites, including at those visited for the assessment, and the majority of ART and PMTCT sites only take weight, which they use to determine dosages for antiretrovirals (ARVs). No national protocols on nutrition assessment of PLHIV exist and no training has been given at the national level. It is highly recommended that interventions to address nutrition problems (e.g., nutrition education and counseling, provision of therapeutic and supplemental foods) be based on standardized nutrition assessment, though this is not currently practiced.

Some health facilities, such as those visited and involved in ART, PMTCT and OVC programs and are supported by PEFPAR/Côte d'Ivoire, do collect some nutrition data though it is not used for nutrition management of their clients. Facilities like CIRBA, USAC and CEPREF/ACCONDA do record client weight, height and BMI for their ART program. However, these data are mainly used to determine the dosage of ARVs and to monitor the progress of treatment.

Nutrition education and counseling is not conducted in most ART and PMTCT sites. Health care staff from IP and health care providers at the sites visited mention that some nutrition information among the other messages is given to patients. Nutrition messages tend to be superficial and not very practical, such as "you should eat well."

There are no nutrition education and counseling materials on nutrition and HIV for adult PLHIV available that are appropriate to the Ivoirian context. CARE has trained community health workers in the past on nutrition and HIV using a document from the Food and Agriculture Organization of the United Nations (FAO).[28] However, CARE personnel reported that the document had serious limitations as it was not adapted to the Ivoirian context.

The assessment did not find any programs or projects that promote hygiene among PLHIV. Health care providers interviewed did not perceive that access to potable water is a problem for their patients. At the national level, 28 percent of households in Côte d'Ivoire have access to tap water in the home, 22 percent obtain water from a public stand-pipe and 44 percent draw water from a well. Thirty four percent of households have no access to a toilet or latrine.[29] This situation poses problems regarding the storage and handling of water in the home as well as open defecation. Research institutions visited also reported that even in urban areas which have a high rate of access to tap water, pockets exist in which households lack access to potable water. PEPFAR/Côte d'Ivoire plans to promote point-of-use water purification under COP 09 by providing PURWATER to PLHIV through IPs in some areas. They also are investigating the feasibility of supplying PLHIV with household water filters.

There are a number of linkages between health facilities and community-based support activities. In Côte d'Ivoire, community-based organizations (CBOs) offer support to households affected by HIV (i.e., psychosocial support, advocacy, income generating activities, livelihood programs, food support). There also exist a number of examples of partnerships between CBOs and health facilities, such as health facilities incorporating community counselors trained by CBOs into their services and CBO volunteers serving breakfast to PLHIV patients waiting to receive their ARVs. Some of these CBOs receive support from PEFPAR/Côte d'Ivoire directly or through other IPs.

[28] *Living well with HIV/AIDS: A manual on nutrition services for people living with HIV/AIDS*. FAO/WHO 2003. ftp://ftp.fao.org/docrep/fao/005/y4168E/y4168E00.pdf

[29] INS (Côte d'Ivoire) et ORC Macro. 2001. *Enquête Démographique et de Santé, Côte d'Ivoire 1998–1999.* Calverton, Maryland USA.

3.2.2 Food provision

Very few health facilities in Côte d'Ivoire offer food to adult PLHIV. The ration, eligibility and exit criteria vary across sites. The PLHIV Protocol, which provides guidance on the provision and management of food for PLHIV, had not been developed at the time of the assessment and had not yet been published when this report was written. Among the three treatment sites visited, only one offers therapeutic food to PLHIV and none distribute supplementary food. Most health facilities visited have sufficient storage capacity to manage supplies of therapeutic and supplementary foods for a FBP program. Medicines are supplied to MSHP by PSP, which is also capable of managing distribution of therapeutic and supplementary foods to HIV health facilities. PSP has expressed openness to do so but no agreement has yet been signed. SCMS in Côte d'Ivoire is very active and willing to support PSP in the logistical management of this program. It has experience in training staff to receive, handle, account and report the use of therapeutic and supplementary foods.

Therapeutic foods

Therapeutic foods are primarily used for the nutritional rehabilitation of severely malnourished individuals, and supplementary foods are primarily used to manage moderate malnutrition or, in some cases, to prevent malnutrition. Annexes 2 and **3** provide detailed information on all of the foods used or manufactured in Côte d'Ivoire, as described below.

In Côte d'Ivoire, F-100 and F-75 therapeutic milks are used for the inpatient management of SAM. Plumpy'Nut®, a RUTF is mainly used to manage severe malnutrition in children and meets the requirement of equivalence to F-100 therapeutic milk. A number of ART treatment facilities offer Plumpy'Nut® to severely malnourished adult PLHIV. PNN intends to widely promote the use of RUTF to manage severe malnutrition in children and among adult PLHIV, and the use of supplementary food to manage moderate malnutrition.

Plumpy'Nut® is packaged in 92 gram (g) sachets that provide 500 kilocalories (kcal). They currently have a shelf life of two years. Plumpy'Nut®, F-100 and F-75 are currently imported by UNICEF from Nutriset in France. There appears to be regional capacity for production of Plumpy'Nut®. A Nutriset-supported factory in Niger currently produces 40 metric tons (MT) of RUTF per month and there are plans to export it to Burkina Faso from October 2008. Production of Plumpy'Nut® is also due to start in Ghana in 2010.

Supplementary foods

Supplementary foods are generally used to manage moderate malnutrition and prevent nutrition deterioration among both adults and children.

Supplementary foods available in Côte d'Ivoire for adults include a variety of FBF products manufactured by PKL, a local Ivorian company. These supplementary foods–FARINOR, NUTRIFORT and SUPER NUTRIFORT—contain corn, soy or wheat, sugar, and a micronutrient premix. All are sold in pharmacies in Côte d'Ivoire. CSB has been purchased from PKL by WFP in the past. NUTRIFORT is a pre-cooked cereal/porridge which takes five minutes to prepare and is made with wheat/soy or corn/soy fortified with micronutrients. It is packaged in 250 g cardboard boxes and in 5 kg polypropylene bags. SUPER NUTRIFORT is a pre-cooked corn and soy flour fortified with micronutrients. PKL will produce and package it to customer specifications. FARINOR is marketed as a complementary food for children 6 months of age and older, and contains corn or rice and soy, sugar and powdered milk all fortified with micronutrients. It is packaged in 400 g and 200 g packs. There are currently plans by PKL with support from the Global Alliance for Improved Nutrition (GAIN) to package FARINOR in small 50 g sachets and to market it to low-income families in Côte d'Ivoire through local markets.

While PKL has supplied CSB to WFP, WFP normally procures FBF internationally since the cost of locally manufactured FBF ranges between US$3,000 and US$5,000 per MT, depending on the size of the order.

This is higher than the US$1,600, plus shipping and handling, per MT for FBF available internationally.[30] UNICEF imports Plumpy'Nut® from France at a cost of just under US$4,000 per MT, plus shipping and handling.[31]

[30] The estimate for the price of FBF is from Gerberg, L., Milano, G. 2009. *Guidance on the Procurement, Storage and Distribution of Commodities for Food by Prescription Programs.* Submitted to the USAID by SCMS, p. 20. FBF may be available at lower prices.
[31] Interview with UNICEF staff by assessment team in Côte d'Ivoire. January 2009.

4. Recommendations

Based on the findings presented in **Section 3**, FANTA-2 proposes a package of nutrition services for PLHIV and OVC, and offers a number of recommendations for the implementation of the proposed package. FANTA-2 also offers cross-cutting recommendations to improve the environment for implementing the proposed package, as well as specific recommendations for Phase One of implementation. The recommendations in this section are grouped thematically. See **Annex 1** for major recommendations grouped according to a proposed sequence of events for introducing FBP in Côte d'Ivoire.

4.1 PROPOSED PACKAGE OF NUTRITION SERVICES FOR PLHIV, PMTCT CLIENTS AND OVC IN CÔTE D'IVOIRE

FANTA-2 proposes that PNN and its partners ensure the implementation of a standard package of nutrition services to all PLHIV enrolled in ART (including those patients enrolled but not yet eligible for ART) or PMTCT programs, as well as all OVC receiving services through the SC administered by PNOEV. The standard package includes:

- Nutrition assessment
- Nutrition education and counseling
- Hygiene promotion
- Linkages to community-based income generation and food security activities
- Provision of therapeutic and supplementary foods

At each site implementing FBP, the first four services listed should be in place before the introduction of food provision. These should be well supervised and of high quality. At sites where food provision is introduced, the first four services will need to be enhanced to address issues specific to food provision. Health care providers will need to conduct a nutrition assessment of each client on a regular basis to determine the type of intervention needed and when the client should exit the food provision service or transition into the next phase of food provision. Nutrition education and counseling offered to clients receiving food will need to add key messages to properly use the food provided and discourage sharing of the food products with other household members. Hygiene promotion will need to add messages and activities to address the hygienic storage and preparation of therapeutic and supplementary foods.

PNN should ensure that all PLHIV and OVC or their caregivers (clients) receive regular high-quality nutrition assessments. The purpose of a nutrition assessment is to determine the support and care services needed by each client and to monitor the client's progress. A change in nutritional status can indicate disease progression, effectiveness of or adherence to treatment, and reactions to treatment or side-effects (e.g., drug resistance, metabolic changes). For adult PLHIV that are not pregnant or post-partum, health care providers should weigh and measure height on the initial visit, calculate BMI, and record height, weight and BMI on the client card. At each subsequent visit, they should take the client's weight, calculate BMI based on current weight and initial height, and record current weight and BMI on the client card. For women who are pregnant or up to 6 months post-partum, health care providers should take and record mid-upper arm circumference (MUAC) instead of BMI. Among OVC 5–18 years of age, health care providers should take and record BMI-for-age, WHZ, weight-for-height (WFH) as a percentage of the median or MUAC. Among children under 5 years of age, health care providers should take and record either WHZ, WFH as a percentage of the median or MUAC. Healthcare providers should assess all clients for bilateral pitting edema. Also during the initial visit, health care providers should assess clients' dietary intake through 24 hour recall of the client's consumption from the different food groups. Where possible, health care providers should do periodic laboratory assessments of key nutrition indicators, such as Hb status. Health care providers should conduct a dietary assessment of clients with moderate acute malnutrition (MAM) or SAM. They should ask clients whether they have symptoms likely to affect food intake or nutritional status, such as appetite loss, nausea, vomiting, sores/oral thrush or difficulty swallowing, bloated stomach or constipation, and diarrhea, as well as whether or not clients have

access to adequate sanitary facilities and potable water in the home. Hb, triglyceride and cholesterol levels and resting glucose should be measured at least every six months, especially for clients taking drugs that are likely to predispose them to risky levels of these parameters. Health care providers should synthesize information from the various assessments to identify client needs and follow-up actions, and to inform nutrition education and counseling.

PNN should ensure that all clients receive high-quality nutrition education and counseling. The purpose of nutrition education and counseling is to help clients adopt behaviors that will improve their nutritional status and treatment and care outcomes. Health care providers should educate and counsel all clients on how to improve the quality and diversity of their diet, increase their energy intake, manage drug-food interactions, and improve sanitation and hygiene. Clients receiving ART should be counseled on dealing with metabolic syndrome side effects (e.g., lipodystrophy, insulin resistance/diabetes, osteoporosis, associated wasting syndrome). Demonstrations of food preparation and handling also should be done at the care and treatment sites. Nutrition education and counseling materials for PLHIV currently being produced by PNN and FANTA-2 should be used for nutrition education and counseling.

PNN should promote proper hygiene and sanitation among all clients. The purpose of hygiene and sanitation promotion is to prevent diarrhea and other diseases related to the use of unsafe water, contaminated food and unclean household conditions. Health care providers should counsel all clients or caretakers about proper hand-washing, drinking clean water, safe storage and handling of drinking water, using clean water to wash and prepare foods, and proper use of adequate sanitary facilities. If clients do not have access to potable water in the home, health care providers should educate clients on how to purify their water at home and promote the use of available methods of point-of-use water purification such as chlorine solutions or household water filters. In cases where point-of-use water purification products are not accessible to the client, health care providers should facilitate access to them.

PNN, PNOEV and PNPEC should ensure that all clients are linked to community-based income generation and food security activities. Within the context of nutrition services for PLHIV, one of the main purposes of linking clients to community-based support is to help clients to access income-generating activities, livelihood programs and other sources of food support. All clients who are food insecure should be referred or linked to such support activities from the time that they enter into a treatment program. This is especially important for clients receiving food provision services since transitioning clients off short-term provision of therapeutic and supplementary food to longer-term food security is complicated by poverty, reduced productivity and, in some cases, dependency on free food. The Ivorian Network of People Living with HIV (*Reseau Ivoirien des Personnes Vivant avec le VIH* [RIP+]) and other national networks should be approached to identify PLHIV associations and other nongovernmental organizations (NGOs) active near specific health facilities.

PNN should provide therapeutic and supplementary food to clients at facilities that have put into place the first four services of the standard package. The purpose of food provision is to rehabilitate malnourished clients and to improve their clinical status and adherence to treatment. Food provision must have standardized eligibility, transition and exit criteria; use clear protocols; be located in a facility with adequate food handling logistical capacity (e.g., inventory, storage); and use food provision mechanisms that avoid causing stigma and resentment. Food provided must be safe, effective, consistently high-quality, palatable, easy to digest, culturally appropriate, cost effective, and easy to deliver to clients in desired quantities.

At sites that will provide therapeutic and supplementary foods, FANTA-2 recommends that malnourished patients be provided with RUTF and FBF as described in the entry, transition and exit criteria in **Table 6** and the dosing tables in **Annex 9**. It would be worth comparing the cost of importing RUTF from Niger and to the cost of importation from France for cost effectiveness. Any source of RUTF should have UNICEF certification. UNICEF currently has manufacturing standards for RUTF production which have been adopted by all UN agencies. These standards address issues such as the quality management system of the production facility, personnel, design and maintenance of the premises, equipment, documentation, production, and quality control. FBF should be energy dense (about 400 kcal/100 g) and fortified. When prescribed alone, amounts should provide at least 40 percent of the daily energy

requirements of the client, with approximately 10–12 percent of energy coming from protein. FBF should meet WFP safety standards.[32] When prescribed with RUTF, the recommended micronutrient levels for the FBF used in the program may be different than those for FBF used in other types of programs. This is due to the need to reduce certain micronutrient levels to avoid potentially too-high levels of micronutrient intake when the FBF is used in combination with RUTF.

PNN should ensure that health care providers promote and support exclusive breastfeeding of children until 6 months of age by mothers who are living with HIV unless exclusive replacement feeding is acceptable, feasible, affordable, safe and sustainable (AFASS). Neither therapeutic nor supplementary foods are appropriate for infants under 6 months of age. PNN should ensure that these foods are not promoted for use as infant formula. PNN should ensure that all therapeutic and supplementary foods used in their programs be labeled clearly to indicate that they are not for children under 6 months of age. Health care providers should work with parents or caregivers of infants for whom exclusive replacement feeding meet the AFASS criteria and who have opted not to exclusively breastfeed to determine the most nutritious replacement feeding option for the family's situation, according to Côte d'Ivoire's PMTCT guidelines.

4.2 RECOMMENDATIONS ON CROSS-CUTTING ISSUES: TRAINING NEEDS AND HARMONIZATION ACROSS GUIDELINES AND PROTOCOLS

PNN should incorporate indicators specific to nutrition assessment, nutrition education and counseling, hygiene and sanitation promotion, linkages to community-based support activities and food provision into the M&E system described in the PLHIV Protocol.[33] Prior to the roll out of the standard package of nutrition services, PNN and PEFPAR/Côte d'Ivoire should conduct a workshop with partners to incorporate key indicators into the monitoring and reporting tools proposed in the PLHIV Protocol. All training sessions on FBP should include training on the M&E system in the PLHIV Protocol with any modifications relevant to FBP. Training should also include the use of client tools, the analysis of program data to inform program decisions and improve the quality of services, and reporting formats and schedules.

There is a need to strengthen the capacity of health care providers in the provision of nutrition services to PLHIV and OVC. In-service training in nutrition should be strengthened and expanded, and pre-service training should be introduced. For example, the possibility of developing a course of study leading to a certification in nutrition within the school of nursing or social work should be explored.

PEFPAR/Côte d'Ivoire and PNN should continue to promote strong collaboration among government programs and IPs in the area of nutrition and HIV. PNN should convene regular meetings of the nutrition and HIV TWG which could be hosted by IPs on a rotating basis to plan and give follow-up to activities, and to validate guidelines, protocols and tools related to nutrition and HIV. PNN, FANTA-2, WFP and PATH should continue to meet monthly to update and ensure smooth implementation of their consolidated workplan for nutrition and HIV.

4.2.1 Management of clinical malnutrition

PNN should work with the MSHP to ensure that all referral centers for nutritional rehabilitation have a central nutritional rehabilitation unit dedicated to the rehabilitation of children with SAM in accordance with the Severe Malnutrition Protocol.[34]

[32] *Fortified Blended Food: Good Manufacturing Practice and HACCP Principles, A Handbook for Processors in Partnership with the U.N. World Food Programme*, (DRAFT) WFP, 2004. Available at: http://foodquality.wfp.org/FoodSafetyandHygiene/FoodQualitySystems/HACCPGMPFBFplant/tabid/325/Default.aspx?PageContentID=596.

[33] *Protocole national de prise en charge nutritionnelle des personnes infectées et affectées par le VIH et/ou malades de la tuberculose*, MSHP, PNN, WFP, 2009 (Approved by stakeholders and recommended for adoption in April 2009).

[34] *Protocole national de prise en charge de la malnutrition sévère en Côte d'Ivoire,* May 2005.

PNN should continue its efforts to introduce CMAM in accordance with the 2007 joint statement on CMAM.[35]

PNN should continue with its plans to produce and disseminate the PLHIV Protocol and conduct training on its use.

PNN should produce and disseminate the recently-validated *Guidelines for Nutritional Care of OVC in Côte d'Ivoire* (OVC Guidelines) developed with the support of IYCN,[36] **and train health care providers leading nutrition services of OVC at health facilities and SCs around the country in their use.**

PNN, with the support of PEFPAR/Côte d'Ivoire through FANTA-2, should produce and disseminate the recently-validated *National Guidelines* and train health care providers leading nutrition services of PLHIV and OVC at health facilities around the country in their use.

PNN should ensure that the protocol and guidelines mentioned above are harmonized with CMAM guidelines.

4.2.2 Training for nutrition assessment, nutrition education and counseling, the provision of equipment and job aids

With support from PEFPAR/Côte d'Ivoire through FANTA-2, PNN should proceed with its plan to adapt a nutrition and HIV training manual for use by health care providers in Côte d'Ivoire and to produce and disseminate it with WFP support. This manual should include a module on FBP. PNN should promote the integration of the training manual into pre-service training for doctors, nurses, midwives and social workers.

Based on the training manual, PNN should provide nutrition and HIV training to personnel in charge of nutrition services at all ART and PMTCT sites and all SC that provide services targeted to OVC. Training should cover the standard package of nutrition services, specifically nutrition assessment, nutrition education and counseling, hygiene promotion, and linkages to community-based support activities. Training should also cover basics of HIV and AIDS; basics of nutrition; links between nutrition and HIV; nutrition management of HIV-related symptoms; management of nutrition implications of ART; PMTCT and infant and child feeding in the context of HIV; food security and support services for PLHIV; and nutrition services for adults, pregnant and lactating women, adolescents and children living with HIV.

PNN should develop and produce wall matrices for estimating BMI for adults, BMI-for-age and WFH for children with the support of PEFPAR/Côte d'Ivoire through FANTA-2. PNN should ensure that personnel in charge of nutrition services at all ART and PMTCT sites and all SC that offer nutrition services to OVC receive training and supervision and have access to functioning **equipment** and **job aids** (such as the wall matrices) needed to conduct high quality nutrition assessment.

PNN should continue with its plans to produce nutrition education and counseling materials for PLHIV and provide training in their use to personnel in charge of nutrition services at all ART and PMTCT sites and all SC that offer nutrition services to OVC, with support from PEPFAR/Côte d'Ivoire through FANTA-2. The training should include personnel in charge of nutrition education and counseling at all ART and PMTCT sites; all SC that offer PNOEV's platform of services to OVC, RIP+ and other PLHIV associations; and NGOs that provide both facility-based and community counseling to PLHIV.

[35] *Community-based management of severe acute malnutrition: A joint statement by the World Health Organization, the World Food Programme, the United Nations System Standing Committee on Nutrition and the United Nations Children's Fund*, 2007 http://www.who.int/nutrition/publications/severemalnutrition/978-92-806-4147-9/en/index.html.
[36] *Guide de Prise en Charge Nutritionnelle des Orphelins et Enfants Vulnérable du Fait du VIH en Côte d'Ivoire.*

PNN should support adequate nutrition assessment. PNN should conduct an inventory of nutrition assessment equipment and evaluate the training needs for nutrition assessment among personnel in charge of nutrition services at all ART and PMTCT sites and all SC that offer PNOEV's platform of services to OVC. PNN should then ensure that these sites have adequate equipment that is in good repair (e.g., scales, height boards, MUAC tapes) as well as job aids for nutrition assessment (e.g., tables for calculating BMI). PNN should also ensure that personnel receive adequate training and supervision.

To better inform program decisions for current and future nutrition efforts (such as the development and refining of nutrition education and counseling materials), PEFPAR/Côte d'Ivoire should make use of available studies and program data to better understand the determinants of nutritional status among malnourished and non-malnourished members of the general population, PLHIV, PMTCT clients, and OVC 5–18 years of age.

At those sites offering food provision services, PNN should provide additional training on nutrition education and counseling, logistics and skill building on essential food provision activities. Food provision-related nutrition education and counseling should promote such practices as the proper use of the therapeutic and supplementary foods provided and adherence to the prescribed diet. This training should be in addition to the generic nutrition and HIV training mentioned above. During the training, participants at each facility should develop an action plan to promote linkages to community-based support activities.

PNN should identify operations research questions and explore with INSP and CSRS the possibility of or need for conducting operations research during the initial phase of FBP.

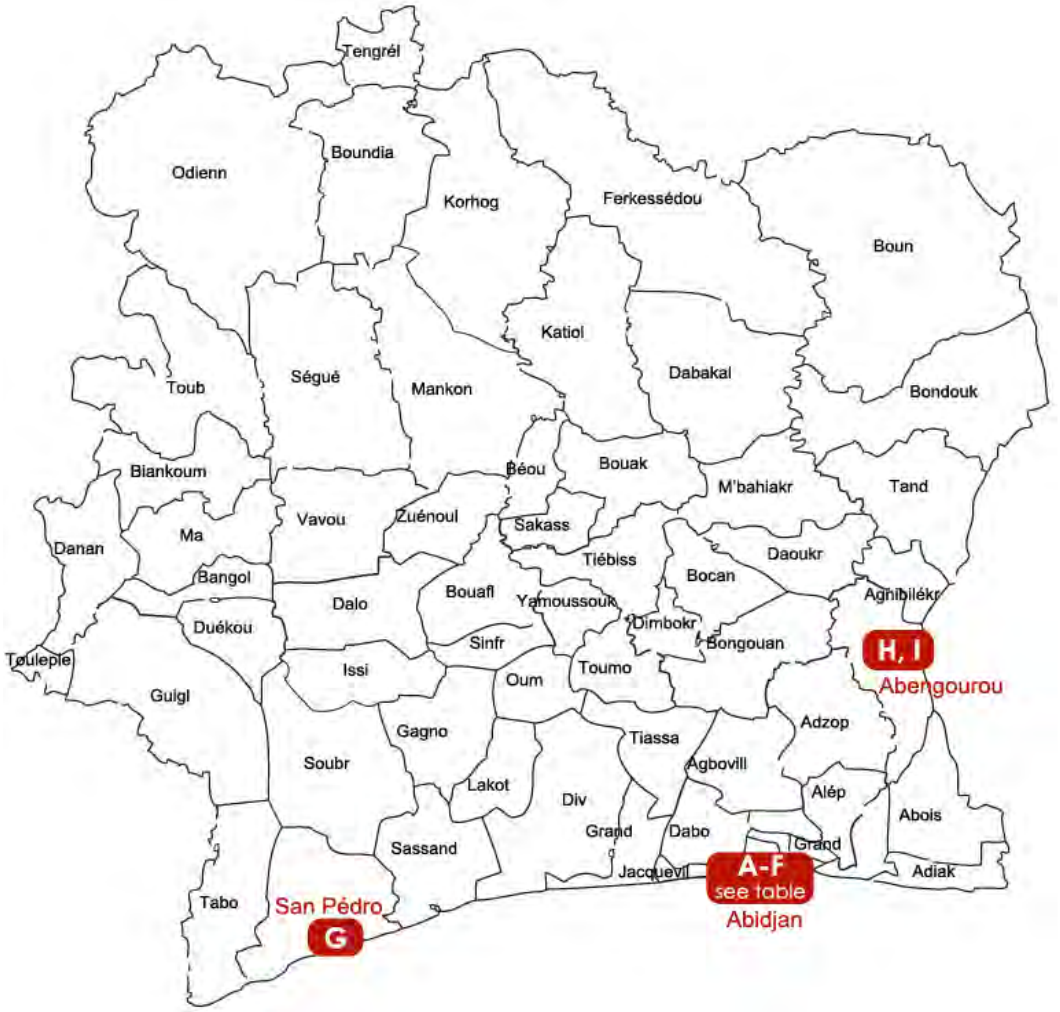
PEFPAR/Côte d'Ivoire should support a review of factors that contribute to nutritional status among malnourished and non-malnourished PLHIV, PMTCT clients and adolescent OVC in Côte d'Ivoire to aid in the understanding of the determinants of their nutritional status and to inform program decisions for current and future nutrition efforts. While the linkages between malnutrition and HIV are well documented and there is emerging evidence from randomized controlled trials and from program data that the package of nutrition services provided by FBP leads to improved nutrition outcomes among malnourished clients, the determinants of malnutrition specific to these population groups in Côte d'Ivoire have not been studied. A deeper understanding as to why clients in Côte d'Ivoire are malnourished is important to guide the integration of nutrition care and support into HIV services. Knowledge of the primary factors contributing to malnutrition in the Ivoirian context is essential to helping clients that are at risk of malnutrition maintain good nutritional status. This knowledge helps those who are malnourished to improve more quickly and ensures that FBP clients do not relapse after they exit the program. The purpose of the review should be to help IPs in Côte d'Ivoire to refine the design and implementation of nutrition services they offer to PLHIV and OVC.

4.3 RECOMMENDATIONS FOR IMPLEMENTING FBP: PHASE ONE

PNN with support from PEFPAR/Côte d'Ivoire should phase in FBP gradually, beginning with the nine sites listed in Figure 2. These sites were identified by PNN in consultation with FANTA-2 as having high managerial, technical and logistical capacity and which are located in areas where PNN can easily conduct supervision and monitoring. These are sites from which lessons learned and innovations can be disseminated easily to other facilities. Most of these facilities are "ART day hospitals" in which clients on ARVs receive comprehensive ART services. Some of these facilities also receive RUTF from UNICEF for the management of SAM among children under 5 years of age. Technical assistance for the implementation of the FBP will come from PEFPAR/Côte d'Ivoire through FANTA-2.

Before introducing food provisions, each site will need to introduce the initial four services of the standard package and demonstrate that these are conducted properly. Strong M&E and documentation of lessons learned should accompany Phase One to inform subsequent scale-up.

Figure 2. Map of health regions with nine recommended learning sites



Letter	Health Region	City	Learning site
A	Les Lagunes	Abidjan	Hôpital Général d'Abobo, the Center for Care
B	Les Lagunes	Abidjan	Research and Training at Yopougon (*Centre de Prise en charge, de Recherche et de Formation* [CEPREF])
C	Les Lagunes	Abidjan	Hôpital Général de Port Bouët
D	Les Lagunes	Abidjan	The Outpatient Care and Counseling Unit (*Unité de Soins Ambulatoires et de Conseils* [USAC])
E	Les Lagunes	Abidjan	The Integrated Center of Bioclinical Research of Abidjan (*Centre Intégré de Recherche Bio-clinique d'Abidjan* [CIRBA])
F	Les Lagunes	Abidjan	Infectious Disease Services (*Services des maladies Infectieuses* [SMI]) at the University Hospital Center in Treichville
G	Bas-Sassandra	San Pédro	Centre Hospitalier Régional (CHR) de San Pédro
H	Moyen Comoé	Abengourou	Centre Hospitalier Régional (CHR) d'Abengourou
I	Moyen Comoé	Abengourou	Centre Antituberculeux d'Abengourou

PNN should conduct an assessment of therapeutic and supplementary foods for use in FBP. With the support of PEFPAR/Côte d'Ivoire through FANTA-2, PNN should conduct the assessment in the early stages of implementation so that the findings may be used to inform the program. The assessment should determine the nutrient specifications indicated for the therapeutic and supplementary foods recommended for FBP and test the acceptability of the recommended therapeutic foods among targeted beneficiaries. The acceptability testing should take place at CEPREF Youpogon and USAC since these two sites have a large number of clients, have strong research capacity and are easily accessible to PNN headquarters to facilitate oversight of the testing. The assessment should also determine the potential for procurement of the recommended therapeutic and supplementary foods at the national and regional levels, and possible non-PEFPAR/Côte d'Ivoire sources of funding for their procurement.

Once PNN finalizes plans for the implementation of FBP and determines the types and amounts of therapeutic and supplementary foods required, PNN should move forward with negotiation of an agreement with PSP for the procurement, storage and supply of therapeutic and supplementary foods.

PNN should introduce strong M&E activities, the periodic review of results and the documentation of lessons learned during the initial Phase One of FBP implementation. As appropriate, PNN should consider obtaining technical assistance from INSP and CSRS, both of which have strong capacity in areas such as M&E and case studies.

Each of the Phase One facilities should designate at least two staff members from outpatient services who will be trained in nutrition and HIV, FBP and the use of the PLHIV Protocol, the OVC Guidelines and the nutrition education and counseling materials for PLHIV.

Each Phase One facility should designate a person to provide nutrition counseling. This could be a nurse/midwife in the PMTCT clinic or a nurse on duty at the ART clinic. Doctors should also offer nutrition counseling as part of their routine consultation in ART/PMTCT services. The designated counselor and doctors should receive training in nutrition counseling and the use of PNN's nutrition education and counseling materials for PLHIV currently being developed with the support of PEFPAR/Côte d'Ivoire through FANTA-2.

Each Phase One facility should be linked to a nearby SC which would act as point of referral for malnourished OVC into FBP services. At each SC identified, PNOEV should identify the social worker in charge of nutrition care and support. PNN should provide this social worker with training on nutrition assessment, nutrition counseling for OVC and/or their caregiver, and referral of children with SAM and MAM to the indicated health facility for medical assessment, enrollment into FBP, and supply of therapeutic and supplementary foods.

Each Phase One facility and corresponding SC should have a focal point from amongst those trained to coordinate nutrition activities for the site and to liaise with PNN on FBP activities. In addition to those discussed above, activities should include ensuring that food is ordered, stocks are well maintained, records are well kept, and nutrition assessment equipment is available and well maintained.

Before introducing food provision, each Phase One facility and corresponding SC should have the equipment and job aids needed for nutrition assessment and nutrition education and counseling. These include scales, MUAC tapes, height/length boards, algorithms for management of SAM and MAM among children and among adults, and the wall matrices and nutrition education and counseling materials described above.

Each Phase One facility and corresponding SC should identify a space to store therapeutic and supplementary foods for use in FBP.

PNN should ensure technical support in the logistics, management and quality assurance of therapeutic and supplementary foods to each Phase One facility and corresponding SC. PNN should do this with the support of PEFPAR/Côte d'Ivoire through SCMS.

5. Quantification and Costing of a FBP Program in Côte d'Ivoire

In this section, FANTA-2 estimates the amount and cost of food for a national FBP program and for a limited Phase One program based on proposed program entry, transition and exit criteria by target group; the estimated number of beneficiaries; and a recommended food package for beneficiaries. FBP provides therapeutic and supplementary foods to malnourished individuals on an outpatient basis. FBP has two stages based on the nutritional status of the beneficiary. Under **Therapeutic Food Provision**, patients with SAM without medical complications are provided a therapeutic ration until their nutritional status improves to the point of meeting specific transition criteria. Under **Supplementary Food Provision**, patients with MAM are provided a supplementary ration until they meet specific exit criteria.

5.1 ENTRY, TRANSITION AND EXIT CRITERIA FOR FOOD PROVISION BY TARGET GROUP

The entry, transition and exit criteria shown in **Table 6** (including the MUAC cutoff values for MAM) are based on PNN's PLHIV Protocol.[37] The MUAC cutoff values for SAM have been updated to reflect the latest WHO and UNICEF recommendations.[38] The exit and transition criteria for malnourished OVC under 5 years of age have been adapted from *Training Guide for Community-Based Management of Acute Malnutrition (CMAM)*.[39]

Table 6. Entry, transition and exit criteria for Food Provision by target group

Target Group	Eligibility Criteria	Exit/Transition Criteria
Malnourished ART and pre-ART adults	**SAM with medical complications**: BMI ≤ 16 AND/OR bilateral pitting edema AND medical complications	Rehabilitate according to the PLHIV Protocol. When the patient is able to consume enough RUTF and FBF to meet her/his nutrition needs, transition to *Therapeutic Food Provision*.
	SAM without complications: *Therapeutic Food Provision* BMI ≤ 16 OR bilateral pitting edema	Transition to *Supplementary Food Provision* when BMI > 16 AND no edema for 2 consecutive visits at least 10 days apart
	MAM: *Supplementary Food Provision* BMI >16 and ≤ 18.5	Exit Food Provision when BMI > 18.5 for 2 consecutive visits at least 10 days apart
Pregnant and post-partum women	**SAM with medical complications**: MUAC ≤ 180 mm AND medical complications	Rehabilitate according to the PLHIV Protocol. When the patient is able to consume enough RUTF and FBF to meet his/her nutrition needs, transition to *Therapeutic Food Provision*.

[37] *Protocole national de prise en charge nutritionnelle des personnes infectées et affectées par le VIH et/ou malades de la tuberculose*, MSHP, PNN, WFP, 2009 (Validated in April 2009).

[38] MUAC is an indicator for wasting, to be used for children over 6 months of age or greater than 85 centimeters (cm) in length. MUAC is a better indicator of mortality risk associated with acute malnutrition than WFH. The *Training Guide for Community-Based Management of Acute Malnutrition (CMAM)* (FANTA, 2008) recommends a MUAC cut-off of 11 cm for SAM among children 6–59 months of age. However, in *WHO child growth standards and the identification of severe acute malnutrition in infants and children: A Joint Statement by the World Health Organization and the United Nations Children's Fund*, 2009, WHO and UNICEF propose an increase in the cutoff for SAM from 11 cm to 11.5 cm. This proposed limit is based on evidence showing that children 6–59 months of age with a MUAC less than or equal to 11.5 cm run a high risk of death compared with children with a MUAC greater than 11.5 cm. The joint statement makes no recommendation for cutoffs for MAM. WHO is commissioning a report to recommend MUAC cut-offs for MAM, but this report is not expected this year.
http://www.who.int/nutrition/publications/severemalnutrition/9789241598163/en/index.html. Recommended cut-offs for SAM for 5–9 years of age and 10–14 years of age are published in *Guidelines for an Integrated Approach to the Nutritional Care of HIV-infected children (6 months – 14 years)* (WHO, 2008) These values are based on WHO standard growth Z-scores and have not been clinically validated. WHO provides no recommended cutoff for MAM for these ages.

[39] Food and Nutrition Technical Assistance (FANTA) Project, Valid International, Concern Worldwide and UNICEF. *Training Guide for Community-Based Management of Acute Malnutrition (CMAM)*. Washington, DC: FANTA, FHI 360, 2008.

Target Group	Eligibility Criteria	Exit/Transition Criteria
	SAM: *Therapeutic Food Provision* MUAC ≤ 180 mm OR bilateral pitting edema	Transition to *Supplementary Food Provision* when MUAC > 180 mm AND no edema for 2 consecutive visits at least 10 days apart
	MAM: *Supplementary Food Provision* MUAC > 180 mm and ≤ 210 mm OR weight gain less than 1 kg per month during the 2nd and 3rd trimesters OR Hb < 11 g/dL	Exit Food Provision when MUAC > 210 mm for 2 consecutive visits at least 10 days apart AND weight gain greater than 1 kg per month during the 2nd and 3rd trimesters AND Hb ≥ 11 g/dL
Malnourished OVC 5–18 years of age	**SAM with medical complications**: WHZ < -3, WFH < 70% OR BMI-for-age Z-score < -3 OR 5–9 years of age MUAC ≤ 135 mm 10–14 years of age MUAC ≤ 160 mm OR bilateral pitting edema AND medical complications	Rehabilitate according to the Severe Malnutrition Protocol.[40] When the patient is able to consume enough RUTF and FBF to meet her/his nutrition needs, transition to *Therapeutic Food Provision*.
	SAM without medical complications: *Therapeutic Food Provision* WHZ < -3, WFH < 70% OR BMI-for-age Z-score < -3 OR 5–9 years of age MUAC ≤ 135 mm 10–14 years of age MUAC ≤ 160 mm AND/OR bilateral pitting edema	Transition to *Supplementary Food Provision* when the following cutoffs are met for 2 consecutive weeks: WHZ ≥ -3, WFH ≥ 70% OR BMI-for-age Z-score ≥ -3 OR 5–9 years of age MUAC > 135 mm 10–14 years of age MUAC > 160 mm AND no edema for 2 consecutive weeks AND has received therapeutic feeding for at least 8 weeks
	MAM: *Supplementary Food Provision* WHZ ≥ -3 and < -2, WFH ≥ 70% and < 80% OR BMI-for-age Z-score ≥ -3 and < -2 OR OR Weight loss greater than 10% since last visit	Exit Food Provision when following cutoffs are met for two consecutive weeks: WHZ ≥ -2, WFH ≥ 80% OR BMI for Age Z score ≥ -2 OR
Malnourished OVC 6–59 months of age	**SAM with complications**: WHZ < -3, WFH < 70% OR MUAC ≤ 115 mm OR bilateral pitting edema AND medical complications	Rehabilitate according to the Severe Malnutrition Protocol and transition to *Supplementary Food Provision* upon meeting the following criteria: WHZ > -3, WFH ≥ 70% OR MUAC > 115 mm AND no edema, for two consecutive weeks AND has received therapeutic feeding for at least 8 weeks.
	SAM without complications: WHZ < -3, WFH < 70% OR MUAC ≤ 115mm OR bilateral pitting edema	Rehabilitate according to the Severe Malnutrition Protocol and transition to *Supplementary Food Provision* upon meeting the criteria below: WHZ ≥ -2, WFH ≥ 80% OR MUAC > 115 mm AND no edema for 2 consecutive weeks AND has received therapeutic feeding for at least 8 weeks
	MAM: *Supplementary Food Provision* WHZ ≥ -3 and < -2, WFH ≥ 70% and < 80% OR MUAC >115 mm and < 125 mm	Exit Food Provision when following cutoff is met for 2 consecutive weeks: WHZ ≥ -2, WFH ≥ 80% OR MUAC ≥125 mm
Children 6–23 months of age born to PMTCT clients (not malnourished)	**Not Malnourished**: *Supplementary Food Provision* WHZ ≥ -2, WFH ≥ 80% OR MUAC ≥ 125 mm	Exit Food Provision at 24 months of age

[40] *Protocole national de prise en charge de la malnutrition sévère en Côte d'Ivoire,* May 2005.

5.2 ESTIMATED NUMBER OF BENEFICIARIES

5.2.1 Estimated number of beneficiaries for a national roll-out

For 2009, PEPFAR/Côte d'Ivoire is targeting 80,000 adults for ART services, 18,600 women for PMTCT services and 83,000 OVC for care and support. Since the national malnutrition rates among PLHIV, PMTCT and OVC are not known, FANTA-2 uses the following estimated rates for the purposes of quantifying target populations for food provision:

- An estimated prevalence of malnutrition (chronic energy deficiency [CED]: BMI < 18.5) of 25 percent is used with adult PLHIV based on data from CEPREF, CIRBA and WFP, as well as anecdotal evidence from interviews with staff from various programs.
- The prevalence of malnutrition for PMTCT clients is based on the 2008 SMART Survey[41] estimate of CED (BMI < 18.5) among WRA in Abidjan of 6.8 percent.
- The SMART survey's estimate of acute malnutrition (WHZ < -2 and/or edema) of 4.7 percent among children under 5 years of age in Abidjan is applied to OVC 0–18 years of age, who are then referred to health facilities from SCs or are identified within PMTCT service (both exposed and infected).

FANTA-2 recommends that all children 6–23 months of age who are born to women enrolled in PMTCT services be included in food provision services. While not all such children are malnourished, supplementation of children 6–23 months of age who are born to HIV-positive mothers will help to prevent malnutrition and may serve as an incentive to promote adherence to follow-up care recommendations for both mother and child. **Table 7** presents these estimates, assuming all clients targeted by PEFPAR/Côte d'Ivoire have access to FBP.

Table 7. Estimated number of PLHIV, PMTCT clients and OVC in need of food provision in Côte d'Ivoire

Target group	PEFPAR/Côte d'Ivoire Targets for 2009	Estimated % in need of food provision	Indicator and source	Estimated number in need of food provision
Adult ART and pre-ART clients	80,000	25.0%	CED: BMI < 18.5: WFP Project Data and estimates from CEPREF	20,000
PMTCT clients (HIV-positive pregnant and lactating women)	18,600	6.8%	CED: BMI < 18.5: among WRA from SMART Survey. Abidjan	1,265
OVC	83,000	4.7%	Acute malnutrition: WHZ < -2 and/or bilateral pitting edema: SMART Survey Abidjan	3,901
Children 6–23 months of age born to PMTCT clients	16,368	88%	12 percent of children born to PMTCT clients are lost to follow up: PNPEC[42]	16,368
Total				**41,534**

[41] MSPP, PNN, PMA, UNICEF, 2008.

[42] According to PNPEC, approximately 12 percent of children born to PMTCT clients in the first half of 2007 were lost to follow up within the first month of life. *Rapport semestriel des activités VIH/SIDA dans le secteur de la sante en CÔTE D'IVOIRE Janvier-Juillet 2007, Octobre 2007, En collaboration avec le PNPEC et la PSP-CI Avec l'appui Technique de Measure Evaluation/JSI et Financier l'Unité de Gestion du Fonds Mondial.*

The estimates in **Table 7** have some limitations. The rate of malnutrition for WRA living with HIV is generally higher than that of WRA who are not, thus the actual rate may be higher than estimated. Malnutrition rates are usually much lower among children over 5 years of age than among those under 5, so the actual rate of malnutrition among OVC across all ages may be lower than estimated. Children of PMTCT clients who are over 6 months of age at the time that food provision is initiated may be less likely to be enrolled in FBP than those born after FBP services are in place since many mothers will have already left the PMTCT service by the time that FBP services are available. Thus, the number of children 6–23 months of age receiving food provision will probably be lower than estimated for the first year of FBP.

Assumptions

Based on **Table 7**, food provision beneficiaries would be distributed as follows: 48 percent adults on ART, 3 percent PMTCT clients, 39 percent children 6 -23 months of age born to PMTCT clients, and 10 percent OVC clients. Based on experience from Kenya and Malawi, FANTA-2 assumes that 25 percent of malnourished beneficiaries are severely malnourished and 75 percent are moderately malnourished. The projected total number of beneficiaries country-wide is based on PEPFAR/Côte d'Ivoire targets for 2009 and assumes all beneficiaries have access to FBP.

5.2.2 Estimated number of beneficiaries for FBP: Phase One

Nine sites were identified by PNN as having the managerial, technical and logistical capacity to begin FBP. The sites are easily accessible to PNN to facilitate strong supervision and monitoring. They are seen as learning sites from which lessons learned and innovations can be disseminated easily to other facilities during the national roll-out. **Table 8** assumes that the Phase One program initiated in the nine target sites will cover only one-fifth of the total national needs for food provision. The assumption of one-fifth coverage is based on current admission to the ART programs but may need further adjustment once actual figures are obtained. Using the current estimates of the prevalence of malnutrition and the associated assumptions, 8,307 clients will be targeted for food provision in this phase.

Table 8. Estimated number of PLHIV, PMTCT clients and OVC in need of food provision at learning sites

Target group (One-fifth of national targets)	PEFPAR/Côte d'Ivoire Targets for 2009	Estimated % in need of food provision	Indicator and source	Estimated number in need of food provision
Adult ART and pre-ART client	16,000	25.0%	CED: BMI < 18.5: WFP Project Data and estimates from CEPREF	4,000
HIV-positive pregnant and lactating women	3,720	6.8%	CED: BMI < 18.5: among WRA from SMART Survey. Abidjan	253
OVC	16,600	4.7%	Acute malnutrition: WHZ < -2 and/or bilateral pitting edema: SMART Survey Abidjan	780
Children 6 – 23 months born to PMTCT clients	3,274	88%	12 percent of children born to PMTCT clients are lost to follow up: PNPEC	3,274
Total				**8,307**

5.3 RECOMMENDED FOOD PACKAGE

The food package below does not differ significantly from the recommended food package specified in the PLHIV Protocol. Each client would receive the indicated food package until achieving the applicable transition or exit criteria. The lengths of time provided below are averages based on program experience in other countries. The estimates are provided for supply estimation only and are not meant as time limits for treatment.

- **Severely malnourished adult pre-ART and ART clients**: 2 months of 276 g/day of RUTF, plus 400 g/day of FBF, followed by 2 months of 400 g/day of FBF
- **Moderately malnourished** adult **pre-ART and ART clients**: 2 months of 400 g/day of FBF
- **Severely malnourished PMTCT clients**: 2 months of 276 g/day of RUTF, plus 400 g/day of FBF, followed by 4 months of 400 g/day of FBF
- **Moderately malnourished PMTCT clients**: 4 months of 400 g/day of FBF
- **OVC with SAM**:[43] 2 months of 200 kcal/g/day of RUTF (average 276 g/day of RUTF), followed by 2 months of 92 g/day RUTF, plus average of 100 g/day of FBF
- **OVC with MAM**: 2 months of 92 g/day RUTF, plus average of 100 g/day of FBF
- **Children 6–23 months of age born to PMTCT clients** 100 g/day FBF for 18 months for those entering the program at age 6 months

5.4 AMOUNT AND COST OF FOOD FOR A NATIONAL FBP PROGRAM AND FOR PHASE ONE

5.4.1 Amount and cost of food for a national roll-out

Based on the estimated numbers of beneficiaries in need of food provision, the recommended food packages and the associated assumptions described above, if food provision were to be established at a national level it would require the annual provision of about 90 MT of RUTF and 1,282 MT of FBF for a total cost of US$2,411,200. These estimates assume that therapeutic and supplementary foods can be obtained at the prices cited in **Table 9**. The cost would change if prices differ. Costs only include the cost of food, not other program costs.

Table 9. Estimated annual cost of therapeutic and supplementary foods for a national FBP program

Specialized Food Product	MT	Cost per MT (US$)	Total Cost (US$)
RUTF	90	4,000	360,000
FBF	1,282	1,600	2,051,200
		TOTAL	**2,411,200**

5.4.2 Amount and cost of food for FBP: Phase One

Providing the recommended food package to 8,307 beneficiaries for one year during the Phase One roll-out would require 26 MT of RUTF and 343 MT of FBF at a cost of US$652,800, as shown in **Table 10**.

Table 10. Estimated annual costs of therapeutic and supplementary foods for Phase One

Specialized Food Product	MT	Cost per MT (US$)	Total Cost (US$)
RUTF	26	4,000	104,000
FBF	343	1,600	548,800
		TOTAL	**652,800**

[43] To simplify forecasting, the estimated ration for OVC is based on the recommended ration for children under 5 years of age. As data on duration of treatment for malnourished OVC 5–18 years of age becomes available, the estimates should be adjusted accordingly.

Annex 1. Proposed Sequence of Major Events for Introducing FBP in Côte d'Ivoire

Development of materials, guidelines and indicators	**Dissemination and Training**	**Set-up**	**Roll-out**
PNN should incorporate indicators specific to nutrition assessment, nutrition education and counseling, hygiene and sanitation promotion, linkages to community-based support activities and food provision into the M&E system described in the PLHIV Protocol. PNN should continue its efforts to introduce CMAM. PNN should ensure that the PLHIV Protocol and OVC Guidelines are harmonized with CMAM guidelines. PNN should proceed with its plan to adapt a nutrition and HIV training manual for use by health care providers in Côte d'Ivoire. PNN should develop and produce wall matrices for estimating BMI for adults, BMI-for-age and WFH for children.	PNN should continue with its plans to produce and disseminate the PLHIV Protocol and conduct training on its use. PNN should produce and disseminate the OVC Guidelines and train health care providers leading nutrition services of OVC at health facilities and SCs (appropriate personnel) around the country in their use. PNN should produce and disseminate the National Guidelines and train appropriate personnel in their use. PNN should provide nutrition and HIV training to appropriate personnel based on the training manual. PNN should ensure that appropriate personnel receive training and supervision and have access to functioning **equipment** and **job aids** needed to conduct high-quality nutrition assessment and nutrition education and counseling. PNN should produce **nutrition education and counseling** materials for PLHIV and provide training in their use to appropriate personnel.	PNN should conduct an assessment of therapeutic and supplementary foods for use in FBP. Each Phase One facility should designate at least two staff members from outpatient services who will be trained in nutrition and HIV, FBP, the use of the appropriate guidelines and protocols, and the use of the nutrition education and counseling materials. Each facility should also designate a person to provide nutrition education and counseling and a focal point to coordinate nutrition activities and liaise with PNN. Each Phase One facility should be linked to a nearby SC that would act as the point of referral for malnourished OVC into FBP services. PNN should negotiate an agreement with PSP for the procurement, storage and supply of therapeutic and supplementary foods. Each Phase One facility should identify a space to store therapeutic and supplementary foods for use in FBP.	Learning sites should begin to roll out the standard package of nutrition services. PNN should ensure technical support in the logistics, management and quality assurance of the standard package of services, including the provision of therapeutic and supplementary foods to each Phase One facility.
Strengthen in-service training in nutrition and introduce pre-service training. Make use of available studies and program data to better understand the determinants of nutritional status. Implement strong M&E activities, the periodic review of results and the documentation of lessons learned.			

Annex 2: Therapeutic Foods in Use in Nutrition Programs in Côte d'Ivoire

Criteria	Therapeutic foods			
	F-75 therapeutic milk	**F-100 therapeutic milk**	**Plumpy'Nut®**	**BP-100**
Manufacturer	Nutriset B.P. 35 – 76770, MALAUNAY France Tel: +33 (0) 2.32.93.82.82 Fax: +33 (0) 2.35.33.14.15 Email: nutriset@nutriset.fr Website: www.nutriset.fr	Nutriset B.P. 35 – 76770, MALAUNAY France Tel: +33 (0) 2.32.93.82.82 Fax: +33 (0) 2.35.33.14.15 Email: nutriset@nutriset.fr Website: www.nutriset.fr	Nutriset B.P. 35 – 76770, MALAUNAY France Tel: +33 (0) 2.32.93.82.82 Fax: +33 (0) 2.35.33.14.15 Email: nutriset@nutriset.fr Website: www.nutriset.fr	Compact AS - Smoget 29, N-5212 Soefteland, Bergen, Norway - Phone: +47 56 30 35 00 Fax: +47 56 30 35 40 info@compact.no http://www.compactforlife.com/bp-100-rutf/
Type of product	Powder	Powder	Paste/spread	Solid form (Biscuit)
Energy (per 100 g)	375 kcal	520 kcal	500 kcal per 92 g sachet	300 kcal/56.8 g/1 biscuit
Ingredients	Skimmed milk powder, vegetable fat, sugar, maltodextrin, vitamin and mineral complex	Skimmed milk powder, vegetable fat, whey powder, maltodextrin, sugar, mineral and vitamin complex	Vegetable fat, peanut butter, skimmed milk powder, lactoserum, maltodextrin, sugar, mineral and vitamin complex No GMOs or ingredients of animal origin except milk powder	Same as F-100 milk; only difference is BP-100 contains iron (10 mg/100 g)
Packaging	410 g per sachet (makes 2.4 L of milk), 20 sachets per carton, 60 cartons per palette Airtight, filled with inert gas Aluminum laminate to protect against UV light and humidity	456 g per sachet (makes 2 liters of milk), 30 sachets per carton, 50 cartons per palette Airtight, filled with inert gas Aluminum laminate to protect against UV light and humidity	150 individual sachets of 92 g per box, 13.8 kg net weight	1 Unit contains 18 food tablets (510 g) 1 carton contains 24 units or 432 food tablets (12.24 kg) 1 pallet contains 55 cartons or 1,320 BP units (637 kg)
Shelf life/storage	24 months Store in a cool, dry place, under 30°C	24 months Store in a cool, dry place	24 months Store in a cool, dry place, under 30°C After opening, sachet may be used throughout the day	4 years in an unopened pack

Criteria	Therapeutic foods			
	F-75 therapeutic milk	**F-100 therapeutic milk**	**Plumpy'Nut®**	**BP-100**
Cost (US$)	1.40/sachet	TBD	0.37/500 kcal sachet (3.9 per kg) 1.28 per 2,100 kcal 0.33 per 545 kcal (100 g)	TBD
Preparation	Add 2 L of boiled water to obtain 2.4 L of therapeutic milk Local non-commercial mixture: For 2 L of F-75 therapeutic milk, mix 50 g dried skimmed milk, 140 g, 70 g cereal flour, 60 g vegetable oil, and 1 scoop of mineral mix with 2 L of boiled water	Add 2 L of boiled water to obtain 2.4 L of therapeutic milk	No preparation required; Eat directly or mix with porridge	As a biscuit directly from pack or crumbled into water and eaten as a porridge 2 dL of boiled drinking water per meal pack consisting of 2 BP-100 tablets (2 x 28.4 g)
Manufacturer's recommended programmatic uses	Used during phase 1 (rehabilitation) of therapeutic feeding of severely malnourished people (mainly children) because protein and sodium content are lower than in F-100 If F-75 is not available, and to reduce the risk of diarrhea, use slightly diluted F-100 (1 sachet diluted with 3 L water instead of 2) and give 135 ml/kg/day	Used during phase 2 (rehabilitation) of therapeutic feeding of severely malnourished people (mainly children) In Zimbabwe, being used for PLHA by UNICEF; In South Africa, used in therapeutic feeding centers with high concomitant of HIV/AIDS and SAM is high; HIV+ children take longer to rehabilitate and often relapse but respond to F-100 (UNICEF/South Africa)	Mainly used in phase 2 treatment of SAM in children in center or community/home-based therapeutic feeding programs Also used as supplemental food for children and adults Can also be used in PMTCT and infant feeding (beyond 6 months of age) programs	A compressed ready-to-use food product for use in the rehabilitation and treatment phase of severely malnourished children and adults Developed for use in feeding centers or direct to families as a take home ration Especially useful in contaminated environments and in cases where no therapeutic feeding facilities can be established Easier to administer than the F-100 therapeutic milk, and is more hygienic and less labor demanding in use

Criteria	Therapeutic foods			
	F-75 therapeutic milk	**F-100 therapeutic milk**	**Plumpy'Nut®**	**BP-100**
Other comments	Also comes in Infasoy version for lactose-intolerant children	Procured by UN and NGOs Also comes in Infasoy version Can be prepared on site: for 1 of F-100, mix 160 g dried skimmed milk with 100 g sugar, 120 g vegetable oil, 1 scoop of mineral mix, and 2 L of boiled water	Complies with UNDP/IAPSO norms for therapeutic food Nutriset has licensed local production of Plumpy'Nut® in countries including Malawi, Ethiopia and Democratic Republic of Congo UNICEF and Clinton Foundation already importing food in Côte d'Ivoire	For children 6–24 months of age BP-100 should preferably be given as porridge Always feed small, but many meals (6 meals per day in the initial phase of the rehabilitation) to avoid overloading of the intestine, liver or kidneys Secure that the total energy intake is not exceeding the recommended level to avoid heart failure An average recommended energy intake would be 30 kcal per kg body weight per meal corresponding to 1 tablet of BP-100 per meal for a child weighing 5 kg Avoid sudden change in the daily energy intake

Annex 3. Supplementary Foods Manufactured in Côte d'Ivoire

Criteria	Supplementary foods			
	Corn-Soy Blend (CSB)	NUTRIFORT	SUPERNUTRIFORT	FARINOR
Manufacturer	Protein Kissèe – La, Rue Sylvestre L14, Zone Industrielle de Vridi, 18 B.P. 2335 Abidjan, Côte d' Ivoire 18. Phone (225) 21 27 44 88, (225) 21 27 28 64 Telefax (225) 21 27 28 65 Website www.pkl-ci.com Email pklsoja@pkl-ci.com	Protein Kissèe – La, Rue Sylvestre L14, Zone Industrielle de Vridi, 18 B.P. 2335 Abidjan, Côte d' Ivoire 18. Phone (225) 21 27 44 88, (225) 21 27 28 64 Telefax (225) 21 27 28 65 Website www.pkl-ci.com Email pklsoja@pkl-ci.com	Protein Kissèe – La, Rue Sylvestre L14, Zone Industrielle de Vridi, 18 B.P. 2335 Abidjan, Côte d' Ivoire 18. Phone (225) 21 27 44 88, (225) 21 27 28 64 Telefax (225) 21 27 28 65 Website www.pkl-ci.com Email pklsoja@pkl-ci.com	Protein Kissèe – La, Rue Sylvestre L14, Zone Industrielle de Vridi, 18 B.P. 2335 Abidjan, Côte d' Ivoire 18. Phone (225) 21 27 44 88, (225) 21 27 28 64 Telefax (225) 21 27 28 65 Website www.pkl-ci.com Email pklsoja@pkl-ci.com
Type of product	Pre-cooked Flour	Pre-cooked flour	Pre-cooked flour	Pre-cooked flour
Energy (per 100 g)	TBD	TBD	TBD	420 kcal
Ingredients	Corn, soy, combined minerals and vitamins according to client specifications on order	Wheat/soy or corn/soy, vitamins and minerals	Corn, soy, combined minerals and vitamins according to client specifications on order	Cereals (corn or rice), soy, fortified with milk, 11 vitamins and 9 mineral
Packaging	25 kg sacks	250 g pack	5 kg bag	FARINOR is packaged in 400 g and 200 g packs Plans for 50 g packaging
Shelf life/storage	Six months if packed in polypropylene bag; fourteen months if packed in aluminum foil	Six months if packed in polypropylene bag; fourteen months if packed in aluminum foil	Six months if packed in polypropylene bag; fourteen months if packed in aluminum foil	Six months if packed in polypropylene bag; fourteen months if packed in aluminum foil
Cost (US$)	Approximately US$3,000 per MT for a total of 540 MT packaged in 200 g sachets	US$4,000 per MT	TBD	US$2.63 per 400 g pack or US$6,575 per MT
Preparation	Should be combined with water to make porridge and boiled for a few minutes	Should be combined with water to make porridge and boiled for a few minutes	Should be combined with water to make porridge and boiled for a few minutes	Should be combined with water to make porridge and boiled for a few minutes
Manufacturer's recommended programmatic uses	For all age groups over 6 months	For adults including pregnant women, convalescents and the elderly	None	Designed for infants over 6 months of age
Other comments				FARINOR does not replace breastfeeding

Annex 4. Overview of the Government Health System

The first level of the health care pyramid is that of health facilities of first contact (*Etablissements Sanitaires de Premiers Contacts* [ESPC]). These consist primarily of health centers, specialized health centers and other primary health care facilities, such as dispensaries and maternity hospitals. The second level of the health care pyramid consists of referral centers, specifically 18 regional hospitals (*Centres Hospitalier Régional* [CHRs]), 54 general hospitals (HGs) and two specialist hospitals (CHSs). The third level consists of four university hospital centers (CHUs) and five *instituts spécialisés* (IS). Health services are managed at the central level by MSHP, the Cabinet and central programs such as PNN and PNPEC. Health services are organized into 19 regional health offices at the second, intermediate level and 83 health districts at the first, peripheral level. The system also includes community health agents (ASCs) and other community volunteers. Each health office is charged to coordinate and provide operational and logistic support to public and private health activities within its jurisdiction.

Figure 1. Health Pyramid of Côte d'Ivoire

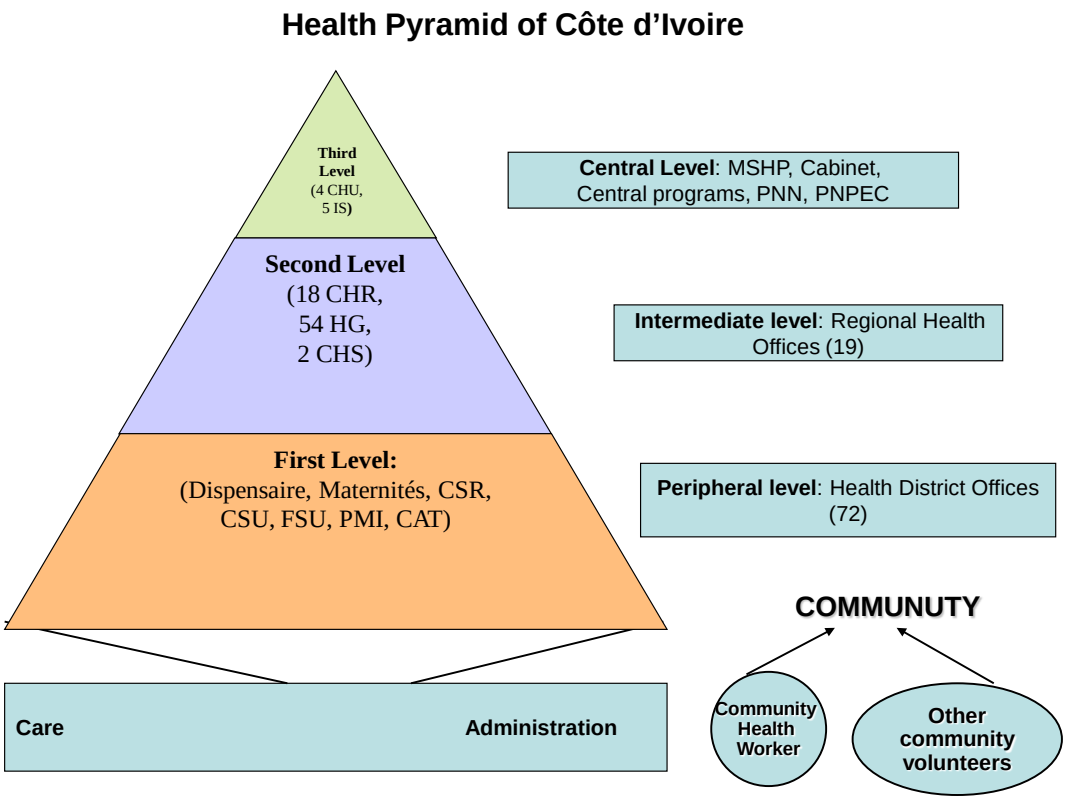
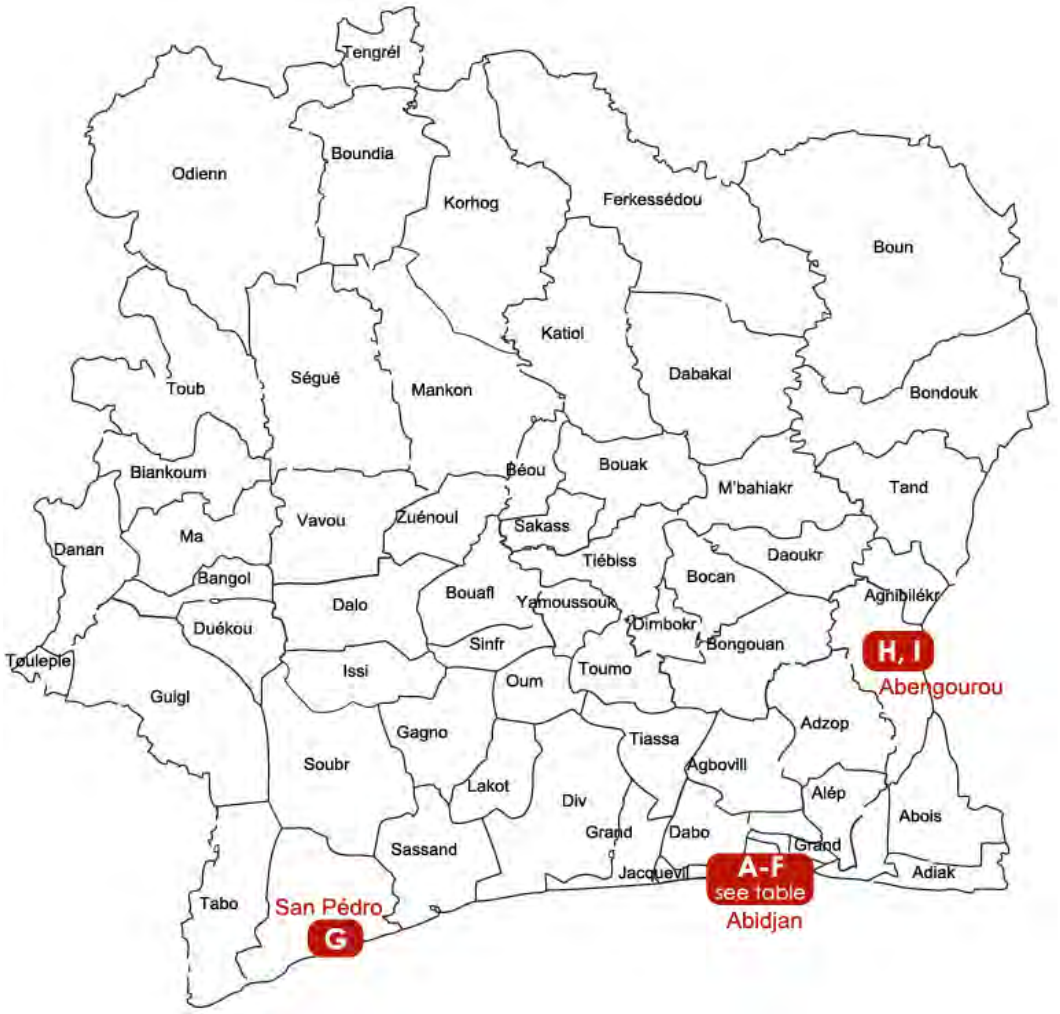
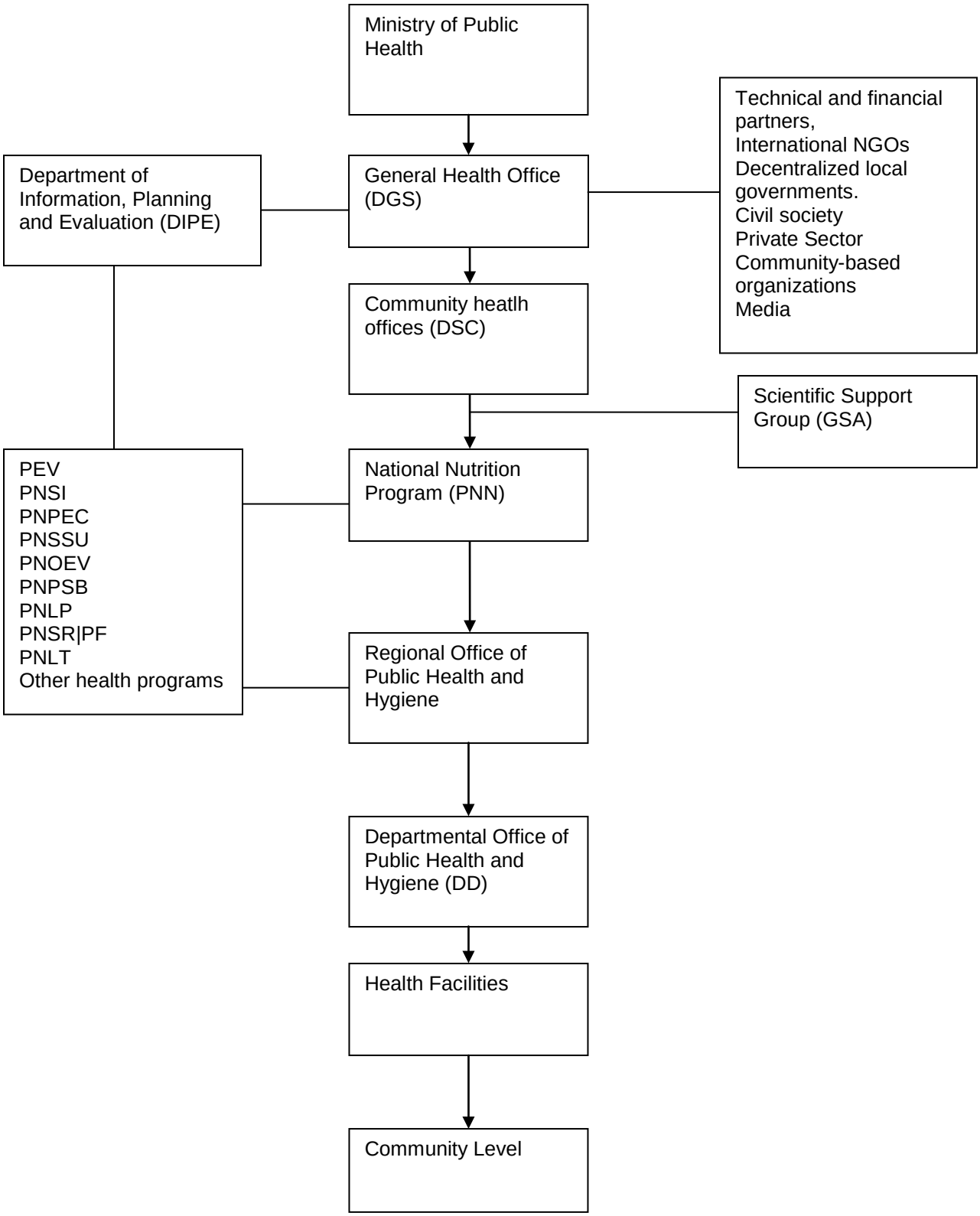


Figure 2. Map of health regions and districts of Côte d'Ivoire with nine recommended learning sites



Letter	Health Region	City	Learning site
A	Les Lagunes	Abidjan	Hôpital Général d'Abobo, the Center for Care
B	Les Lagunes	Abidjan	Research and Training at Yopougon (*Centre de Prise en charge, de Recherche et de Formation* [CEPREF])
C	Les Lagunes	Abidjan	Hôpital Général de Port Bouët
D	Les Lagunes	Abidjan	The Outpatient Care and Counseling Unit (*Unité de Soins Ambulatoires et de Conseils* [USAC])
E	Les Lagunes	Abidjan	The Integrated Center of Bioclinical Research of Abidjan (*Centre Intégré de Recherche Bio-clinique d'Abidjan* [CIRBA])
F	Les Lagunes	Abidjan	Infectious Disease Services (*Services des maladies Infectieuses* [SMI]) at the University Hospital Center in Treichville
G	Bas-Sassandra	San Pédro	Centre Hospitalier Régional (CHR) de San Pédro
H	Moyen Comoé	Abengourou	Centre Hospitalier Régional (CHR) d'Abengourou,
I	Moyen Comoé	Abengourou	Centre Antituberculeux d'Abengourou

Annex 5. Ministry of Health Coordination of Nutrition Activities (Schematic)



Annex 6. MLS Coordination and Activities Implementing Framework

The fight against HIV is organized within an institutional framework that hinges on agencies at the central and decentralized levels.

CENTRAL LEVEL AGENCIES

The National AIDS Council (NAC)

The NAC was established in 2004. Its responsibilities include defining general HIV policy, approving the HIV strategic plan and assessing results of HIV efforts. The NAC meets yearly. The NAC's technical secretary is in charge of M&E of HIV activities. It is the highest coordinating body and is presided over by the President of the Republic who reports on accomplishments through a message to the nation.

The Inter-ministerial AIDS Committee (IAC)

The IAC, established in 2004, is responsible for monitoring HIV strategies, coordinating multi-sectoral activities, ensuring proper technical and financial implementation of sectoral action plans, and evaluating the effectiveness of multi-sectoral HIV activities. The IAC is presided over by the Prime Minister and meets twice yearly to discuss multi-sectoral activities by the different ministries. The President of the IAC reports results of activities to the NAC. The IAC has an Executive Secretary.

The Expert Committee

The mission of the Expert Committee is to provide technical advice on specific aspects of the fight against HIV.

The Ministry of AIDS (MLS)

The MLS coordinates all HIV-related activities and monitors government policy and implementation of the multi-sectoral response to the HIV epidemic.

Partners' forum

This forum brings together the UN system (i.e., the Joint United Nations Programme on HIV/AIDS [UNAIDS], WHO, UNFPA, UNICEF, the United Nations Educational, Scientific and Cultural Organization [UNESCO], the World Bank, UNDP, WFP, the Office for Coordination of Humanitarian Affairs [OCHA], the United Nations High Commissioner for Refugees [UNHCR], FAO), bilateral partners (e.g., France, Belgium, Italy, Canada, Germany, Japan, United States [PEPFAR]), civil society and its networks (i.e., Group of Non-Governmental Organizations against HIV/AIDS in Côte d'Ivoire [COSCI], RIP+, Alliance of Mayors, Religious Alliance for the Fight Against AIDS), the private sector (i.e., Ivory Coast General Confederation of Companies [CGECI], the Business Coalition), the Country Coordinating Mechanism and the National AIDS Fund (FNLS).

DECENTRALIZED BODIES

The decentralization of interventions will permit the fight against the pandemic across the entire nation. The success of this strategy rests on a good coordination of activities at each level of intervention.

Sectoral AIDS committee (SAC)

Within the framework of the implementation of a multi-sectoral response to the HIV pandemic, an SAC has been created with each development sector (ministry or state institution). The minister of the sector or the president of the state institution presides over the SAC. Each establishment under a sector's supervision has a focal cell or committee. The SAC is in charge of monitoring the strategic orientation and

coordination of the various sectoral HIV activities. The SAC meets no later than one month after each quarter under the direction of its president as needed. The president of the SAC reports to the IAC every six months. The presidents of institutions of the republic report to the NAC once a year. The SAC coordinates the focal cells through a coordinator designated by the president.

Regional AIDS committee (RAC)

The RAC is in charge of monitoring the strategic orientation and coordination of the various multi-sectoral and community HIV activities in the region, specifically:

- Preparation, implementation and M&E of the regional action plan
- Supervision and M&E of the action plans of departmental committees
- Seeking and mobilizing the necessary funds

The RAC meets every three months, convened by the president, and as needed. The RAC president reports three times a year to the MLS.

Departmental AIDS committee (DAC)

The DAC is in charge of monitoring the strategic orientation and coordination of the various multi-sectoral and community HIV activities in the department, specifically:

- Preparation, implementation and M&E of the departmental action plan
- Supervision and M&E of the action plans of the Communal AIDS Committees (CACs) and the Village AIDS Committees (VACs)
- Seeking and mobilizing the necessary funds

The DAC meets every two months, convened by the president, as needed. The president of the DAC reports every quarter to the president of the RAC.

Communal AIDS Committee (CAC)

The CAC is in charge of monitoring the strategic orientation and coordination of the various multi-sectoral and community HIV activities in the commune, specifically:

- Preparation, implementation and M&E of the communal action plan
- Supervision and M&E of the action plans of the VAC
- Seeking and mobilizing the necessary funds

The CAC meets every two months, convened by the president, as needed. The president of the CAC reports every month to the president of the DAC.

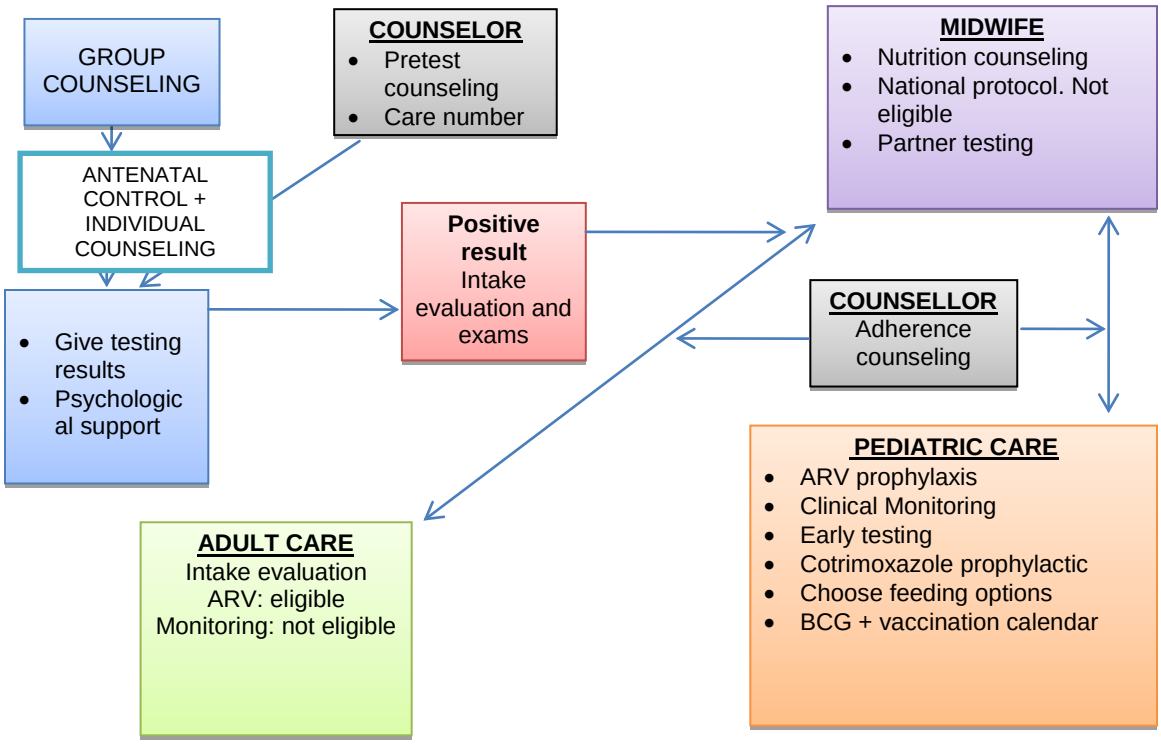
Village AIDS Committee (VAC)

The VAC is in charge of monitoring the strategic orientation and coordination of the various multi-sectoral and community HIV activities in the village, specifically:

- Preparation, implementation and M&E of the village action plan
- Supervision of HIV activities at the village level
- Seeking and mobilizing the necessary funds
- Coordinating HIV activities managed by other organizations in the village

The VAC meets every month, convened by the president, and as needed. The president of the VAC reports every month to the president of the CAC.

Annex 7. Map of Patient Flow in ART and PMTCT Clinics



Annex 8. List of Organizations and Institutions Visited

1. AMEPOUH: Association de femmes vivant avec le VIH «Nous Vaincrons »
2. Centre Hospitalier Universitaire (CHU) de Treichville, Service de Pédiatrie / Unité de Réhabilitation Nutritionnelle
3. Le Centre Social de Habitat Treichville Entente
4. CEPREF: The Center for Care, Research and Training (*Centre de Prise en Charge, de Recherche et de Formation*)
5. CIRBA: The Integrated Center of Bioclinical Research of Abidjan (*Centre Intégré de Recherche Bio-clinique d'Abidjan*)
6. CSRS: Swiss Center for Scientific Research (*Centre Suisse de Recherches Scientifiques*)
7. EGPAF: Elizabeth Glaser Pediatric AIDS Foundation//Côte d'Ivoire
8. HKI: Helen Keller International
9. ICAP: The International Center for AIDS Care and Treatment Programs
10. INSP: National Institute of Public Health (*Institut National de la Santé Publique*)
11. IYCN: The Infant and Young Child Nutrition Project
12. MLS: The Ministry of AIDS (*Ministère de la Lutte contre le SIDA*)
13. Nestlé Côte d'Ivoire
14. PEPFAR/Côte d'Ivoire: United States President's Emergency Plan for AIDS Relief in Côte d'Ivoire
15. PKL: Protein Kissée La
16. PNN: The National Nutrition Program (*Programme National de la Nutrition*)
17. PNOEV: National Program for Orphans and Vulnerable Children (*Programme National de Prise en Charge des Orphelins et autres Enfants Rendus Vulnérables du Fait du VIH/SIDA*)
18. PNPEC: The National Program for Treatment and Care of PLHIV (*Programme National de la Prise en Charges des PVVIH*)
19. PSP: Public Health Pharmacy (*Pharmacie de la Santé Publique*)
20. SCMS: Supply Chain Management Systems
21. UNICEF: United Nations Children's Fund
22. USAC: Outpatient Care and Counseling Unit (*Unité de Soins Ambulatoires et de Conseils*)
23. WFP: World Food Program
24. WHO: World Health Organization
25. World Bank

Annex 9. Recommended Dosing Tables for RUTF and FBF

The following dosing charts are based on The *Training Guide for Community-Based Management of Acute Malnutrition (CMAM)* (FANTA, 2008) and *Draft Guidelines for a Food by Prescription Program in Zambia* (Republic of Zambia Ministry of Health, The National Food and Nutrition Commission of Zambia, FANTA, USAID/Zambia, August 2008).

Table 1. RUTF rations* for children with SAM (independent of HIV status) in FBP

Weight of Child (kg)	Sachets of Plumpy'Nut® per Day
3.5 – 3.9	1.5
4.0 – 5.4	2
5.5 – 6.9	2.5
7.0 – 8.4	3
8.5 – 9.4	3.5
9.5 – 10.4	4
10.5 – 11/9	4.5
≥ 12	5

* Based on average nutrition rehabilitation ration of 200 kcal/kg/day

Table 2. RUTF and FBF rations* for HIV positive patients with MAM 6 months to 18 years of age

Weight of Child (kg)	Sachets of Plumpy'Nut® per Day	Grams of FBF per day
6–11 months	0.5	100
12–23 months	1	100
24–59 months	1	200
5–10 years	1	300
11–18 years	1	400

*These rations also apply for children whose sero-status is unknown but were born to HIV positive women.

Table 3. RUTF and supplementary food prescription guidelines for adults (including pregnant and post partum women in PMTCT services)

Nutritional Status	Sachets of Plumpy'Nut® per Day	Grams of FBF per day
Severely malnourished adults	3	400
Moderately malnourished adults		400

Annex 10. Scope of Work for Assessment

Food and Nutrition Technical Assistance II Project (FANTA-2)
TDY to Côte d'Ivoire on the Integration of Nutrition, Food and HIV Programming
January 12–23, 2009

Draft Scope of Work

TDY Team

Dr. Earnest Mutenga Muyunda, Nutrition and HIV Specialist, FANTA-2/Zambia
Dr. Pierre Agbo Adou, consultant to FANTA-2 in Côte d'Ivoire
Mr. Phil Moses, Nutrition and HIV Specialist, FANTA-2/Washington

Summary

Dr. Muyunda and Mr. Moses will meet Dr. Adou in Abidjan to conduct an assessment as part of the development of a strategy for Food by Prescription (FBP) programming for people living with HIV (PLHIV). Dr. Muyunda's primary role will be to guide the assessment. He will depart Abidjan on or about January 17.

Objectives of TDY

The objectives of this TDY will be to: 1) assess opportunities for integrating nutrition, food and HIV programming and services; 2) assess the capacity for implementing a FBP program at PEPFAR sites; 3) assess the potential for local/regional procurement of specialized food products for use in a FBP program; and 4) recommend a standardized package of nutrition services for PLHIV and orphans and vulnerable children (OVC) (which would include FBP) for consideration by PEPFAR/Côte d'Ivoire and PNN.

Activities

1. Meet with PEPFAR/Côte d'Ivoire, PEPFAR implementing partners, government ministries and advisory bodies, UN organizations, other donors, Ivoirian nongovernmental organizations (NGOs), clinicians and private companies to assess current food assistance programs, the capacity for implementing a FBP program at PEPFAR sites and the potential for local/regional procurement of specialized food products.
2. Conduct a consultative meeting with PEPFAR implementing partners involved in palliative care and MOH representatives to discuss key issues related to food programming in HIV services, especially as these relate to FBP.
3. Debrief PEPFAR/Côte d'Ivoire on the TDY outcomes and next steps.

Outputs

- Preliminary results of FBP assessment

Annex 11. Interview Guide

Guide de discussion pour les visites FANTA. Analyse situationnel rapide sur la faisabilité de Food by Prescription							
	QUESTIONS	**ONU (UNICEF, PAM/WFP)**	**ONGs Internationals ICAP, EGPAF, PATH**	**Gouvernment MLS, PNPEC, PNOEV PSP**	**Structures Sanitaires USAC, CIRBA, YOPOUGON**	**Associations PVVIH AMEPOU**	**Secteur privé. Nestle, PKL**
1.	*Describe your nutrition support activities for PLHIV?* Décrivez vos activités de soutien alimentaire et soins nutritionnels aux PVVIH ?	X	X	X	X	X	X
2.	*What nutrition problems do PLWHA present in treatment sites? How severe are these problems? Who is affected and when?* Quels sont les problèmes nutritionnels que les PVVIH sous ARV ou en prétraitement présentent? Quelles sont les cibles les plus affectées ?	X	X	X	X	X	
3.	*What is the prevalence of under nutrition among PLWHA in ART or pre-treatment?* Quel est la prévalence de malnutrition parmi les PVVIH sous ARV et en prétraitement?	X	X	X	X	X	
4.	*What programs exist in the community that can provide follow-up support to PLHIV?* Quels sont les programmes existants au sein de la communauté qui pourraient donner un appui au suivi des PVVIH?	X	X	X	X	X	
5.	*How do health facilities and nongovernmental organization (NGO) coordinate their responses to nutrition and food problems?* Comment les structures de santé et les ONG coordonnent les réponses aux problèmes d'alimentation et de nutrition des PVVIH?		X		X	X	
6.	*What potential storage capacities exist at HIV care and treatment sites?* Quelles sont les capacités de stockage des aliments qui existent sur les sites de soins et traitement du VIH?	X	X	X	X		
7.	*Where are the opportunities to integrate nutrition activities in the client flow?* Quelles sont les opportunités d'intégration des activités de nutrition dans la prise en charge des PVVIH?		X		X		

Guide de discussion pour les visites FANTA. Analyse situationnel rapide sur la faisabilité de Food by Prescription							
	QUESTIONS	**ONU (UNICEF, PAM/WFP)**	**ONGs Internationals ICAP, EGPAF, PATH**	**Gouvernment MLS, PNPEC, PNOEV PSP**	**Structures Sanitaires USAC, CIRBA, YOPOUGON**	**Associations PVVIH AMEPOU**	**Secteur privé. Nestle, PKL**
8.	*What is the current client flow system and where would nutrition fit?* Quel est le circuit suivi par le patient PVVIH pour recevoir les soins dans la structure de santé?				X		
9.	*What information is being provide to PLWHA to address their food and nutrition needs? What educational tools are being used? What are the key messages? What are the challenges and opportunities?* De quelles informations les PVVIH ont besoin pour répondre aux mieux à leurs besoins alimentaires et nutritionnels?		X		X	X	
10.	*How nutritional assessment is performed? What are the challenges to doing nutritional assessment for PLHIV?* Quels sont les défis lies a la réalisation de l'évaluation du statut nutritionnel des PVVIH ?		X		X	X	
11.	*How is nutrition counseling performed? What are the tools? What are the challenges to providing nutrition counseling to PLHIV?* Quels sont les défis liés au counseling en nutrition pour les PVVIH ?		X		X	X	
12.	*What are the types and the sources of therapeutic and supplementary food to PLHIV? What are the challenges to distribution of therapeutic and supplementary food to PLHIV?* Quels sont les défis liés à la distribution des aliments thérapeutiques et de complément aux PVVIH ?		X		X	X	
13.	*What are the challenges to promoting point of use water purification?* Quels sont les défis liés à la promotion de la purification de l'eau à domicile ?		X		X	X	
14.	*What are the challenges to linking PVVIH to services in the community?* Quels sont les défis liés à la référence des PVVIH aux autres services à base communautaire ?		X		X	X	

Guide de discussion pour les visites FANTA. Analyse situationnel rapide sur la faisabilité de Food by Prescription							
	QUESTIONS	**ONU (UNICEF, PAM/WFP)**	**ONGs Internationals ICAP, EGPAF, PATH**	**Gouvernment MLS, PNPEC, PNOEV PSP**	**Structures Sanitaires USAC, CIRBA, YOPOUGON**	**Associations PVVIH AMEPOU**	**Secteur privé. Nestle, PKL**
15.	*What training approaches are appropriate for building capacity in nutritional care of PLHIV? To provide in-service training to people in nutritional care of PLHIV or provide pre-service training?* Quelles sont les approches de formation qui sont appropriés pour renforcer des capacités en matière de prise en charge de PVVIH? [La formation de base ou la formation continue / sur le tas ?]	X	X	X	X		
16.	*How much demand is there for therapeutic and supplementary foods among private sector clinics?* Quelle est la demande d'aliments thérapeutiques et de complément de la part des cliniques privées?						X
17.	*Do local food manufacturing companies have the capacity to produce the needed quantity and quality of for therapeutic and supplementary foods?* Quelle est la capacité des compagnies privées à produire en quantité et qualité suffisante des aliments thérapeutiques et de complément?						X
18.	*What quality assurance mechanisms are in place for production and safe storage of your food products?* Quel système d'assurance qualité est mis en place pour produire et stocker les aliments de complément ?						X
19.	*What are the logistical needs for transport of food commodities, and what capacities exist to meet these needs?* Quels sont les besoins logistiques pour assurer le transport des produits alimentaires et quelles sont les capacités actuelles?	XX		PSP, PNN			X