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Published October, 2009
Foreword

The paper presented here is one of the first comprehensive attempts to describe what is becoming an integral part of the care and support for people living with and being treated for HIV and other chronic infectious diseases. While Food by Prescription is not a new aspect of care for the chronically ill, what Kate Greenaway has done is describe a range of programs that are evolving to meet the food and nutrition needs of large numbers of beneficiaries.

The HIV/AIDS epidemic has given impetus to new and innovative approaches to ensure that these same opportunities common in better-off populations are available to the poor and isolated. The major support for this response to HIV/AIDS has come from the US President's Plan for Emergency AIDS Relief (PEPFAR) which added critical language to its policy in 2006 that explicitly incorporated nutrition and food assistance for its HIV affected and infected beneficiaries. Not only underweight or wasted adults on anti-retroviral therapy and in care programs were now eligible for specific foods and nutrients, orphans and vulnerable children were also eligible. By 2008, PEPFAR, together with the World Food Programme and the World Health Organization was supporting the integration of food and nutrition in HIV/AIDS care and support activities with guidance and funding.

The shift by WHO, WFP and the PEPFAR program followed critical consultations that built on the experience with Food by Prescription programs in countries like Kenya, Malawi, South Africa and Zambia. The work done by government agencies, non-governmental agencies (NGOs), technical agencies, together with the food industry, led the way for practical guidelines to be developed and the slow but necessary trickle of information on program effectiveness and costs. Essential in this drive was the development and use of specialized foods developed by the private sector, often together with NGOs that were derived from products used in emergency therapeutic and supplementary feeding programs. The convergence of the contributions of NGOs, local government, donors, industry and the beneficiaries themselves, has provided us with a range of products and programs that makes the care and support of people with infectious diseases so much easier and more relevant.

This timely paper provides an overview of current thinking on the role of nutrition in HIV care and treatment programs. Food by prescription for HIV/AIDS programs varies widely. Most programs have all or part of the following elements: 1) provision of specialized food products, including therapeutic and supplementary food products as part of clinical services; 2) nutrition assessment and counseling; 3) objective (i.e. measurable) criteria based on physical measurements of the beneficiaries (usually anthropometric either weight loss, body mass index (BMI) or mid-upper arm circumference (MUAC) for entry and graduation; and 4) individual, take-home food packages designed to improve nutrition and health status.

We at GAIN are excited to bring this material to a wider audience. We invite your comments, additions, and corrections to ensure that what is fast becoming the state-of-the-art for food by prescription programming is comprehensive, timely and relevant.

Global Alliance for Improved Nutrition (GAIN)
Acknowledgements

This Working Paper is the product of a joint effort by GAIN, WFP and UNAIDS.

A warm thanks must be extended to all those who so generously gave of their time, ensuring that this document was representative of their diverse experiences, technically accurate and relevant to shaping the future of Food by Prescription programming. In particular, the author would like to recognize:

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The many interviewees who made time for lengthy interviews, often after offices hours and on less-than-perfect telephone connections, in order to illuminate not only the successes, but the trials and tribulations of this complex programming area; and

Bruce Cogill, Kate Wild, Karie Atkinson and Marina Monzeglio of GAIN for their contributions.
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<tr>
<td>AED</td>
<td>Academy for Educational Development</td>
</tr>
<tr>
<td>AFASS</td>
<td>Acceptable, feasible, affordable, sustainable and safe</td>
</tr>
<tr>
<td>ART</td>
<td>Anti-Retroviral Therapy</td>
</tr>
<tr>
<td>BMI</td>
<td>Body Mass Index</td>
</tr>
<tr>
<td>CBTO</td>
<td>Clients at the community-based TB/HIV/AIDS Organization</td>
</tr>
<tr>
<td>CMAM</td>
<td>Community-based Management of Acute Malnutrition</td>
</tr>
<tr>
<td>CRS</td>
<td>Catholic Relief Services</td>
</tr>
<tr>
<td>CSB</td>
<td>Corn Soya Blend</td>
</tr>
<tr>
<td>CTC</td>
<td>Community-based Therapeutic Care</td>
</tr>
<tr>
<td>FANTA-2</td>
<td>(USAID's) Food and Nutrition Technical Assistance Project</td>
</tr>
<tr>
<td>FBP</td>
<td>Food by Prescription</td>
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<td>FGD</td>
<td>Focus Group Discussion</td>
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<tr>
<td>HBC</td>
<td>Home Based Care</td>
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<tr>
<td>HEPS</td>
<td>High Energy Protein Supplement</td>
</tr>
<tr>
<td>M&amp;E</td>
<td>Monitoring and Evaluation</td>
</tr>
<tr>
<td>MUAC</td>
<td>Mid-upper Arm Circumference</td>
</tr>
<tr>
<td>OI</td>
<td>Opportunistic Infection</td>
</tr>
<tr>
<td>OVC</td>
<td>Orphans and Vulnerable Children</td>
</tr>
<tr>
<td>PEPFAR</td>
<td>The United States President's Emergency Plan for AIDS Relief</td>
</tr>
<tr>
<td>PLHIV</td>
<td>Person(s) Living with HIV</td>
</tr>
<tr>
<td>PLW</td>
<td>Pregnant and Lactating Women</td>
</tr>
<tr>
<td>PMTCT</td>
<td>Prevention of Mother to Child Transmission (of HIV)</td>
</tr>
<tr>
<td>RUTF</td>
<td>Ready-to-use Therapeutic Food</td>
</tr>
<tr>
<td>SCMS</td>
<td>Supply Chain Management Service</td>
</tr>
<tr>
<td>TB</td>
<td>Tuberculosis</td>
</tr>
<tr>
<td>USAID</td>
<td>United States Agency for International Development</td>
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<tr>
<td>WFP</td>
<td>United Nations World Food Programme</td>
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</table>
1 SUMMARY

Although HIV testing is increasingly available and efforts to support the nutritional needs of people living with HIV have intensified appreciably, antiretroviral therapy (ART) service providers continue to report large numbers of clients presenting with advanced disease and acute malnutrition. In some ART programs, as many as 33 percent of all first-visit clients are unable to walk into the clinic without assistance, correlating with high rates of mortality in the first 90 days of treatment. In response, there has been a rapid proliferation of Food by Prescription (FBP) programs, designed to ensure efficient and effective nutrition care and rehabilitation for people enrolled in HIV care and treatment programs.

This paper provides an overview of current thinking on modes of delivery and the salient issues surrounding FBP program implementation. Its purpose is to document current thinking and experience, and identify areas of convergence and divergence. This will provide a starting point for future consultations where key issues can be elaborated and prioritized, and a plan for future action developed. Given the dearth of literature on FBP, information for this report was gathered primarily through semi-structured interviews with key informants from governments, civil society organizations, technical assistance agencies, donors and beneficiary groups.

This document reveals that, in less than a decade, a wide variety of creative FBP mechanisms and designs have emerged, catering to one or more of three core objectives. The primary emphasis of FBP programs is on the nutritional rehabilitation and/or nutrition support of the patient to improve well-being and treatment outcomes. However, many FBP programs have expanded this mandate to include provision of social safety nets to support treatment adherence and protect household integrity. Moreover, several FBP programs have begun to support livelihood activities with the aim of encouraging a productive recovery and sustaining adherence. Program designs are highly contextualized: some focus on one or two of these objectives while others aim for a comprehensive approach through partnerships and referral networks. Some programs operate from a clinical base while others operate from an established foothold in the community, while still others have formed strategic linkages which span home, community and clinical settings.

Among all those interviewed, there is a sense of urgency driving the rapid rollout of this programming and an acknowledgement that there is much to learn about how to do it well. There is (at this point) no consensus about the optimal location of FBP programs. There is general agreement on the use of anthropometric criteria for program entry, but less agreement on discharge criteria. There are several different commodity options in use, with no evidence base to guide decision-making. In many settings, there is a need to more clearly differentiate between client-level nutritional rehabilitation and household-level food insecurity. There is a call for guidance and harmonization of objectives, standards and protocols.

This document was constructed according to themes, which were identified early in the process. These included potential for integration and standardization; allocation of resources; human resource requirements and challenges; commodity management; wraparound services; monitoring and evaluation; the beneficiary perspective and the long-term outlook. The report closes with a summary of common issues and a preliminary list of issues for follow-up.
2 FOOD BY PRESCRIPTION

2.1 OVERVIEW

It is widely accepted that nutritional health is essential for persons living with HIV (PLHIV) to maximize the period of asymptomatic infection, to mount an effective immune response to fight opportunistic infections, and to optimize the benefits of antiretroviral treatment (ART). HIV infection diminishes nutritional health in three, mutually-reinforcing ways: reduced food intake; altered metabolic processes; and impaired nutrient absorption. Unfortunately, especially when these occur at the same time, they can rapidly accelerate weight loss, malnutrition and death. Food insecurity and poor nutrition, often occur simultaneously, contribute to the spread of HIV and hasten the progression from HIV to AIDS for those living with the virus. There is increasing evidence that malnutrition coupled with HIV directly influences survival; significant weight loss in HIV-positive individuals has been associated with increased risk of opportunistic infections (OIs), complications and early death. Malnutrition is also associated with poor birth outcomes among HIV-positive women. Moreover, access to adequate and nutritious food is especially difficult for PLHIV as the illness often reduces household productivity and income, forcing families to sell productive assets, spend savings on food and medicine, and withdraw children from school to put them to work or care for sick adults.

Unfortunately, ART service providers continue to report large numbers of clients presenting with advanced disease and weight loss. Interviewees stated that 10-33 percent of all first-visit clients at ART programs are bedridden and unable to walk into the clinic without assistance. Several programs have reported high mortality in the first 90 days of treatment, correlated strongly with very low CD4+ counts (<50 cells/μl) and low body mass index (BMI) (<16). Specific causes of early mortality are unknown; speculation includes Immune Reconstitution Inflammatory Syndrome (IRIS), untreated/multiple OIs and drug toxicities. Similarly, the influence of HIV-related malnutrition is not clearly understood; correlations between mortality among PLHIV and specific nutrition-related findings are emerging (anemia, insulin resistance, electrolyte imbalance, lipodystrophy, heart disease, and obesity), but causative relationships have not been established.

Broad Definition of Food by Prescription

It is acknowledged that the term “FBP” is contentious (see Box 1); this paper maintains a deliberately broad definition of FBP to allow for discussion of various models and strategies that aim to “improve health outcomes of people with HIV through the integration of food and nutrition services in HIV care & treatment”. With the evidence base for this programming only emerging and most of the models are a ‘work in progress’, it is appropriate to cast a wide net in order to include the full spectrum of possibilities in this new programming area. It is anticipated that over time, a strengthened understanding of FBP’s successes and failures will usher in a narrower, more exclusive definition.

Box 1: Food by Prescription: What is in a Name?

There is general dissatisfaction with the name of this programming area. Comments from informants included:

- ‘Food by Prescription’ focuses too much on food; with so much focus on the food commodity, the rest of the package (Nutrition Assessment, Education and Counseling) is undervalued, under-resourced and under-utilized.
- The FBP tag does not do justice to the amount of activity that is needed to lay the groundwork for implementation – it gives the impression that you can just write a prescription and food will appear at the pharmacy. It is not like that.
- ‘Medicalizing food’ has been good in terms of gaining compliance from patients and reducing sharing etc. but it gives the impression that everyone needs a special package of food, when in reality, the majority of patients actually do not... but they all need nutrition assessment, education and counseling (NAEC). If we shifted our emphasis to delivering the rest of the package – better assessment, education, and counseling – we might find fewer patients would need ‘food’.
- Calling it ‘Food by Prescription’ has opened new doors for the funding of food commodities, because certain foods are now seen as part of the treatment package (which is individualized and time-limited) rather than a solution to a much larger and more daunting food security problem.
- As a name for a program, it stresses the wrong angle. It raises the profile of the food above everything else. It ignores the main activity of the intervention, which revolves around nutrition assessment, education and counseling, NOT the food.

While the programming modalities vary, there are a wide variety of creative FBP mechanisms and designs in place, often operating in uniquely challenging environments. In less than a decade, multiple FBP programs have been designed to meet the needs of similar clients but in very different ways. They have been shaped by unique historical contexts; designed by intuition; influenced by emerging (and still inadequate) technical guidance; and subject to an unreliable flow of financial resources. They share a common set of activities that differ operationally but which aim to respond to the growing demand for food support for malnourished or especially vulnerable PLHIV. There is, however, no commonly held definition, set of minimum standards or key components. Not surprisingly, classification of the various models is challenging because the programs are necessarily complex and evolving. Even within an experienced FBP program, consistent application of design and protocols is disrupted by variable infrastructure, external influences and the sheer scale of the need.

FBP has attracted a plethora of donors and stakeholders: multiple UN agencies including World Food Programme (WFP), World Health Organization (WHO) and the United Nations Children’s Fund (UNICEF); USAID’s Food for Peace (FFP), Office of Foreign Disaster Assistance (OFDA) and Centers for Disease Control (CDC); The President’s Emergency Plan for AIDS Relief (PEPFAR); The Global Fund to fight AIDS, TB and Malaria (GFATM); multiple country governments and Ministries of Health; local and international producer-processors and pharmaceutical companies; several entities that provide technical assistance, research capacity and policy analysis (such as USAID’s Food and Nutrition Technical Assistance project (FANTA and FANTA-2), Valid International and several universities) and of course, a myriad of national and international implementers from civil society and faith-based organizations.

The core commonalities among all FBP programs are:

1. Direct affiliation with an HIV care and treatment program or clinic which serves as the entry point, and;
2. The “prescriptive” nature of the primary intervention, through which individual nutritional status (and ultimately, treatment success) is regarded as its highest priority.

From these two elements, FBP modalities diverge. They differ significantly from better understood models of food-assisted HIV programming in that the initial targeting filter is derived from within the health care system rather than from vulnerability mapping or geographical targeting. Some
programs expand the mandates of existing mechanisms such as hospital pharmacies and community-based safety net programs, while others instigate entirely new processes and infrastructure.

**Objectives and Purposes**

FBP programs embrace a range of objectives and purposes, with some aimed exclusively at improving health outcomes on a patient-by-patient basis while others extend support to entire households. In general, programs offering food and nutrition support to PLHIV are designed according to three distinct – but often inter-related – purposes:

1. **Nutritional rehabilitation and/or nutrition support** to improve individual well-being and treatment success;
2. **Social safety nets mechanisms** to support treatment adherence and protect the household structure; and
3. **Livelihood activities** to encourage a productive recovery and sustain long-term adherence.

**FBP programs primarily emphasize the nutritional rehabilitation and/or nutrition support of an index patient.** Some FBP programs aim only to address this purpose. Others, however, *in order to improve the success rate and protect the durability of their outcomes*, also aim to provide household safety nets or foster livelihood activities. In some cases, a comprehensive approach covering all three purposes is implemented through a single entity. More often, multiple players are involved in a complementary approach serving both individual and household needs.

While it might seem useful to characterize FBP programs by their objectives, there is still a significant level of uncertainty about which activities or inputs can reliably produce results and how measurement should be undertaken. Objectives can be clustered according to the three purposes, but programs vary widely and represent highly contextualized responses. Some FBP programs focus on one or two objectives; others use multiple and overlapping objectives, including:

**Nutritional rehabilitation and/or nutrition support** at the individual level:

- To nutritionally rehabilitate children and adults on ART;
- To stabilize HIV-positive children and adults prior to ART;
- To protect/maintain the nutritional status of HIV-positive vulnerable individuals;
- To support adherence to medication/to reduce default rates, especially in the first few months of treatment when side-effects are most acutely felt;

---

4 Although support to HIV care and treatment programs is the defining feature of FBP, implementers have drawn heavily on similar efforts that support TB programs, which also vary widely at operational level.

5 To protect their health and limit the effects of HIV, PLHIV must accommodate higher energy requirements than their counterparts without HIV (10 percent during asymptomatic HIV infection, and 20-30 percent during periods of symptomatic illness). Any increase in PLHIV energy requirements should be derived from a balanced diet rather than from just an increase in staple cereals. Protein requirements increase in proportion to total energy intake, and should comprise 12-15 percent of the calories consumed. While there is no clear evidence that micronutrients should be taken in excess of the recommended daily allowance (RDA), it is clear that micronutrient intake must be protected or in some cases enhanced to ensure the RDA is reached. (WHO Consultation on Nutrition and HIV/AIDS in Africa. Durban, South Africa, 10–13 April 2005. http://www.who.int/nutrition/topics/Executive%20Summary%20WHO.pdf)

6 As country-level and global M&E systems strengthen, programs are increasingly aiming to align their objectives and indicators with those used by national AIDS and/or TB control programs, PEPFAR or the Global Fund, in order to facilitate aggregation of data.
• To improve uptake of ART and TB treatment programs, especially where fear of drug side effects prohibit people from initiating treatment;
• To improve success rates of treatment programs (6-24 month survival in ART programs; to improve treatment completion rates in TB programs).

Social safety nets mechanisms at the household level:

• To ease the burden/reduce opportunity cost of clinic visits for malnourished PLHIV as they regain strength;
• To ensure that the households caring for individuals on treatment are sustained until the ill member regains ability to contribute to the household economy;
• To provide food to households in quantities sufficient to deter intra-household sharing of specialized rations specifically intended for the index patient.

Livelihood activities at individual, household or community level:

• To ease the transition to productivity and promote economic self-reliance;
• To strengthen capacity of households to maintain food security;
• To ensure that individuals and households are affiliated with longer-term food and nutrition security strategies.

**Box 2: The Language of FBP**

**Therapeutic Foods:** These are nutrient-dense products that are specially formulated for the treatment of severe acute malnutrition. Some therapeutic foods (such as F-75 and F-100 therapeutic milk) are intended for in-patients and require careful preparation by a health care provider. Others are considered ‘Ready-to-use’ Therapeutic Foods (RUTF) and are suitable for both in-patient and out-patient use. For instance, Plumpy’nut is a peanut-based paste that is equivalent in nutrient composition and osmolarity to F-100 but does not require preparation.

**Fortified blended foods (FBFs):** FBFs are cereals fortified with micronutrients and sometimes with soya, pulses, and/or oil seeds). These can be locally produced or imported, are pre-cooked and distributed as a dry product. Production should be quality-controlled, and micro-nutrients are usually added using a fortificant (provided by a pharmaceutical company such as Roche/DSM or BASF) according to established guidelines (such as Codex Alimentarius). FBFs are partially pre-cooked thus require only limited amounts of fuel for cooking and are intended to be easy to swallow and digest. Commodities include WFP’s Corn Soya Blend (CSB) and Wheat Soya Blend (WSB) and a long list of country-specific commodities such as Likuni Phala, Unimix, Famix, E’pap, etc. FBFs are significantly less expensive than Therapeutic Foods.

**Ready to Use Foods (RUFs):** These are nutrient-dense foods which require no preparation and are usually packaged in individual doses. They come in drink, bar, biscuit or paste forms, including the RUTF paste discussed above. While generally more expensive than FBFs, they are less likely to be shared, and easier to transport and store than FBFs.

**Body Mass Index (BMI):** This is a measure of body fat calculated by dividing a patient’s weight by their height squared. It is used as a screening tool and standardized cut-off points can vary according to ethnicity. For FBP, BMI is most often used with adults (although not for pregnant women). Although BMI can provide information about children between 2-17 years, it is considered unwieldy because children have to be measured for height on each occasion, and the measurement must be applied to the Child and Teen BMI Calculator which takes into account body fat changes that occur with age as well as the differences between boys and girls. BMI for children and teens is often referred to as “BMI-for-age”.

**Mid-Upper Arm Circumference (MUAC):** MUAC refers to the measurement of the circumference of the mid-upper arm, measured at the mid-point between the tip of the shoulder and the tip of the elbow, taken with the arm hanging down. MUAC is mainly measured on children aged 6 to 59 months, and pregnant women. It is more often used as a screening tool (for groups of people) rather than for monitoring individual progress. A MUAC measurement tape is needed. Training of staff is required; colored tapes can be used by staff with less skill. Cut-off values may be population specific.

**Mild to moderate malnutrition:** BMI of 16.0 to 18.5

**Acute malnutrition:** BMI below 16

**Clinically malnourished:** BMI below 18.5 kg

Adapted from various sources including “What is Food By Prescription?”Catholic Relief Services, 2008), WHO (http://apps.who.int/bmi/index.jsp?introPage=intro_3.html) and CDC (http://www.cdc.gov/healthyweight/assessing/bmi/childrens_BMI/about_childrens_BMI.html)
Rations Used

Individual client rations are generally nutrient dense and either ready to use (for instance drinks, bars, biscuits or pastes) or easy to prepare (usually porridges with a pre-cooked cereal base). They may be considered either therapeutic or supplementary; they may be locally produced or imported; they may or may not be fortified. (See Box 2) There are many different commodities, including F75, F100, Corn Soya Blend (CSB), Plumpy’nut®, an Insta® product (Kenya), High Energy Protein Supplement or HEPS (Zambia), Likuni Phala (Malawi), Ensure® and others. Those considered ‘therapeutic’ are intended for use in the treatment of severe acute malnutrition but have been used with mild-to-moderately malnourished children and adults where other commodities are not available.

Household rations are generally in “basket” form, intended to supplement the household’s own food. A cereal (maize, rice, wheat, bulgur, sorghum, etc.); a legume (beans, peas, lentils etc.) and some form of oil (corn, peanut, etc.) are generally included. Where funding allows, the basket may include soap, sugar, or other necessities. The core rations may be topped up with fresh produce where available.

FBP Programming Structure

In the interim, it seems most practical to describe FBP programs according to the primary location of activities: clinic-based, clinic-plus and community-based.\(^7\)

1. **The clinic-based model** is grounded by trained clinicians\(^8\) who perform thorough nutrition assessments on each client as they present in order to determine the most appropriate nutrition intervention (which may – but does not necessarily -- include a prescription for food). The program objectives include aiding nutritional rehabilitation, providing a protective effect against nutritional “backsliding”, and/or improving treatment adherence for the index patient.\(^9,10\) Nutrition information is integrated into client records and nutrition outcomes are linked to treatment outcomes such as CD4 count, viral load, frequency of opportunistic infections or ‘alive and on treatment’ after 12 or 24 months. Manuals, training aids, registers and forms have been adapted and harmonized to support consistent application of protocols. Food commodities are provided from within the clinic, often through the pharmacy, and the pipeline is relatively secure. This service is most often limited to HIV treatment clients only but can include TB patients (even if they are not HIV positive). An example of this is the AIDSRelief program in Kenya.

2. **The clinic-plus model** assumes the attributes of a Clinic-based model with an additional component, assessing household economic and/or food security and providing a referral for a household ration where necessary. The objectives include the client-level objectives above, but are expanded to ensure a more comprehensive package of services to both the client and household. BMI is monitored closely; supplementary or therapeutic rations are obtained through the pharmacy and available when clients present for check-ups or drug refills. Nutrition

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\(^7\) These categories were devised by the author in an effort to illuminate clusters of FBP activities. Interviewees did not use these labels themselves.

\(^8\) ART clinics have been – by necessity – creative in their approach to staffing, training, task-shifting, etc. The designation ‘clinician’ is defined differently in each setting, and may refer to a doctor, nurse, clinical officer, nutritionist or a member of staff who has been trained specifically in nutrition assessment, education and counseling.

\(^9\) The term ‘index patient’ is synonymous with ‘primary beneficiary’, referring to the person living with HIV who is the main target of the intervention.

\(^10\) While household food insecurity clearly affects a large number of PLHIV, it is important to note that (except in an acute emergency situation) it is rare for ART clients to need food assistance simply to ensure that their medication can be taken with food. The actual amount of food required for this purpose is relatively small (a slice of bread, a ½ cup of porridge or rice) and the majority of clients do have sufficient food in the home for this purpose.
education and counseling is generally a high priority, and is provided on both individual/family (with an emphasis on family involvement) and group levels. Household rations (when indicated) are generally collected outside the clinic grounds, either at a community distribution site or a site just outside the clinic grounds. Bi-directional wraparound service\textsuperscript{11} referrals are made in an organized fashion. Clean water/hygiene requirements are sometimes provided. There is an intention to harmonize record-keeping and monitoring and evaluation systems although in reality, this is a work in progress. Examples include the AMPATH program in Kenya, the WFP/AED partnership in Kenya and the emerging CRS/PEPFAR program in Zambia.

3. The community-based model receives clients by referral from HIV care and treatment clinics, home-based care providers and/or TB programs, but further interaction with the health care system is rare. The ‘prescription’ aspect of this model is tenuous, with the only clinical linkage being the referral of an HIV-positive client. However, like their more clinical counterparts, these programs generally use BMI to establish program entry (typically, but not always, 18.5). Referred clients are then assessed by a community-based Social Assistance or HIV Coordinating Committee to establish their level of vulnerability. The objectives of this model may include increasing ART program uptake, encouraging treatment adherence, safeguarding the household from worsening food insecurity, and/or protecting the ration designed for the index patient. Monitoring of individual nutrition outcomes varies widely in its level of rigor and proficiency. Some programs use mid-upper arm circumference while others collect Body Mass Indices from the clinic or measure BMI at their distribution sites. Others do not monitor nutritional status at all. Data collected is not generally linked to clinical outcomes and interaction with clinical service providers varies from ‘monthly reporting of numbers of beneficiaries’ to ‘not linked at all’.

In a Community-based FBP model, food rations are generally provided to entire households (cereal, beans and oil); the basket may or may not include a fortified blended cereal for the index patient. Rations may be – but are not always – designed according to a specific protocol. In reality, commodity size and mix are often dependent on funding cycles, the flexibility of the procurement plan and the stability of the pipeline. Distributions are often scheduled on a monthly basis and are not integrated into hospital schedules; beneficiaries at distribution sites are not exclusively ART clients but are generally served alongside other impact mitigation/food insecurity response beneficiaries. These FBP initiatives are often attached to existing food security programs and are located as an outcome of geographical targeting.\textsuperscript{12} Nutrition education is generally a high priority, with cooking demonstrations, clean water/hygiene instruction, and an emphasis on maximizing the nutrient value of locally available foods. Multiple donors and implementing partners may be involved. Coordination of wraparound programming and functionality of community linkages are generally stronger than in clinic-based FBP programs. Examples include the WFP/PUSH program in Zambia; Partners in Health in Haiti; WFP/World Vision in Zimbabwe and the WFP program in Ethiopia.

\textsuperscript{11} “Wraparound services” comprise the range of services and programs that can be linked by referral with HIV care and treatment to further improve treatment outcomes and quality of life. These services may be available in clinical and community settings, and often derive from sectors other than Health. Examples include economic strengthening activities/livelihood promotion; water and sanitation; social protection; legal and advocacy services; family planning; malaria prevention, etc.

\textsuperscript{12} The ART rollout, on the other hand, has generally started in urban areas in response to higher HIV prevalence rates and centralized capacity. The decentralization of ART services into more rural areas is predicated largely on HIV prevalence and service capacity, thus overlap with areas of food insecurity is only coincidental.
2.2 Institutionalizing Food by Prescription

Integrating Food by Prescription into Existing Systems and Protocols

FBP has brought together stakeholders with varied expertise and mandates, fostering new partnerships and ways of working. While they share common objectives and modalities, each program is interacting with a unique operating environment and set of circumstances. For health care providers, the integration of nutrition has been challenging but many welcome the revitalization of the nutrition agenda and the re-establishment of forgotten nutrition protocols. Managing a food pipeline and the ‘politics’ of food, however, has been more challenging than they had imagined. For instance, introducing food products into medical supply chain management systems is, in most cases, simply not possible without significant investment in training and infrastructure. For stakeholders with a history of managing food assistance programming, working in close collaboration with the health sector has been fraught with its own set of challenges. Concerns about client confidentiality, ambivalence about the bidirectional effects of HIV and poor nutrition; limited professional common ground between health clinicians and food security experts, and lack of a shared monitoring and evaluation framework have constrained easy collaboration in many cases.

Currently, while HIV service providers clearly see FBP as necessary and important, it is still considered an adjunct to treatment -- somehow temporary and resource-dependent -- rather than a permanent, integral part of the health service package. As one interview described it, “Because of the constant shifting and juggling of food aid resources, FBP is still seen as something temporary where clients ‘are lucky to be in the right place at the right time.’” Governments tend to object to the idea of a long term food assistance pipeline but implementers plead for a long term commitment and reliable mechanism that will allow FBP programs to become truly institutionalized.

Although food assistance has strong roots in home- and community-based HIV care and support, it is a relative late-comer to clinical HIV care and treatment. Integration of these two service areas demands a systematic approach that may interfere with the pace and order in which care is provided, requiring not only training of service providers and procurement of new equipment but modification of clinical record systems and changes to the physical infrastructure. One interviewee noted: “We need to be much more attentive to the whole system view – a quality improvement approach. We can't just keep on adding new pieces to old systems. We're ignoring patient flow -- we need to walk the patient through from beginning to end to make sure it is practical and economical.”

There is no consensus where FBP programs should be located. Interviewees were very clear that while there is, at least in theory, a need to harmonize and streamline responses in order to support learning and maximize the effective use of resources, the specific design and location of FBP programming must respond to its individual (and often evolving) context. Community-based Therapeutic Care/Community-based Management of Acute Malnutrition (CTC/CMAM) models have demonstrated the successful management of severe acute malnutrition of under-fives in the community, reducing the burden on clinical settings and making Nutrition Assessment, Education and Counseling more accessible and responsive to the end user. Several implementers feel it is important to build on this model, adapting it for adult use. Centralizing the nutritional rehabilitation of clients in HIV care and treatment programs – forcing them into clinical settings – is seen by some as a step backward. Others feel just as strongly that clinic-based FBP is a natural extension of clinical services, that clients need a fully integrated, professional ‘one stop shop’ and that placing this program in the community would result in an intolerable loss of control. They argue
that the assessment and stabilization of HIV-related wasting has not been standardized to an extent sufficient to allow outpatient management (although many believe this may eventually evolve), pointing out that in fact, even where Community-based Therapeutic Care/Community-based Management of Acute Malnutrition (CTC/CMAM) programs are well-established, severely malnourished children with complex illness are referred for clinical assessment and inpatient management. Given the similarities of FBP and CMAM programming, and that the two models are often running simultaneously, it is important to learn more about the proven Community-based Therapeutic Care/Community-based Management of Acute Malnutrition (CTC/CMAM) models of case management and the use of algorithms to identify potential synergies.

Areas of Agreement in Integrating Food by Prescription

There is, however, broad consensus on several aspects of integration.

- **‘Food’ cannot stand alone**; more emphasis should be placed on nutrition assessment, education and counseling to ensure that a holistic package of services is consistently delivered.
- FBP should be seen as a **clinical intervention that is linked to treatment outcomes** such as “alive and on treatment at 12 months”, with a framework for monitoring and reporting against agreed indicators such as CD4 counts, adherence, BMI, etc.
- FBP should allow for **nutritional rehabilitation of the index client** to be handled separately from household food insecurity.
- HIV clinicians need to assume **responsibility for the nutritional status of their clients** as something to be managed, monitored, reported and analyzed as part of normal HIV care. Assessment and classification must be done at the first client visit by trained professionals and monitored at every subsequent visit.
- Governments should lead the development of **protocols and training**, and include nutrition care and support (including the use of food commodities) in the national standard of HIV care. Ministries of Health are the most logical government structure to provide leadership.

Inclusivity versus Exclusivity

Of the programs represented in this paper, only Malawi routinely applies the nutrition criteria to establish primary eligibility **regardless of HIV status**. Most FBP programs work specifically with HIV care and treatment programs thus are – by default – **exclusive to PLHIV**. This exclusivity remains contentious at community level, especially where food insecurity is endemic. For some, this is a condition of funding, while others are simply not designed (either physically or philosophically) to interact with other health service areas. The exception to this is the inclusion, in some countries, of TB patients whose HIV status may or may not be known. However, even in the presence of clear national protocols, the reality of who gets food and for how long is heavily influenced by the adequacy/reliability of the food pipeline and by the underlying food security situation. Some programs are also providing safe water kits as part of their standard protocol to reduce diarrheal disease. Inclusion of Water, Sanitation and Hygiene (WASH) information and products is gaining traction as integral component of HIV care as a low cost/high impact input which is crucial to protecting the investment in HIV care.

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13 In Malawi, adults undergoing treatment for any sort of illness now have reliable access to nutrition rehabilitation where indicated, although HIV-related illness is by far the most common cause of adult wasting.
14 In many countries, TB patients have access to nutrition support through a completely separate channel, often under arrangements that pre-date FBP for HIV. This mechanism has not been examined in this document.
Interviewees acknowledged that FBP set PLHIV apart from patients with other illnesses who might benefit from nutrition support, although admittedly they remain a small minority relative to the number of PLHIV. While many of those interviewed believe that FBP programming should extend beyond HIV care, the need for specific, evidence-based practice is sometimes in conflict with public health objectives. Differentiating too finely between the nutrition needs of clients in HIV, MCH and TB services, for instance, etc. might weaken services to all. While at policy level, these interventions may look different, nutritional health and rehabilitation activities become increasingly similar as you get closer to the ground. In many instances, the same health care provider – often a nurse – does it all.

**Going to Scale**

Implementation is greatly eased by having standardized protocols and a limited number of products. Thus while technically sound, the temptation to promote several/more complex regimens may not be practical. Even when protocols are the same, demanding different products or sizes of ration will inevitably create chaos in supply chain management as services are pushed farther away from central locations. As one interviewee put it, “One-size-fits-all may not be best technically, but may be more practical to implement. Finding that balance is crucial to making a large-scale rollout work.” Conversely, it is acknowledged that there is a role for pilot programs, randomized control trials and ‘platinum’ programming that will generate learning and stimulate debate as protocols evolve and are refined.

There was general agreement that the establishment of national guidelines for NAEC (including the appropriate use of food supplements) in HIV care and treatment programs is vital because *staff training materials, client education and community messaging should be standardized, consistent and easy to roll out*. Issues of access and equity must be sorted out at national level. National FBP guidelines operationalize the intent of key government bodies (National AIDS Commissions, Ministries of Health) to integrate nutrition on a population level as part of the standard package.
In successful national programs, such as in Kenya and Malawi (see Box 3), buy-in at the highest levels was very influential. In both countries, civil society pilot programs were instrumental in raising sufficient interest and gathering relevant local evidence to initiate the development of national standards and protocols. Interviewees warned that pilot programs should strive for practical and affordable designs to avoid raising expectation of extra staff and sophisticated equipment etc. Over-resourcing of pilot clinics reduces scalability once the pilot is over.

2.3 STANDARDIZING CRITERIA FOR ELIGIBILITY AND GRADUATION

Eligibility Criteria for FBP Programming

The starting point for establishing eligibility for FBP is most often the nutritional status of the index patient. In most cases (but not all) it is understood that the index patient is HIV positive. The presence of severe or mild-to-moderate acute malnutrition (a BMI below 16 or 18.5, respectively) is used by most programs as their primary filter; clients meeting this criterion are then further assessed to determine the most appropriate intervention. Depending upon the donor or partner priorities, secondary criteria can include household food and/or economic security, presence of opportunistic infections, household dependency ratio, identification with other target categories such as pregnant and lactating women, orphans and vulnerable children, etc. Household food insecurity cannot be assumed simply on the basis of adult wasting of a single member, but assessments inform decision-making as the most appropriate interventions are selected. The effectiveness and efficiency of household assessments and/or verifications can be compromised when human resources to carry out these tasks are limited. Patient education and counseling will typically be offered at some point but the timing, priority, type of provider and quality vary widely.

Adhering to agreed guidelines is especially difficult for cases that are on the borderline of eligibility. It is widely agreed that severe acute malnutrition in adults (as with children) requires intervention with a therapeutic commodity (a Plumpy'nut®-style RUTF, F75 or F100, Ensure, etc.); this is generally provided initially on an inpatient basis if there are no medical complications. Mild to moderate acute malnutrition, on the other hand, will usually prompt a 'prescription' for either an RUTF, a supplementary ration (typically a fortified blended cereal) and/or a household food basket – a decision largely governed by the program's resources. One interview described the reality: “We do have a national protocol but the reality for enrollment still depends on how much food we actually have available, and also on whether families have anything to eat at home. And we really struggle to transition clients off the food support, even though the protocol says we should, especially during a poor growing season.”

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15 Some programs extend FBP services beyond HIV care and treatment and absorb a range of chronically ill patients.
16 BMI is often confounded by an inaccurate height measurement especially when patients are very ill and unable to stand. BMI is most commonly used but its accuracy in the context of HIV-related illness has been challenged.
17 For instance, the Partners in Health program in Haiti refers any patient co-infected with HIV and TB to their nutrition program without further assessment, on the basis that food insecurity is endemic and two coexisting catabolic illnesses will inevitably cause nutritional deficits.
18 PEPFAR guidance states that HIV-positive pregnant and lactating women in PEPFAR-supported programs can receive food support regardless of nutritional status.
Notably, neither a mild or moderate degree of malnutrition in adults automatically implies the need for supplementation through food support: some programs manage clients from food-secure households with the provision of nutrition information and counseling. However, in the Uganda national program, the management of moderate malnutrition has not included a food supplement at all (although RUTF is provided routinely to severely malnourished adults), and significant weight loss has been noted in ART clients during their initial nine months of treatment. This program is now revising its guidelines to incorporate a fortified blended cereal option for treatment of moderate acute malnutrition. With endemic poverty and cereal or starch based diets, most interviewees acknowledge that there is a need for supplementary products that are high-energy and nutrient-dense, that advising clients to eat ‘more of the same food’ that the household already consumes is not an adequate response.\(^{20}\)

While some programs attach FBP specifically to ART, others report that a large proportion of their clients are pre-ART. Several programs implement a nutrition protocol for clients not yet on ART, and feel that this area could be better emphasized. It is important to note the understandable confusion about the term “pre-ART”: some confine the definition to “a stabilization phase immediately prior to initiating ART” while others apply it more broadly to any HIV-positive client not yet eligible for ART. Some respondents advocated for some kind of FBP mechanism for PLHIV not yet on ART\(^{21}\) during periods of illness to prevent or treat weight loss (similar to promoting ‘catch up growth’ in Under-Five programming). Where food insecurity is endemic, some have seen their clients deteriorate quickly especially during periods of illness or during ‘lean seasons’, so they have opted for a short-term food intervention (from two weeks to six months duration) that are more preventive than curative. Short-term interventions like this are happening in several programs although not necessarily with government sanction, the support of an evidence base and/or according to any standardized protocol.\(^{22}\)

Informants report that service providers/implementers are generally relieved that adult malnutrition related to HIV is ‘on the radar’ and that food/nutrition interventions are becoming more the ‘standard of care’. There is still concern that the protocols for management of mild or moderate acute malnutrition in adults are not as well-established as those that govern the management of children under five. It is ironic, because as many as one third\(^{23}\) of ART clients are classified as moderately malnourished when they first present, while severely malnourished adults comprise only two to three percent of the total. In a nutshell, program implementers find themselves in the unenviable position of trying to design and resource programs on a considerable scale in a technical area about which relatively little is known.

Several interviewees stressed that learning itself has been extraordinarily challenging. While “learning what works as we go along” is accepted (by this group of implementers) in principle, learning about the effects of FBP programming has been confounded by the very programming to which it is attached. It strives to be responsive and is therefore frequently adapting protocols. A certain level of stability and consistency is required in order to produce meaningful, replicable results from operational research. However, clinicians and researchers complain that variation in clinical care capacity, easily disrupted commodity pipelines, seasonal variations in food security, lack of control over household food consumption, differences in caring practices and political

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\(^{20}\) A typical cereal-centric diet contains about half the amount of protein required for a balanced diet.

\(^{21}\) This could apply to people who do not yet quality for ART (who are just becoming symptomatic), to those on a waiting list or are being “processed” and to those unlikely to initiate ART (whether by choice or by necessity).

\(^{22}\) One interviewee reported that as little as two weeks’ ration can make “a world of difference, enabling clients to get back on their feet without losing too much ground.”

\(^{23}\) Very few programs had concrete data, although they admitted that it should be easily retrievable. Interviewees’ estimates of malnutrition on presentation varied widely (among adults) from 10 percent to 30 percent, with most responses approximating ‘around one quarter to one third’. HIV-positive children presenting with malnutrition is even more common.
instability all preclude conclusive interpretation of results. Ethical barriers to the development of controlled studies – the understandable refusal to withhold potentially life-saving food or medicine – limit study group sizes and timeframes. The complexity of the disease process itself and variation in individual response to ART obscure the determination of cause and effect.

Client Graduation Strategies Challenging to Implement

There is less convergence around graduation criteria than around entry criteria. Interviewees agree that supplementation programs should be time-limited and that graduation criteria should be linked to the program’s overall purpose. The majority of programs aim to transition providing therapeutic and/or supplementary food when clients surpass a BMI of 18.5, although some require three consecutive months of recovery. Some programs (Partners in Health Haiti, FACES Kenya) report graduating clients from FBP when their BMI reaches 20, on the basis that this provides a ‘buffer’ against future decline. Having graduation criteria, however, does not mean that clients reliably graduate. Against a backdrop of poverty and food insecurity, these criteria are difficult to implement. Programs with stronger wraparound mechanisms such as economic strengthening and social assistance programs (discussed further in Section 2.6) and well-developed nutrition education and counseling programs express higher levels of confidence in their ability to graduate clients from FBP. Especially when food insecurity is endemic, it is important to be able to graduate patients after they are nutritionally rehabilitated, because at that point they appear identical to their neighbors and further food assistance becomes indefensible, often becoming a source of community conflict. It is also logical that successful HIV treatment, once established, should preclude the need for ongoing nutrition support except where food insecurity remains a real threat. It is argued that, having overcome the dangers of those first several months of treatment, maintenance of nutritional status should be able to rely on the quality of the education and counseling services and the effectiveness of wraparound programming.

The Challenges of FBP Support to Children

FBP support to children is multi-faceted. Support to children under five is most strongly supported by existing protocols although the lack of a practical commodity specifically for early-weaned infants\(^{24}\) is still seriously problematic. Several models provide food support to all HIV-exposed children up to the age of 18 or 24 months (and/or their mothers) through PMTCT programs, but ration sizes and choices vary widely. For HIV-positive children from 2 to 5 years of age, the monitoring and management of nutritional status follows standard guidelines but demands additional rigor and careful follow-up which are difficult to implement without strong community partnerships. Where children under five require nutritional rehabilitation or supplementation, there is divergence on whether the ration should be individual or designed to feed other children in the household. Some programs believe that separating out malnourished HIV-positive children for a food ration causes friction and perpetuates stigma, and that it can be assumed that if one child is malnourished, other children in the household will be as well. In contrast, other programs hold that

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\(^{24}\) To minimize the risk of mother-to-child HIV transmission and to optimize HIV-free survival, exclusive breastfeeding is recommended for HIV-infected women for the first six months of life unless replacement feeding is acceptable, feasible, affordable, sustainable and safe (AFASS) for them and their infants before that time. When replacement feeding meets AFASS criteria, avoidance of all breastfeeding by HIV-infected women is recommended. At six months, if replacement feeding is still not acceptable, feasible, affordable, sustainable and safe, continuation of breastfeeding with additional complementary foods is recommended, while the mother and baby continue to be regularly assessed. All breastfeeding should stop once a nutritionally adequate and safe diet without breast milk can be provided. Providing a nutritionally adequate diet for a 6-24 months old baby in the absence of breast milk is extremely challenging, especially in food-insecure environments. The lack of a suitable commodity for this time period is one of the most urgent challenges of HIV/Nutrition/PMTCT programming.
– as with adult programming – the ‘food is medicine’ and should be provided only to the index patient on the basis of a clinical assessment and classification, with household food insecurity tackled through a separate mechanism.

For the management of severe and moderate acute malnutrition for HIV-positive children 5-15 years, however, there remains a need for guidance. Although the client group itself is small, the guidance is new and poorly understood at country level. Only a handful of countries have started working with the new WHO BMI for age measures, adapting them and developing country-level training materials. Many programs have been using weight only, and struggle with a widespread complacency that HIV-positive children in this age group are destined to be “small and sickly”. Finally, the nutritional needs of older HIV-positive children (5-15 years) and how best to use nutrition to protect them from side effects of long term ART are still poorly understood. With emerging evidence of medication-related health challenges, it makes sense that HIV-positive children should be prioritized for education and counseling to support the development of strong nutrition knowledge and healthy nutrition routines and habits from the earliest possible age. It is also important to maintain a vigilant eye on all children whose mothers are HIV-positive: HIV-exposed children (even those who have avoided HIV infection) are still at higher risk of malnutrition and mortality than children whose mothers are HIV-negative.

2.4 ALLOCATING RESOURCES FOR FOOD AND NUTRITION SUPPORT

It is intuitive to respond to the clinical imperative of malnutrition by providing food – there is a sense of urgency and a need to act quickly. The dual threats of individual under-nutrition and household food insecurity reduce program uptake and adherence thus undermining the investment in HIV treatment. Unfortunately, ready-to-use therapeutic foods (RUTF) are considered to be expensive and most commodity pipelines fall far short of the actual need. The relative effectiveness of nutrition assessment, education and counseling (NAEC) vs. food supplementation is unknown, and many clinical service providers feel that providing ‘food’ is easier and more practical than the more time-consuming nutrition counseling and education. However, the effectiveness of either is highly context-dependent and a combination of the two may be the most effective. Furthermore, there is no consensus of a single “most appropriate” product although most informants believe a small range of commodities will probably be needed.

For many direct implementers, the process of triage and selection of the most-in-need beneficiaries, from among so many, is a painful one. Some interviewees relayed being discouraged that they were working from nationally agreed guidelines based on technical guidance -- signed off and celebrated at the highest levels of the government after lengthy consultations -- with inadequate resources to apply them. Against this backdrop, it is difficult to allocate scarce resources to the building of the nutrition assessment, education and counseling platform that will sustain this intervention in the long term. This is an area that needs a significant level of investigation.

There are contrasting opinions about how to allocate food support funding. Some of those interviewed proposed that it might make more sense to focus on mild-to-moderately malnourished adults because they are the majority and can be rehabilitated at lower cost than focusing on adults with severe acute malnutrition whose rehabilitation is more costly and less likely to succeed. It was

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25 Many ART side-effects have significant long-term health implications that require dietary adaptation, including diabetes and high cholesterol.

26 Cost-benefit information that allows comparison of commodities and interventions is not available. While costs vary widely, estimates of costs do exist. Benefit information, however, is much more difficult to quantify.
suggested that prioritizing moderate acute malnutrition might yield a significant improvement in treatment success outcomes, where treatment of severe acute malnutrition appears to be failing to produce those results. Other interviewees advocated for the nutritional rehabilitation of the severely malnourished through a home based care (HBC) mechanism to ensure their preparedness to initiate treatment. It was also suggested that hospices be investigated as venues for adult nutrition rehabilitation, easing the burden on acute care facilities and making use of an environment better staffed for caring behaviors such as feeding and nutrition promotion.  

Prioritizing specific sub-populations was also raised. For instance, it was suggested that perhaps when scarce resources dictate that difficult choices must be made HIV-positive pregnant and lactating women (PLW) represent a more cost-effective investment (two for the price of one); on the other hand, perhaps the greatest cost-benefit lies in the care of HIV-exposed infants and young children – averting the threat of sero-conversion and a lifetime on ART. Finally, many of those anticipate that a focus on nutrition assessment, education and counseling earlier in the disease process might pre-empt AIDS-related wasting, but acknowledge there is not yet any empirical evidence to support this.

There is a great deal of interest in pursuing the evidence base for the effectiveness and cost benefit to realigning our focus to preventive nutrition but an acknowledgement that this cannot be undertaken at the expense of caring for the severely malnourished. There is wide agreement about the need for operational research on many fronts, and a sense of urgency in creating momentum and a common agenda around some of these urgent issues.

Costs Versus Benefits

Clearly, information is needed in order to be able to prioritize investment. Although studies demonstrate an association between low BMI and mortality, causation is not clear and the evidence for food inputs (over other nutritional interventions) is still lacking. Neither is there an evidence base that nutrition counseling and education alone would be sufficient. There is a need for randomized controlled trials that compare interventions although implementing agencies have struggled with the ethics of ‘withholding’ an intervention (especially food) in order to create control groups. Of the research that has been conducted to date, food support has been more clearly associated with increasing uptake, supporting adherence and reducing treatment side effects.

“A more expensive therapeutic or supplementary food is not only clinically appropriate, it may actually be cheaper than providing a standard food ration for the entire household and still provide the desired effect.”

27 Hospices are a relative newcomer to chronic and end-of-life care in Africa, but many countries have increasingly sophisticated hospice networks, physical structures and trained staff (African Palliative Care Association www.apca.co.ug and Foundation for Hospices in Sub Saharan Africa http://www.fhssa.org).

28 NB. Considerable sensitivity is required in the planning of food/nutrition support for individuals (pregnant women, children, etc.). Assigning a highly-priced benefit (such as food) to women enrolled in PMTCT, based purely on their HIV status when all other vulnerabilities are widely shared amongst the women in the MCH program, has the potential to cause community conflict, raise stigma and be branded as unethical.

Some interviewees proposed that it is more cost effective – not only for the health care system but for the household – to keep PLHIV healthy and well-nourished for longer, rather than wait for the inevitable debilitating malnutrition that limits both income and food production, and requires expensive rehabilitation resources. Several interviewees called for further exploration into the anecdotal evidence that putting people on food first to ensure nutritional well-being, before starting them on ART, may reduce side effects and produce better long term results. Some proposed that it makes sense to focus first on nutritional rehabilitation before starting ART, suggesting that this might be especially relevant for home-based care (HBC) clients who are too ill to present at the clinic. A viable oversight mechanism for the prescription of an RUTF for use with adult clients identified and managed by community cadres, however, remains elusive. Use of the therapeutic ration should require some form of clinical assessment and it is unlikely clinic staff will make home visits for this purpose.

Current Thinking

Even in the absence of empirical evidence, many believe it is most useful and technically sound to have a combination of therapeutic and supplementary rations at hand. Most adult clients don’t like to eat the therapeutic ration but will make an effort while they are feeling very ill. When they begin to recover, they reduce the amount of therapeutic ration in favor of a more familiar porridge type food, so if a fortified blended food was available, it would be highly acceptable. There is continued concern about the risk of over-supplementation of micronutrients when multivitamin tablets and highly fortified commodities are used simultaneously. It is not clear if this is a realistic concern and if existing guidance is insufficient or training has failed to address this aspect. Finally, some programs increase the energy density of CSB type products by adding milk powder, oil etc. creating a sort of enhanced CSB. It would be useful to collect evidence about the efficacy of this practice.

Also troubling is the lack of understanding around the influence of food support to improving adherence. Once thought to be a relatively straightforward intervention, it is becoming increasingly clear that adherence is influenced by many factors and its success is difficult to quantify. It is not clear whether the comfort gained from taking food with medication is physiological (i.e. reduced nausea) or psychological. Does increased adherence derive from an increased sense of responsibility? From improved morale and reduced anxiety? Or perhaps from an ability to reliably plan medications as a mealtime event? Does the simultaneous collection of a food ration outweigh the opportunity cost of collecting medication on a regular basis? Where ration collection is tied to clinic visits, how much does the clinician reinforce the importance of adherence? It is difficult – but not impossible – to separate the many inter-related dimensions and gauge their significance.

The debate around the protective effect of the household ration remains unresolved. Some of those interviewed believe a household ration is essential to ensure that the effects of a therapeutic or supplementary ration are not diluted. Others are willing to concede that some degree of ration dilution is inevitable but doubt the cost-effectiveness of applying a household ration purely for its protective effect. Some programs address the inevitability of ration-sharing by doubling the individual ration (rather than provide a separate household ration) but worry that the escalating cost of specialized products renders this strategy too costly.
Risk versus benefit must be weighed against the purpose of the ration: if the purpose of the ration is to increase program uptake and adherence (rather than to improve nutritional status), will intra-household sharing diminish its effect? Most believe that, in any event, the index patient will receive a sufficient share to control medication side effects except perhaps that of hunger.\textsuperscript{30} The arguments are split along food security lines – where food insecurity is high, programs feel strongly compelled to provide food for needy households. They argue the need to “arrest the backward slide” and protect the household from disintegration while the patient recovers – and that without hope of an eventual return to normalcy, adherence could well be compromised. There is a consensus, however, that:

- the look of the product, the packaging and the marketing strategy are increasing the control: the more specialized the product, the less likely it is that clients will share;
- the ‘history’ of the product is influential: products that have been previously used specifically by children may have to be re-branded;
- even when the primary client shares the ration, they still benefit;
- for supplementation to work, the household must have an adequate food basket of its own;
- a household ration should have its own goals, and entry/graduation criteria, distinct from those of an individual ration;
- when a therapeutic or supplementary ration and a household ration is going to the same family, it is important that they are packaged differently, and distributed at separate points to make it clear that they are being provided for different reasons;
- insofar as possible, donors should focus on local commodity production, systems development, capacity strengthening and technical coherence/consistency, including country-level or regional product production, and gradually hand over commodity procurement to local governments.

The size of the pipeline remains a constraint to a responsive or flexible program. Ideally, programs would like to provide extra commodity to enable clinics to start new ART patients on their food rations immediately with no lag time. However with the need for commodity being so intense, any buffer stock is quickly allocated and typically means that the baseline amount for the subsequent months has to be increased. There is a conflict for clinical staff around the allocation of the commodity when the pipeline is limited. It is not reasonable to expect them to assess a cluster of patients and prioritize who should get the food – typically, the food is allocated on a first-come first-served basis. Inevitably, by the end of the month, eligible clients find that “the cupboard is bare” and will have to wait for up to a month for their first – and most critically needed – food ration.

Juggling different donor priorities and reporting requirements is extremely difficult and time-consuming, especially when trying to respond on such a wide scale. Bringing multiple donor mandates together to create a seamless package – even at district level – is time-consuming, painful and often unsuccessful. In many ways, the scale of the problem is the problem, because it demands the engagement of multiple stakeholders. Having multiple funders attached to a single project was described as chaotic and inefficient unless there is a sense of shared purpose and someone responsible for the “big picture” decisions. It was suggested that it would be more cost-effective to have the donors work more closely together and to coordinate with governments rather than to devolve that responsibility to individual programs.

\textsuperscript{30} With ART and increasing wellness, many clients report a marked increase in appetite. In the absence of food in the household, the hunger they experience is described as both physiologically and psychologically painful.
2.5 UNDERSTANDING STAFFING REQUIREMENTS

Staff workload is a significant constraint, although it varies from facility to facility depending on the location (and access to technical assistance and oversight; ability to attract key staff), the volume of clients and staff’s experience with HIV care and treatment. In general, demand for human resources outstrips supply and continues to escalate. Even where strong leadership has been applied to create a comprehensive care model (for instance in Kenya), financial resources are not sufficient to hire all the people who are required. Efforts to expand treatment access to increasingly rural locations puts additional strain on centralized systems, and increases the pressure for a functional FBP mechanism as the number of new ART clients continues to rise. This has particular implications for commodity management (discussed further in Section 2.5). In spite of the challenges, however, clinical staff are enthusiastic about the addition of food to the package of services: “this is what we’ve been asking for, for so long - this is what we needed.”

Staff training is extremely demanding, especially when rolling out a national strategy. There is a real shortfall, in many countries, of supervisory-level clinicians and mentors for ART programming – it has not been easy to add nutrition assessment, education and counseling to the list of duties these supervisors/mentors are expected to perform. Since most clinical settings cannot provide trained nutritionists as part of the clinical team, the bulk of the nutrition assessment, education and counseling work has fallen to nurses who are often already overstretched. With the focus on in-service training packages, pre-service training and adaptation of existing curriculum is lagging behind.

Clinical assessment of under-nutrition requires a specific skill set that is often underestimated; there’s more to it than checking height and weight. It is also important to have a complete baseline, including lab work where possible. However, with an already overstretched workforce, it is difficult to inculcate the need for thorough nutrition assessment. In practical terms, prior to initiation of a therapeutic ration such as Plumpy’nut®, oral integrity, hydration, esophageal thrush and ability to swallow should be tested to ensure clients can physically comply.

It has been reported that health practitioners prefer the more straightforward, tangible provision of a food commodity to the more time-consuming, “abstract” counseling and client education activities. This is worrying because counseling and information about the product must be realistic and done with some degree of rigor for adequate compliance. Nutrition education and counseling require not simply ‘knowledge-to-be-shared’ but a personal affinity for working closely with clients, and as one interviewee noted, “It cannot be assumed that even trained nutritionists have what it takes to make a good counselor.” It is important to be realistic about the compliance issues with adults and provide instruction about how commodities can be mixed and blended for maximum effect. As one clinical expert pointed out, “Programming nutrition rehabilitation for adults differs from child-focused programming: adults do not necessarily do what they are told. If they do not like something - if it is too sticky or too sweet - they won’t eat it.” Another echoed, “We are demanding a behavior change from these clients - it is inadequate to simply provide information or hand them an instruction sheet.”

Several interviewees commented that they are concerned about staff burnout. Two interviewees mentioned that staff are also falling sick and fail to avail themselves of HIV care and treatment because of self-stigma. Staff retention is an ongoing battle, especially at government facilities.

31 Without a complete, reliable baseline, client information has very little research value, even in studies undertaken retrospectively. This has seriously limited the ability to aggregate or compare client groups and learn from different interventions, and represents an opportunity lost.
To reduce the numbers of untreated AIDS-related deaths and people who drop out of treatment and to allow FBP programs to reach communities most in need, several interviewees suggested other cadres of workers should be added to the core complement. The role of the social worker is gaining traction as the professional most likely to bridge the gap between clinic and community. As one interviewee expressed it: "If we can get the full complement of clinical staff – the big five (doctor, pharmacist, nurse, nutritionist and lab services) – we would be so relieved, but in truth, to make sure we have the much-needed community support, we also need social workers!" It was also suggested that home based care providers should be more strategically engaged. For instance, home-based care volunteers could serve as direct providers of food commodities to clients unable to present at the clinic. With a tangible offering of a supplementary or therapeutic food, home-based care volunteers could use their enhanced credibility to identify and serve malnourished adults in the community. MUAC could be used rather than BMI, at least for initial entry to the program. This new mechanism could allow the HBC worker to present their findings to a clinician and collect the food prescription on behalf of their patients. While a thorough evaluation by a trained clinician is optimal, enlisting HBC volunteers in this way would give them a mandate to observe the patient until he or she is sufficiently recovered to actually present at the clinic. Bringing service to clients who are too sick to travel into a clinic would ensure that a centralized service did not exclude the most in need. This is an area for further study.

2.6 COMMODITY MANAGEMENT FOR FBP

The Stress on Supply Chain Mechanisms

Several interviewees (but not all) converged around the opinion that when food support is intended to support adherence to antiretroviral therapy and care, the commodities must be on-site and readily available throughout the month so that clinic visits/medication collection and ration/FPB collection are explicitly linked. Among programs that issue food from the clinic pharmacy, there is a strong sense that attaching food to the pharmacy not only improves compliance but reduces intra-household sharing. However, the additional stress on the existing supply chain mechanism is significant and there is an emerging consensus that perhaps this is best applied only to an individual ration. Household rations, while warranted in many settings, are bulky, heavy and more difficult to secure. Storage and security capacity vary widely; some facilities have no choice but to store cereals and other commodities in non-storage areas (offices, hallways, etc.). Even when physical space is available, short shelf-life of commodities (some products have only a six-nine month limit), ventilation and heat control requirements to avoid aflatoxins and mildew; security from rats and other infestations and security from theft must be considered. Physical lifting and handling of heavy commodities, as well reporting and other logistics tasks, are an unwelcome burden on clinical staff. Finally, interviewees noted that pipeline breaks not only affect individual

There is interest in a thorough investigation and documentation of the responsiveness of MUAC, to understand more clearly the relationship between MUAC and BMI, and discover how (if at all) each relates to CD4 count. Clients who know they are HIV-positive and are not yet eligible for ART need to be monitored in the community. MUAC could be a practical tool in helping to trigger a 'return to the clinic' response, a clear improvement from current practice where even clients who know their status are still inclined to present late.
clients and their families, but overall program integrity: “We need resources to be committed for the duration in order to be able to learn about our interventions. Up to now, we struggle to make sense of our outcomes because they are so compromised by frequent pipeline breaks.”

Coverage and Cost-effectiveness

There is real concern that FBP programs won’t be able to keep pace with the ART rollout as HIV care and treatment moves further and further into rural areas. Transportation, in some cases, is more expensive than the commodity especially when the distribution plan is elaborate. Concerns about cost effectiveness are widely shared; it is expensive to deliver a small package to a single person for a particular timeframe on a national scale. Would a bigger ration for the household (for virtually the same price) have greater impact? Some argue that in terms of incentive value, it may be more effective to deliver a bigger package that serves the entire household – a small individual package is not likely to draw the client in for collection. The challenge lies in reconciling the ration size and distribution plan with the purpose of the ration in relation to the identified gaps or needs.

Practical lessons in commodity management are emerging. Programs (in Mozambique for instance) that attempted to distribute bulky cereals and pulses from a classic pharmacy set-up found it untenable and have opted for smaller packages of fortified blended cereal. Programs using Plumpy’nut® in jars struggled with transportation from centralized depots because of leakage; sachets are more manageable and have improved shelf-life but are more expensive. Small, inconspicuous packaging helps to reduce tension related to stigma and between clients who receive food support and those who do not. Local procurement is preferred when reliable vendors can be identified. In the majority of PEPFAR countries, supply chain management service (SCMS) providers, while traditionally responsible for cold chain and pharmaceutical logistics, are gradually assuming responsibility for integrating food chain management into their standardized forecasting, procurement, tracking and inventory management system. The USAID-funded FANTA-2 Project continues to provide technical assistance, especially for commodity selection, quality control and supply-demand projections.

Government leadership is crucial, but there is a real need for private sector involvement in product development and distribution. Governments generally want to be (and should be) in charge of quality assurance; it is their role to be sure that the products going to some of their most vulnerable people meet international standards. There is a need for leadership to the mechanisms and relationships that ensure standardization, quality assurance and certification processes and pipeline management. There is a need for targeted technical assistance that would help other countries to follow Kenya’s lead, by putting in place the standards for food producers and ensuring quality assurance processes, especially in food processing, production and fortification. Leadership is required to facilitate the appropriate relationships.

Reducing the Supply Chain Burden

Several of those interviewed suggested that there be more effort applied to providing a non-stigmatizing commodity in a non-stigmatizing way. They would welcome the development of commodities that are driven by the private sector and marketed to the mainstream as ‘healthy’, so that people with money could simply buy it when they do their regular shopping, suggesting that there is a role for large-scale public-private partnerships. Several interviewees noted that it would be helpful to be able to refer clients to specific, well-regarded commodities that they can affordably purchase, perhaps through some kind of discount voucher or subsidization method. Providing vouchers to targeted clients could help ‘push’ the right commodities and ensure they find their market. This would be especially helpful where nutrition
assessment, education and counseling is reaching people who are not food insecure. Service providers noted that not every client with moderate malnutrition needs a food ration provided, and that it would be helpful to have clear direction about something practical and affordable that clients can use to add value to the household diet. There is a proliferation of new commodities being marketed with claims that cannot necessarily be substantiated; the lack of government-led regulation makes it difficult for a clinician to know what products to promote. Most national nutrition policies don't address this issue, assuming clinicians and clients will be able to make their own determination. This is unrealistic, however; guidance would be very welcome.

In September 2009, WFP Zambia began the implementation phase of a pilot with Mobile Transaction Zambia which entails providing a voucher that can be used at retail outlets for procurement of a particular commodity package. Patients will receive a scratch card which they can redeem for a designated food basket. The shop manager inputs the National Registration Card (NRC) number of the patient as well as the unique scratch card number into a phone verifying the entitlement of the person on the system. Two foil encoded pins provide for security checks, the second pin confirming receipt and instantaneous payment to the retailer. Payments to shopkeepers are largely reinvested into the same geographical area, using existing transportation mechanisms and stimulating markets. The electronic audit trail links with the client’s NRC number and could then be linked to the clinical record. The option of issuing the scratch card via mobile text messaging is being explored. Although initially the system is providing staple commodities such as maize meal, oil and pulses, the system could also be set up to effectively deliver highly nutritious products that are good for the entire population such as fortified blended breakfast cereals or through pharmacies, specific therapeutic commodities.

2.7 WRAPAROUND SERVICES

The integration of Food by Prescription Programming into other social protection and safety net programs is essential. The concept of such integration is referred to as ‘wraparound services’. There is wide acknowledgement that without wrap around activities the long term impact of HIV care and treatment may be compromised, particularly in situations where food insecurity is profound. Three points arose consistently from those interviewed:

- Wraparound services often falter because they have no natural single ministry or UN agency to provide leadership;
- Wraparound services have no standard set of ‘this-works’ interventions, no road-map or check-list to serve as a minimum package; and
- Wraparound services should be universal, not PLHIV specific.

It is especially troubling that there is so little understanding of what actually succeeds. This may be related to a lack of clarity about what these services are actually trying to achieve (specifically in the context of HIV). There is a sense that agriculture and livelihood work need to catch up with public health by developing protocols or standards equivalent to the cornerstones of health sector programming. Most household food security and livelihood programs are boutique style, cycle-funded and not designed for scale-up. Interviewees complained that household level agriculture interventions (i.e. kitchen gardens) are haphazardly targeted and poorly documented. Income generating activities have varying rates of success. Lack of geographical overlap is also frustrating: food security programming generally focuses on rural areas while HIV care and treatment programs have been largely urban based. Furthermore, the geographical target areas for food assistance and/or HIV care are not often harmonized with areas implementing livelihood
activities. Three separate funding streams (food assistance, HIV care and treatment, and economic strengthening) make collaboration awkward and time-consuming.

In spite of these constraints, programs do see that referral networks and linkages can be effective where coordination is systematized. This works best when clinical service providers are more inclusive in their outlook, encouraging the engagement of non-health services providers and their specialized skill sets. Two-way referrals linking community and clinic can work well especially when built into program monitoring and donor reporting. Social workers have the right skill set and mandate to assume a much-needed coordination and advocacy role, ensuring that clients and their families are linked with services and benefits they need – insurance, registrations, safety nets, training opportunities etc. Programs that have been able to recruit social workers into their multi-disciplinary teams find a huge improvement in general wellness and self-reliance.

2.8 GAUGING SUCCESS IN FBP PROGRAMMING

Monitoring and Evaluation Challenges

Weak monitoring and evaluation is a common complaint among program implementers, technical advisors and donors, but it is important to remember that it takes a mature, stable program to provide solid information. While the cornerstones of HIV care and treatment were established in better-resourced countries, nutrition protocols were not part of that package thus are being developed under the most trying of circumstances. Guidance for food-assisted programming in the context of HIV is increasingly available but to date, none has been developed to address the specific complexities of FBP. Implementation models are constantly adapting in an effort to be responsive to client needs. Interrupted commodity pipelines, political influences, donor priorities and the intrinsically volatile nature of the food security sector render results difficult to interpret and limit causality or attribution. However, the complexity cannot become an excuse for inaction. As one interviewee put it, “we have to give ourselves permission to learn, to be experimental, but the bottom line is that we have to be more opportunistic about learning. For instance, when it is beyond our control to provide service in a very needy community, we should stop moaning about our collective failure and instead seize the opportunity to create a control group. With the rapid rollout of services, those windows of opportunity will soon be closed forever.”

“To really understand the influence of food support, it might make more sense simply do as much as we can with what we have, while we allow ART systems to strengthen; maybe we need to be content with just running smaller pilots in the meantime.”

“While we all agree that empirical evidence is important, it makes sense to give ourselves a grace period rather than trying to create evidence in such an unstable environment.”

How we measure success is driven by what we aim to achieve. Nutritional rehabilitation enjoys a set of objective measures that can be employed to gauge success, but the meaning of ‘adherence’ varies as does the way it is monitored (see Box 4).

Adherence support in some programs is limited to improving tolerance of medications and reducing side effects (including the experience of hunger which is so characteristic of the early months on ART). This tends to be a short intervention (2-3 months) to allow patients to get established on medication and back on their feet. Other programs incentivize adherence by providing food in a quantity sufficient to overcome the opportunity cost of making the trip to the clinic for follow-up and the collection of medication. The interpretation of ‘adherence support’ is crucial to the design of the program and its monitoring tools, and has a dramatic influence on establishment of appropriate graduation criteria. Nutrition support intended to overcome the side effects experienced early in treatment can more easily be time-limited and guided by symptoms; food support to reduce opportunity cost may be relatively easy to monitor while patient recovery and restored independence provide a natural pathway to graduation.

**Client Tracking**

Regardless of the purpose of the intervention, both collection and interpretation of evidence about the influence of nutrition support is severely limited by our inability to effectively track ART clients. Although performance varies widely, African ART programs have an average retention rate at two years of 60 percent, and very little is known about why or how the other 40 percent became ‘lost’. Unrecorded deaths clearly represent a significant percentage, but little is known about the clients who simply stopped taking treatment. A better understanding of what it means to be ‘lost to follow-up’ and what conditions, assistance, or incentives are needed to improve retention are urgently needed. Recidivism rates, on the other hand, are neither easily accessible nor a high priority among those interviewed. Programs that track their “revolving door” clients (those who “graduate” from a food support program only to decline in weight and return to the program after a short time) report a return rate at less than 10 percent.

Another factor that confounds learning about the effects of FBP programming is that it is not a stand-alone nutrition intervention: by definition, **FPB is intimately interwoven with larger treatment-related outcomes, and is intended to be contributory, not causative**. Food programming most often runs parallel to clinical treatment programs, with its own set of indicators and monitoring and evaluation plan. However, in order to really understand the impact of FBP, it must be embedded in the health sector and understood through that lens, against client-level

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*Box 4: What is meant by “Treatment Adherence”?*

There are two aspects to “treatment adherence”:

1. adherence to the medication, which involves resolving side effects (such as nausea, fatigue or increased appetite) as well as remembering to take it on a strict daily schedule; and

2. adherence to treatment regimes, which entails presenting for clinic visits, collecting medication in a timely fashion and following clinical advice about lifestyle changes.

The overarching goal is to have ART client take their medication in the right dosage at the right time every day at least 95% of the time. Measuring adherence is admittedly difficult and still suffers from lack of an internationally agreed method. Most ART programs use a combination of pill counts, Adherence Support Worker/Home Based Care provider reports and self-reporting.


health outcomes. This will force all players to rely on information drawn from routine data collection (rather than sole-user or one-off data sets). These can then be aggregated across a significant number of clients and referenced against relevant health indicators (such as CD4 count, mortality, etc.) Unfortunately, this requires the introduction of new skills, new equipment and a much greater emphasis on the management of nutritional status. Taking this to scale will take time, effort and funding.

Interviewees describe significant challenges with harmonizing monitoring and evaluation and data collection systems, agreeing that the key to success lies in selecting indicators that have practical relevance to all parties and would be monitored regardless of reporting requirements. As one interviewee put it, “To collect data, especially from another sector, that data must be of value to that sector. Otherwise, your collection efforts are likely to fail.”

2.9 THE BENEFICIARY PERSPECTIVE

No report about programming for vulnerable populations is complete without the perspective of its intended recipients. To get a glimpse of their experience, four focus group discussions (FGDs) were held in Lusaka, Zambia with 30 individuals registered in two FBP sites (see Appendix C for a brief background to the sites). The clients at both facilities receive the following food rations on a monthly basis to support households taking care of an ART or TB patient, with the objective of supporting adherence during the first several months of treatment:

- 25 kg cereal (maize);
- 4.5 kg pulse (peas);
- 6 kg supplementary food rations (HEPS); and
- 1.8 liters cooking oil.

Most FGD participants were ART clients; some were also on TB treatment. All were enrolled in an FBP program implemented by the Programme Urban Self Help (PUSH) with food provided by WFP. FGD findings were further elaborated by input from caregivers, clinicians and other service providers.

Clients were unanimous in saying that “food rations were a life saver.” FGD discussants had all started taking medication (ART or TB treatment) before they started receiving food rations. Nausea, increased appetite/acute hunger and feeling generally “sick” were common complaints of that period. As a result, some actually discontinued taking medications while others did not take them consistently. Some clients had heard from friends that ART causes an increase in appetite and had been reluctant to start ART until they were sure they had been accepted into the FBP program. This resolved almost immediately when they started receiving food rations, and all informants noticed a dramatic improvement in their health after only two or three months. They reported, however, that they knew ART clients (who did not meet the criteria for food support) who had stopped taking their medication because of the side effects. The majority of clients who have met the graduation criteria for food rations (and have thus been transitioned off) said they continued to take drugs after they were dropped from the list; some, however, said it was very difficult to keep taking medication regularly because

Informants were drawn from a government-run Health Centre in George Compound, and from the Community Based TB/HIV/AIDS Organization (CBTO) program in Kamanga Compound, in Lusaka, Zambia.
they didn’t reliably have food at home, and taking their medication on an empty stomach led to nausea and stomach cramps. Even more worrying was the report of others who were under the impression that medication “had” to be taken with food in order to be effective, whose commitment to taking their medications waned when the food support ended.

It was unanimous across all four FGDs that food rations do NOT contribute to stigma, with the explanation provided that “AIDS is now a common disease in the community and almost every family is affected.” Most respondents said they did not care about being known as “AIDS patients” because for them it was a matter of life and death. This view was contradicted by those who said that they knew patients who desperately needed food rations but refused to receive food because of stigma, some of whom have since died as a result. Furthermore, other respondents noted that stigma still prevails among more well-to-do families, and that those who were excluded from the program because of their relative wealth would not have enrolled in it for fear of being identified. These findings are consistent with anecdotal evidence from service providers and from the self-selected nature of the focus groups. FGD informants were well-informed about the mechanisms for referral and assessment that supported their inclusion in the program. Unfortunately, however, they described an uncomfortable awareness of people who are “not happy about being excluded and complain that those of us who are on the program have been somehow shown favoritism.” Thus while stigma itself was not a strong influence on the individuals interviewed, unease about possible inequity or the appearance of inequity was evident.

Challenges and solutions identified by clients in both settings include the following:

1. **The size of the food ration is insufficient to meet the needs of the household:** clients said the food rations were not adequate relative to high dependency levels. Some households have more than one patient but still receive a single ration. Some stated that the food does not last for a month because it is not ‘supplementary’ -- it is the only food coming into the household. The amount of HEPS -- the commodity most palatable and helpful to the client -- is inadequate and does not last for the month. It is the most popular commodity with clients, especially while they are sick, because it is so easy to prepare and to eat. HEPS was taken at meal times (generally with a meal, not instead of it, unless they were very ill) and as a quick snack between meals; clients who took it at bedtime “had a better sleep”. **Clients recommended that ration sizes be increased**, with priority placed on increasing the ration of HEPS. Clients at the Community Based TB/HIV/AIDS Organization (CBTO) site said that there is need for additional food items such as sugar and **kapenta** (dried sardines) which is easy to prepare and has high protein content. They also suggested food coupons that can be exchanged for supermarkets food items.

2. **Some items in the food package were viewed as inappropriate:** providing dried peas, rather than beans, was unhelpful. Respondents said peas take five hours to cook and require a high consumption of charcoal. There were strong complaints that peas produce bad smell after cooking which makes them feel like vomiting. They recommended that peas should be replaced by beans which are easy to cook and more palatable. Precooked legumes are even more preferable. There was a resounding recommendation that instead of giving them maize, they should be given ground maize meal as was done in the past.

3. **Support is limited to food rations (nonfood items are required):** beneficiaries complained that food rations are provided without consideration of what’s required for their use. For instance, the maize requires grinding but the program does not provide money to pay for grinding even when most households cannot afford to pay for it. Similarly, charcoal is required for cooking food but must be purchased. Some have to trade food to pay for maize grinding or charcoal, or trade off
their rations altogether for cash to buy something easier to prepare. Clients recommended that they be provided with practical support for requirements related to cooking, especially for buying charcoal and grinding maize.

4. Help is required to carry heavy rations: clients from both facilities reported that the food rations were heavy to carry, especially for clients who are very sick. However, they noted that they are often assisted by caregivers, friends or their children who help them carry their rations home. This only became problematic when distributions were delayed and the ‘helpers’ were delayed several hours waiting for trucks to arrive. Beneficiaries recommended that food distribution sites should be nearer to their households, delivery times should be reliable and/or easily communicated, and/or that there should be a reliable mechanism to make sure there is help to carry their rations home.

5. Linkage to food security and livelihood programs: lack of transition support activities causes anxiety. Clients were all aware that the food ration intervention was strictly time-limited. At both facilities, clients were worried about being cut from the FBP Program and expect to face difficulties when it is time for them to exit the program. Several discussants explained that their families are normally hungry during the dry season or a poor growing season when staple commodities become more expensive. At the moment, there is no formal mechanism to ensure livelihoods or economic self-reliance. All clients agreed that they should be supported with training and capital for them to start small business that they can use to support their families when food rations end.

2.10 THE LONG-TERM OUTLOOK

Some of those interviewed expressed hope that FBP programs will not be required in perpetuity. There is a sense that the face of HIV is changing and that with the success of ART, clients of the future are more likely to present for testing and treatment earlier in their illness. With earlier identifications of HIV infection and the gradual (but observable) reduction of stigma, there will be an opportunity to prevent the dire wasting that currently characterizes AIDS in Africa. This is increasingly likely as the threshold for ART rises; PLHIV of the future will be less likely to experience an AIDS-defining illness and malnutrition that often accompanies it. This (more physically capable) client may be more resourceful and self-reliant, and may not need a one-stop-shop for food and medicine.

This gradual shift in emphasis from illness to wellness may lead to adjustments in the composition of the standard HIV care and treatment team. The revitalization of the nutrition agenda -- not only for PLHIV but for the general public -- will hopefully contribute to a stronger foundation of nutrition knowledge and eating behaviours. Increasing respect for nutrition as a sector and for nutritionists as professionals will ensure that new protocols are observed. Bolstering the ranks of trained nutritionists and ramping up preservice nutrition education for allied health professionals will keep nutrition at the forefront. It is also possible that an aspect of sustainability rests partly with clients who recover their health and can then assist directly with service delivery or indirectly by contributing to the local economy. Sound nutrition education of clients not only serves to protect the nutritional status of that client but can be leveraged to influence new clients. As mentors, role models and advocates, they may be able to effect behavior change in communities more cheaply and effectively than ‘programming’ can do. This in itself may be the sustainable part of any comprehensive nutrition intervention. Equally, it is important to begin preparing to meet the challenges specific to long-term ART use, which will be especially relevant to those who start treatment as children. Nutrition counseling will become increasingly complex as clinicians encounter higher volumes of long-term problems, such as glucose intolerance, hyperlipidemia, high cholesterol, osteoporosis, etc.
Future programming may be made simpler by the increased availability of appropriate supplementary commodities through existing retail outlets (small shops, grocery stores etc.). Subsidies and voucher systems could ensure inclusive access even in rural locations and reduce the burden on healthcare providers. This will require an investment in national quality assurance and regulatory systems to ensure products are safe and effective.

In the more immediate future, however, there are still concerns about how governments and line ministries will meet the cost of FBP programs; RUTF commodities are considered by most to be expensive even from local purchase. Interviewees raised the need for constructive learning and for pilot programs designed with sustainability in mind.

3. SUMMARY OF COMMON ISSUES

While FBP programming does not share a standard definition or delivery model, there is agreement on several key aspects:

1. **Government ownership is essential** for sustainability, but civil society, technical entities and donors play a vital role in initiating pilot activities, providing technical leadership and funding start-up activities.

2. **There are several areas of potential investigation that require prioritization, leadership, creative approaches and funding.** Leadership to spearhead this process would be welcome, especially because the need to establish an evidence base is urgent: “We are learning as we go. There is no universal rule book or playbook for this. Our learning is compromised by our constant adaptation of programming, and the multiple challenges around conducting and interpreting operations research. We need someone to take the lead, to help us focus on learning and to ‘force’ us to share the data we have.” Some level of agreement between stakeholders and implementers is urgently required in order to establish at least a shortlist of key baseline measurements and criteria to be monitored. This will make it possible to aggregate clients into larger cohorts, rather than continuing to rely on smaller programs (often pilots) whose results are difficult to extrapolate. Even more urgent is the need for carefully selected and designed randomized controlled studies.

3. **It is important to make a distinction between the need for client-level nutritional rehabilitation and household-level food insecurity.** Interim therapeutic and supplementary feeding may be critical to clinical outcomes for the index client, but patients and families should also be linked to longer-term food security/livelihood support. While they can (and often should) be addressed simultaneously, each has its own purpose and should have its own eligibility/graduation criteria and monitoring structure.

4. **Linking across disciplines, and coordination within the health sector and between health and other sectors, is crucial** to a successful, cost-effective response. Several informants asked for definitive direction about how to structure the most effective partnership, and which goods and services comprise the minimum package. Stronger linkages between clinical and community
settings are crucial. Long-standing barriers such as siloed funding and professional/sectoral mandates and territories must be bridged, and complementary roles identified and coordinated.

5. It is crucial that we gain a better understanding of how best to staff an ever-expanding portfolio of HIV care and treatment activities. Integration of nutrition care and support for PLHIV into existing programs requires a systematic approach at several levels. Existing capacity constraints and staff overload must be taken into account, and creative solutions documented. While in-service training aims to meet current needs, investment is required in pre-service training and adaptation of existing curriculum to ensure a durable response.

6. There is an opportunity to design and inculcate a holistic model that focuses on nutrition assessment, education and counseling, positive living / preventive nutrition, and the other complementary interventions (such as water and sanitation) thus shifting the focus away from the food that is available by prescription. It will help to understand the relative interplay between various complementary and wraparound interventions, to learn more about which comprise the more effective package. A holistic model could (and should) serve as a platform for food provision but not be limited to that. To that end, it may be useful to devise a new name for this kind of programming in order to take the focus off ‘the food’ and back onto ‘nutrition’.

While it was beyond the scope of this paper to provide recommendations or to map the way forward, interviewees identified several areas for clarification, future discussion and follow-up, including:

1. With limited funding and human capacity, prioritizing immediate action is crucial, but where to start? Is it best to start by ensuring high quality food commodities are available to ART clients who need them, and build a nutrition assessment, education and counseling program around the food… or does it make more sense to create a solid nutrition assessment, education and counseling platform through which therapeutic and/or supplementary food can be offered as one element. As one interviewee put it, “Is it ‘Food Plus’ or ‘Plus Food’?” There is a clear sense of urgency to respond to the needs of patients with moderate or severe acute malnutrition, especially as they initiate ART. For these clients and their families, this is not the right time to learn about nutrition and consider the necessary changes in behavior. On the other hand, a continued emphasis on investing in the food risks prolonged delays in establishing the aspects of the program which are potentially more sustainable.

2. Five questions persistently reflect the lack of evidence for the optimal investment of food and nutrition resources:
   - “Which commodity should we use, and for how long?”
   - “Should we initiate food and ART concurrently, or should we tackle nutritional rehabilitation first?”
   - “Wouldn’t it be cheaper to prevent the nutritional deterioration that we so commonly see? How do we best do that?”
   - “What is the most cost-effective way to protect the index patient’s ration – household ration? Cash transfer to the household? Other?”
   - “What is really meant by ‘adherence support’? How can food rations best be applied to improve adherence?”

The lack of evidence is most keenly felt among advocates for a ‘pre-ART’ mechanism, where anecdotal evidence implies success with both intermittent, short-term supplementation (to speed recovery following opportunistic infections) and with nutritional rehabilitation prior to the initiation of
ART rather than simultaneously. Others demand a shift in emphasis from curative care to prevention activities, calling for investigation of the cost-effectiveness of prevention activities relative to nutrition rehabilitation. Finally, there is a need to clarify and implement guidance to understand the benefits and limitations of micronutrient supplementation, and to reduce the risk of over-supplementation of micronutrients when multivitamin tablets and highly fortified commodities are used simultaneously.

3. **Centralization versus decentralization of FBP services is hotly debated.** Failing to capitalize on the gains of Community-based Therapeutic Care/Community-based Management of Acute Malnutrition (CTC/CMAM) programming has some implementers incensed; others maintain that this is a new and sensitive programming area that needs a level of oversight that can only be provided in clinical settings. There is a need to investigate and document precisely how CTC/CMAM models can contribute to adult HIV care. Additionally, a thorough investigation and documentation of the responsiveness of diagnostic and graduation assessment using mid-upper arm circumference (MUAC), and an enhanced understanding of the relationship between MUAC and BMI, will be required in order to devolve responsibility to community providers.

4. **Lack of clear direction to inform the design of wraparound programming is a significant concern.** There is a real sense of frustration among service providers that they expend significant level of resources aimed at getting their patients back on their feet, but once they achieve that there is really nowhere to transition them to that will support long-term wellness. Anxiety among clients is also apparent. This is an area of investigation that will require significant planning and resourcing.

5. A similar level of frustration surrounds our apparent **inability to effectively track ART patients and better understand our lost to follow-up numbers.** Models demonstrating how this can effectively be done and resources sufficient to undertake tracking are urgently needed.
## 4. APPENDICES

### APPENDIX A: LIST OF INTERVIEWEES

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization/Location</th>
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<tbody>
<tr>
<td>Tim Quick</td>
<td>USAID Office of HIV/AIDS</td>
</tr>
<tr>
<td>Francesca Erdelmann</td>
<td>WFP Regional Office</td>
</tr>
<tr>
<td>Calum McGregor</td>
<td>WFP (Zambia)</td>
</tr>
<tr>
<td>Steve Collins</td>
<td>Valid International (Headquarters)</td>
</tr>
<tr>
<td>Gideon Cohen</td>
<td>WFP (Ethiopia)</td>
</tr>
<tr>
<td>Janet Paz-Castillo</td>
<td>OHA/USAID/Washington</td>
</tr>
<tr>
<td>Margot Vander Velden</td>
<td>WFP (Mozambique)</td>
</tr>
<tr>
<td>Ruth Akelola</td>
<td>WFP (Kenya)</td>
</tr>
<tr>
<td>Tony Castleman</td>
<td>FANTA (US)</td>
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<tr>
<td>Robert Mwadime</td>
<td>FANTA (Uganda)</td>
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<tr>
<td>Fanice Komen</td>
<td>AMPATH (Kenya)</td>
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<tr>
<td>Lina Njoroge</td>
<td>Kenyatta National Hospital (Kenya)</td>
</tr>
<tr>
<td>Gertrude Kara</td>
<td>WFP Regional Office</td>
</tr>
<tr>
<td>Milika Zimba</td>
<td>Catholic Relief Services (Zambia)</td>
</tr>
<tr>
<td>Earnest Muyunda</td>
<td>FANTA (Nairobi)</td>
</tr>
<tr>
<td>Mwape Lubilo</td>
<td>PUSH (Zambia)</td>
</tr>
<tr>
<td>Louise Ivers</td>
<td>Partners in Health</td>
</tr>
<tr>
<td>Filippo Dibari</td>
<td>Valid International (Southern Africa)</td>
</tr>
<tr>
<td>David Mwaniki</td>
<td>Associates for Educational Development (Kenya)</td>
</tr>
<tr>
<td>Janelle Zwier</td>
<td>World Vision (Zimbabwe)</td>
</tr>
<tr>
<td>Catherine Mkangama</td>
<td>Ministry of Health/Office of the President and Cabinet, Malawi</td>
</tr>
<tr>
<td>Hanna Dagnechew and Angeline Wambanda</td>
<td>CRS Kenya / AIDSRelief Kenya</td>
</tr>
<tr>
<td>Carme Roure Pujol</td>
<td>MSF Spain</td>
</tr>
</tbody>
</table>
APPENDIX B: FOCUS GROUP DISCUSSION INTERVIEW GUIDE

1. What challenges did you face before you started receiving food rations?

2. What has been the impact of food rations on your well-being?

3. Did the access to the supplementary food rations (HEPS) have any influence on your decision to start ART? Would you have started ART if there had been no food rations available? How successful do you think treatment would have been without food rations?

4. Did the HEPS have any influence on your adherence to ART? Would you have stayed on your medication if there had been no HEPS? Did you continue taking ART when food rations run out?

5. Tell me about your experience of being selected to receive food. Do you understand why you were selected? Do you know people who were not selected? What was the reaction of those who were not selected towards you and program managers? How does it feel to be among the selected few?

6. Tell me about your experience of collecting the rations and taking it home, in terms of weight, packaging, timing and location of distribution? Does the food ration collection process encourage stigma? If so, how can inconvenience and stigma be minimized?

7. Tell me how you foresee the process of transitioning off the food ration. How will you know that you’re ready to stop receiving the food?

8. Many agencies in many countries are planning programs to provide supplementary food for malnourished people starting ART. What advice/recommendations do you have for them?

9. What recommendations /advice do you have for malnourished people planning to start ART or those just starting to receive HEPS with their ART?
APPENDIX C: A BRIEF BACKGROUND TO FOCUS GROUP DISCUSSION SITES

Four focus group discussions (FGDs) held at two facilities in Lusaka, Zambia on May 5 and 6th, 2009. One of the facilities is a government run Health Centre in George Compound while the second is a community-based organization called Community Based TB/HIV/AIDS Organization (CBTO) in Kamanga Compound. The FGDs consisted of a total of 30 individuals who mainly consisted of ART clients, some of whom were also on TB treatment concurrently. In addition, a total of 7 caregivers and officers at the two facilities were also interviewed.

The Health Centre at George Compound provides both ART and TB services and is funded by the government. CBTO works with ART clients who get ART from a nearby government-run Health Centre (Chelstone Health Centre). TB drugs are stocked and are disbursed to TB clients directly at CBTO.

The food rations are provided by the World Food Program (WFP) through the Programme Urban Self Help (PUSH). The clients at both facilities receive the following food rations on a monthly basis:

- 25 kg cereal (maize);
- 4.5 kg Pulse (peas);
- 6 kg HEPs; and
- 1.8 liters cooking oil

The food rations are given on a monthly basis to support households taking care of an ART or TB patients, based on a two-step selection process. Initial referrals are made by either community volunteers or clinical staff. Each referral is followed up by clinical and PUSH staff who conduct vulnerability assessments at household level to determine the level of vulnerability. Assessments take into account household and productive assets, dependency ratios, household income and other support systems/entitlements. Of those meeting the entry criteria, George Compound clients are included on the food distribution roster for six months; CBTO TB clients gain access for eight months; CBTO ART clients gain access for a twelve month period. All clients are clinically reassessed at the end of the relevant period and if their nutritional status is sound, they are exited from the program. Both programs aim to offer support to transitional activities (livelihood linkages etc.) but neither has been very successful with this aspect to date.
List of Information Resources and Links


USAID’s Food and Nutrition Assistance (FANTA) project has a wealth of country-specific resources related nutrition care of PLHIV. http://www.fantaproject.org
Through this Working Paper Series, GAIN aims to increase understanding of the link between nutrition and sustainable development. The Global Alliance for Improved Nutrition (GAIN) is an alliance driven by the vision of a world without malnutrition. GAIN mobilizes public-private partnerships and provides financial and technical support to deliver healthier foods and supplements to those people most at risk of malnutrition. Our innovative partnership projects in more than 25 countries are improving the lives of nearly 200 million people. Our project portfolio is growing and our goal is to reach one billion people.

It is GAIN’s hope that its Working Paper Series will stimulate research and progress to improve programs. These include national food fortification, infant and young child nutrition, salt iodization, and nutrition and infectious diseases. The Working Paper Series will capture the results of work underway in or commissioned by these programs. GAIN puts considerable emphasis on measuring the impact of its programs and we expect that some titles in the series will explore measurement issues and report the results of research. GAIN is also known for developing innovative public private partnership models that can reach the poor through market mechanisms. These models may be the basis for case studies published in the Working Paper Series.

Other papers in the Working Paper Series:


Electronic copies of the Working Paper Series can be obtained from http://www.gainhealth.org/media/reports

For comments, suggestions or additional information on this Working Paper, contact Bruce Cogill at bcogill@gainhealth.org
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Mickey Chopra, Director, Health Systems Research Unit, Medical Research Council, South Africa is a doctor with postgraduate qualifications in public health and child health. He has worked for fifteen years in South Africa first as a district medical officer where he established an innovative child health and nutrition programme. He then taught and conducted research at the School of Public Health, University of the Western Cape, with a particular focus upon primary health care approaches towards maternal and child health. At the time of writing the director of the Health Systems Research Unit, Medical Research Council, South Africa that specializes in broader health systems improvements working from the policy level down to implementation in communities. He has published over 60 international peer reviewed papers and contributed to numerous book chapters concerned with child health and nutrition. He is also on the Steering Committee of Equinet, a network in the Southern Africa region whose goal is to promote and realise equity and social justice in health.

Scott Drimie is a Research Fellow with the International Food Policy Research Institute. His major responsibility is the coordination of the Regional Network on AIDS, Livelihoods and Food Security (RENEWAL), which facilitates research in Southern and East Africa, ensuring that scientific evidence is made accessible to decision makers through different communication strategies. He held a research position at the Human Sciences Research Council and ran a consultancy company from which he consulted for various public and private sector organisations. His PhD was on the political economy of land reform in South Africa, conferred by the University of Cambridge, United Kingdom.