

Site Assessment Report

Thrive Project (AID-611-C-13-00001)

Submitted by:
FHI360 Zambia
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Table of Contents

Acknowledgements	ii
Table of Contents	iii
Acronyms	iv
Definition of terms	v
Executive summary	1
1.0 Program Context.....	4
2.0 Purpose of assessment	4
3.0 Activities and Methods.....	4
3.1 Limitation of the assessment	5
4.0 Findings	6
4.1 Client Numbers.....	6
4.2 Malnutrition information	6
4.3 Data collection and reporting	7
4.4 Client flow	7
4.5 Clients seen per day.....	8
4.6 Nutrition Assessment.....	8
4.7 Categorizing malnutrition.....	8
4.8 Nutrition counselling.....	8
4.9 Nutrition Supplements.....	9
4.10 Anthropometry equipment/supplies	10
4.11 Nutrition guidelines/protocols/job aids.....	10
4.12 Human resource in ART clinics.....	10
4.13 Staff trained in nutrition	12
4.14 ART/PMTCT training plans.....	12
4.15 Dispensing nutrition commodities.....	12
4.16 Storage facility.....	12
5.0 Recommendations	13
Appendix 1:Persons Contacted.....	17
Appendix 2:Client flow chart	19
Appendix 3: Assessment tool	20

Acronyms

ADH	Arthur Davison Hospital
AIDS	Acquired immune deficiency Syndrome
ART	Antiretroviral drugs
BMI	Body Mass Index
CDC	Centre for Disease Control
CHAZ	Churches Health Association of Zambia
CIDRZ	Centre for Disease and Research in Zambia
CRS	Catholic Relief Services
DEC	Data Entry Clerk
DMO	District Management Office
FBP	Food by Prescription
FHI360	Family Health International
HEPS	High Energy protein Supplement
HIV	Human Immunodeficiency virus
IMAM	Integrated Management of Acute Malnutrition
MAM	Moderate Acute Malnutrition
MCDMCH	Ministry of Community Development Mother and Child Health
MCH	Maternal and Child Health
MOH	Ministry of Health
MSL	Medical Stores Limited
MUAC	Mid Upper Arm circumference
NACS	Nutrition Assessment Counselling and Support
NCHS	United States National Center for Health Statistics
NFNC	National Food and Nutrition Commission
NRDC	Natural Resources Development College
OSC	Overseas Strategic Consultants
OVC	Orphans and Vulnerable Children
PATH	Program for Appropriate Technology in Health
PLHIV	People Living with HIV/AIDS
PMO	Provincial Medical Office
PMTCT	Prevention of Mother To Child Transmission of HIV
QI	Quality Improvement
RUTF	Ready To Use Therapeutic Food
SAM	Severe Acute malnutrition
SPOs	Standard Operating Procedures
TNS	TechnoServe
WHO	World Health organisation
ZPCT	Zambia Prevention Care and Treatment Partnership

Definition of terms

Body Mass Index: A statistical measurement which compares a person's weight and height.

High Energy Protein Supplement (HEPS): HEPS is a maize-soy flour blend enriched with minerals and vitamins and is designed to treat acute malnutrition. HEPS is commonly consumed as porridge.

Mid-upper arm circumference (MUAC) is an indicator for wasting, to be used for children 6 months old. $MUAC < 11$ cm indicates severe wasting. $MUAC \geq 11$ cm and < 12.5 cm indicates moderate wasting (cut off being debated). MUAC is a better indicator of mortality risk associated with acute malnutrition than weight for height.

Pull System: A system in which the flow of resources targets replacing only what has been consumed. The product flow is determined by its demand by the final consumer.

Push system: A system in which product flow is based on a projected production plan. In a push environment, forecasts are used to predict what the production rates should be.

Ready To Use Therapeutic Food (RUTF): RUTF is a lipid based energy-dense, mineral/vitamin enriched food specifically designed to treat acute malnutrition. RUTF has a similar nutrient composition to F100.

Weight for height z-score is expressed in standard deviations below the median of the U.S. National Center for Health Statistics (NCHS) reference population or WHO child growth standards ($W/H < -z$ -score) or in percentage of the median (NCHS) ($W/H < \text{percent of median}$), depending on national guidelines.

Weight for height (W/H) index reflects current nutritional status and is used to assess wasting. It shows how a child's weight compares to the weight of a child of the same height and sex in the WHO standards

Executive summary

Launched in June 2013 in Zambia, the Thrive project is a consortium of Program for Appropriate Technology in Health (PATH) as prime grantee; Family Health International (FHI360) as technical lead for training, mentorship and Supervision; TechnoServe (TNS) as the lead agency in supporting sustainable access to affordable, quality high energy protein supplements; and Overseas Strategic Consultants (OSC) lead for behaviour change communication. The aim of the Thrive project is to provide nutrition assessment, counselling and support (NACS) to people living with HIV (PLHIV) and orphans and vulnerable children (OVC) to improve their nutritional status and prevent malnutrition by integrating the interventions into HIV services. In total the project will work in 50 sites reaching 50,000 HIV clients with NACS. These include HIV positive adults and children, pregnant and lactating women and orphans and vulnerable children. As a follow up to the site selection exercise conducted in April 2013 by PATH, FHI360 conducted an assessment of the selected sites to determine opportunities, gaps and challenges to integrate NACS through discussions with facility management, ART staff and nutritionists. Visits were made to all sixteen selected sites but the assessment was done in only fifteen. The assessment used a modified Food By Prescription (FBP) tool which is designed to assess client and nutrition information; client flow; anthropometry equipment and supplies; nutrition guidelines, protocols and /job aids; human resource; staff trained in nutrition; RUTF/HEPS storage and ART/PMTCT training plans.

General strengths

- Existence of staff including adherence counsellors, data entry clerks (DECs), and a pharmacist to implement NACS.
- All health centres and clinics have some form community component designed to meet patient needs and are responsive to tailoring services as new needs arise.
- Training adherence and lay counsellors in community NACS will complement the job of the health care workers. Majority of sites have nutritionists in place who could be the focal point persons for the NACS programs.
- All sites have at least one data entry clerk (DEC) and a computer supplied by supporting partners such as ZPCT II, CHAZ, CRS and Government.

- Hospitals (Kitwe, Ndola, ADH, St Francis and Mwami) have a strong supply chain capacity. This is central to ensuring availability of nutritional supplements to intended targets.
- IMAM sites have vast experience managing acute malnutrition albeit only in children.
- FHI360 supported sites have a QI system in place, making it easy to integrate and roll out NACS QI within the existing system.

Weaknesses

- Despite existence of nutritionists at 10 of the 15 sites assessed, only the nutritionist at Kitwe Central Hospital is part of the ART staff, the rest work in MCH and inpatient care. Occasionally, ART patients are referred to them but not all of these go there and there were no records for referred patients.
- High patient load seen daily in relation to inadequate staff could comprise quality of services provided including nutrition counselling.
- Hospitals rotate their staff on a regular basis, which could pose a challenge if the new staff are not trained as soon as they come on board.

Recommendations

- Despite all sites having scales and height boards, the project should procure SECA mother/child scales, SECA height boards, children MUAC tapes with 11.5 cm cut off points and adults MUAC tapes which are the recommended tapes.
- Some site's client flow will require tweaking to integrate NACS, however this not negatively impact the ART services.
- Data entry and reporting - Thrive project should discuss with partners that are supporting ART on how the DEC's will be used on the NACS program and their existence beyond the current partner support.
- Orientation of management should be done concurrently with trainings to cut costs. The Management may be called in one place or the Thrive project staff could pay a courtesy call at the respective PMO, DMO and facilities.
- Before NACS programme initiation, develop standard operating procedures (SOPs) for NACS as well as supply chain management.

- Establish focal points persons in MOH, MCDMCH, NFNC, DMO, PMO and facility level for NACS programme.
- Use Quality Improvement approach to strengthen integration and continuous improvement of NACS management at the facility level.

1. Program Context

Nutrition and HIV work in a vicious cycle. The weakening of the immune system as a result of HIV can lead to malnutrition, and malnutrition weakens the immune system of HIV positive people, contributing to rapid progression to AIDS. The World Health Organization (WHO) recommends 1999 to 2580 kcal for health HIV negative adults. In HIV infection, energy needs increase. During asymptomatic phase, energy requirement increase by 10%; in symptomatic stage, energy requirements increase by 20 to 30%. Energy needs in HIV infected children increase by 10% in asymptomatic phase; 20 to 30% in symptomatic phase and 50 to 100% in children experiencing weight loss. The World Health Organisation also recommends micronutrient supplementation for high risk groups (pregnant and lactating women and children) in resource poor settings like Zambia.

Global efforts to strengthen and scale up HIV prevention, treatment, care, and support increasingly integrate food and nutrition interventions. In Zambia, Nutrition assessment, counselling and support (NACS) integration into HIV services started with the launch of the Zambia guidelines on management and care for people living with HIV/AIDS in 2005. This was followed by the development of the (NACS) curricula in 2008. In 2009/2010, a Food by Prescription (FBP) guideline was developed and a pilot was commissioned in 20 health facility and community HIV services with the aim to improve anti-retroviral therapy (ART) and palliative care clients' outcomes by providing nutrition assessment, counselling and education, and therapeutic and supplementary foods to PLHIV whose lives were at risk from malnutrition. The Thrive project is a follow up to the FPB pilot and is a proof of concept and will be implemented in 50 health facilities in four provinces, reaching 50,000 People Living with HIV/AIDS (PLHIV) with NACS.

2. Purpose of assessment

To provide information to the Thrive project on opportunities, gaps and challenges that exist at sixteen selected sites to implement the NACS package of care.

3. Activities and Methods

The following activities were completed as part of this assignment:

- Meetings and interviews were conducted using key questions on capacity and integration found in the assessment tool in appendix 3, which were adapted to each level and information source.
- Conducted sites assessment at the fifteen NACS implementation sites in Eastern province (three government hospitals, one mission hospital, three mission health centres and one government health centre) and, Copperbelt province (one private hospital, three government hospitals and four government clinics) provinces. During the assessment, observations were made and key informant interviews were conducted with service providers to identify available gaps, opportunities and challenges associated with NACS implementation and integration at facility level, as well as to identify systems that have been put in place to facilitate the process of capturing NACS data. The assessment team consisted of four Thrive project staff from module one and two.

Province	District	Site
Copperbelt	Ndola	Ndola Central Hospital
		Arthur Davison Hospital
	Kitwe	Kitwe Central Hospital
		Wusakile Private Hospital
		Luangwa Clinic
		Chimwenwe Clinic
		Mindolo Clinic
	Ndeke Clinic	
	Mufulira	Kamuchanga District Hospital
	Eastern	Chipata
Mwami Mission Hospital		
Kapata Clinic		
Muzeyi Mission Health Centre		
Katete		St Francis Mission Hospital
Lundazi		Lundazi District Hospital
		Kanyanga Mission Health Centre
	Lumezi Mission Health Centre	

3.1 Limitation of the assessment

- The team was not able to assess Ndeke clinic and Wusakile satellite clinics (Mindolo, Natwange and Chamboli clinics) because of the tight schedule allocated for the assignment. Ndeke clinic needed formal communication from the Kitwe DMO.
- The team was unable to assess some storage spaces at some facilities because they were locked.

4. Findings

4.1 Client Numbers

Data records vary by site. Some sites have all types of data sets (table 1) while others do not. Only five out of fifteen sites had pre ART data. This made it difficult for the team to estimate the number of pre ART and ART patients that are malnourished.

District	Name of site	ART cumulative (adults)	Active ART (adults)	Pre ART (adults)	ART cumulative (children)	Active ART (children)	Pre ART (children)	Clients seen/ day
Chipata	Chipata District Hospital	7,911	5,873	72	629			80
	Mwami Mission Hospital		4,813	839		307	66	100
	Muzeyi Mission Health Centre		374			31		30
	Kapata Health Centre	7,205	5,822	869	504	408	83	70
Katete	St Francis Mission Hospital	13,437	7,975		945	587		100
Lundazi	Lundazi District Hospital	2,606	2,488		185	164		50
	Kanyanga Mission Health Centre	688	610			60		30
	Lumezi Health Centre	1,119	655			27		30
Kitwe	Kitwe Central Hospital	8,144	3,736		832	518	296	40
	Luangwa Clinic		1,924					
	Chimwemwe Clinic			666		141	62	45
	Ndeke Clinic							
	Wusakile Private Hospital	11,057	4,746			496		>100
Ndola	Ndola Central Hospital	12,227	7,380	11				30 - 40
	ADH Children's Hospital	1,358	578	116	2,741	1,650	238	40 - 60
Mufulira	Kamuchanga District Hospital	4,195	979		348	44	260	50

4.2 Malnutrition information

All MCH/PMTCT/IMAM clinics in all sites had both kwashiorkor and marasmus data for children less than five years old. Children are given RUTF in both severe acute malnutrition (SAM) and moderate acute malnutrition (MAM) regardless of their HIV status using MOH guidelines. The RUTF amounts given per month were based on weight of the patient.

Malnourished paediatric (5 – 15 years old) and adult (above 15 years old) data were not available from the records. In addition all sites were unable to estimate the number of malnourished patients

that passed through the clinics in the past month. Majority of interviewees mentioned that they do not see as many numbers of malnourished or emaciated patients which was the typical AIDS picture before, because of the advent of ART and the fact that they now initiate ARVs at 350 cells/mm³.

4.3 Data collection and reporting

The first point of contact in the ART clinic is the registry where staff fetch patient's files and the necessary SmartCare forms are put in each file. The files were either taken to the clinician or the adherence counsellor depending on the site client flow. The last point in the client flow is the DEC where all data for each patient are recorded before patients leave the clinic. Sites use paper based SmartCare and HIA/HMIS forms to collect HIV data except St Francis which uses the electronic SmartCare. It was not established whether the e-SmartCare is more efficient and has shortened waiting time as compared to the paper based system.

There are two DECs at Kitwe, ADH and Kamuchanga and three at Kitwe. The rest of the sites have one DEC each. For Copperbelt sites, DEC salaries are paid by ZPCT II. It was not established in Eastern province whether DECs are paid by sites or were on Government payroll. All data rooms had a functional desk top computer. Some sites had a back log of data to enter. This is a well known challenge experienced by most ART sites and this could impact on NACS data reporting. Majority of sites indicated that they preferred separate data tools for NACS to make data capture and reporting easy.

4.3 Client flow

Although client flow is similar to the *Food by Prescription model* (Appendix 2), steps vary by site. These differences are apparent between big and small sites and also the number of staff available per ART clinic day determined the client flow. Not all sites that have nutritionists involved them in conducting nutrition assessments, counselling and providing dietary support. Some interviewees mentioned that this was because nutritionists mostly dealt with children less than five years old in MCH/IMAM clinic and in patient care. Some sites have attempted to refer patients to these nutritionists even though they sit in a different location, but patients rarely go there. There are a lot of missed nutrition opportunities for clients with this type of system.

4.4 Clients seen per day

Existing staff are stretched and unable to provide adequate care between 30 – 120 clients they see daily. These same staff participate in mobile ART services. Having few staff for many clients is one of the reasons for heavy patient crowding and long waiting periods. This gives little time to perform proper nutrition screening and counselling and if necessary follow it up with nutritional support.

4.5 Nutrition Assessment

All ART clinics weigh patients at every contact and conduct biochemical and clinical assessments as part of the general ART assessment. Height is usually not taken hence BMI is not calculated. Some sites do take height but this is done on adhoc basis and still, BMI is not calculated. Although BMI is not calculated all interviewees knew its importance. Detailed dietary assessment is also not done. None mentioned the reasons why this is not done. IMAM sites use MUAC to screen and assess malnutrition in children less than five years old. MUAC is never used for screening adults.

4.6 Categorizing malnutrition

None of the ART clinics categorize malnutrition using BMI, W/H or Z score even though the SmartCare forms have a provision for this. Categorizing malnutrition is however done in MCH/IMAM clinics and in patient care for children less than five years old, using W/H or Z score values. None of the sites currently use BMI for children and most interviewees mentioned that they did not know BMI is used in children.

4.7 Nutrition counselling

The majority of sites conduct nutrition counselling as part of ART care, but this is not done in a standardized manner. Of the fifteen sites assessed, only Kitwe ART clinic has deployed a nutritionist and had a counselling flip chart. However, clients by pass her room because it is situated after the clinician's room. Meanwhile every patient passes through the adherence counsellor's room which is located before the clinician's room. They informed us that most clients do not want to see another health care provider after they have seen a clinician because they would rather go to the pharmacy to

collect their medicines and go home, rather than see the nutritionist after their prescriptions are already given.

4.4.4 Nutritional Supplements

Of the sites assessed, only Lundazi hospital had RUTF for ART patients donated by CIDRZ. This was delivered in December 2012, but without accompanying guidelines. So far only two clients have been given this RUTF using children's guideline. At the time of the assessment, all IMAM sites in Eastern province had no stock of RUTF. All Copperbelt sites had RUTF for the IMAM programme, delivered two weeks prior to the assessment. They reported that they had not had RUTF stock for the past five months.

4.5 Anthropometry equipment/supplies

All ART clinics have at least an adult scale and a height board. In Copperbelt sites, scales and height boards were supplied by ZPCT II. All sites did not have salter scales except ADH ART clinic. Other sites get their salter scales from MCH if needed. None of the sites have adult MUAC tapes. For sites which have children MUAC tapes, these had a cut-off point of 11cm instead of 11.5cm as per current recommendation. None of the equipment is SECA brand which is the recommended brand by NFNC.

District	Name of site	Adult scales	Salter scales	Height boards	Length boards	Adult MUAC	Child MUAC
Chipata	Chipata District Hospital	1		1	1		✓
	Mwami Mission Hospital	2			1		✓
	Muzeyi Mission Health Centre				1		✓
	Kapata Health Centre	2	2	1	1		✓
Katete	St Francis Mission Hospital	1		2	2		✓
Lundazi	Lundazi District Hospital	1		1	1		✓
	Kanyanga Mission Health Centre	1		1	1		✓
	Lumezi Health Centre	2		1	1		✓
Kitwe	Kitwe Central Hospital	2		2	1		
	Luangwa Clinic	2	2	1	1		
	Chimwemwe Clinic	1		1	1		
	Wusakile Private Hospital	2		2	1		
	Ndola Central Hospital	1		4	1		
	ADH Children's Hospital	3	1	1	1		✓
Mufulira	Kamuchanga District Hospital	1		1	1		



Stand-on adult scale with inbuilt stadiometer

These are found at all ZPCT II supported sites in Copperbelt province

4.6 Nutrition guidelines/protocols/job aids

Only four sites had nutrition wall charts on infant and young child feeding (IYCF) displayed on the wall. A few interviewees indicated that they have nutrition/HIV guidelines but none of the sites seen during the assessment. IMAM sites have RUTF protocol/job aids for children less than five years old obtained from MOH. None of the sites had BMI charts including sites that took part in the FBP pilot.

4.7 Human resource in ART clinic

None of the assessed sites reported serious shortage of staff to implement the NACS program. On average, hospitals had four staff and rural health centres and clinics had two staff per each ART clinic day. Kanyanga mission health centre had fourteen staff trained in ART. They rotate in conducting ART clinics, but there is only one nurse and one clinic officer per each clinic day. All facilities have lay counsellors or adherence counsellors who assist pull out files from the registry, conduct ART assessments and counselling. Ten of the fifteen sites have nutritionists but only Kitwe Central Hospital has a nutritionist stationed in the ART clinic as discussed elsewhere. The rest are stationed in either MCH or inpatient care. Doctors that conduct ART clinics at ADH are from Ndola Central Hospital. They work on rotational basis. Despite staff shortages, the available staff in all sites were willing to implement NACS despite the anticipated increase in workload.

Table 3: Human resource in ART

District	Name of site	Doctors	Clinic Officers	Nutritionists in ART	Nutritionists in MCH & inpatient care	Nurses	Pharmacist	Data entry clerks	Adherence Counsellors
Chipata	Chipata District Hospital	1	1		1	3	1	1	2
	Mwami Mission Hospital				1		1		
	Muzeyi Mission Health Centre		2			5	1	1	1
	Kapata Health Centre		2		1	4	1	1	
Katete	St Francis Mission Hospital		2		1	4	1	1	4
Lundazi	Lundazi District Hospital		1		1	2	1	1	3
	Kanyanga Mission Health Centre		1			14	1	1	
	Lumezi Health Centre		1			6	1	1	2
Kitwe	Kitwe Central Hospital	1	1	1	3	2	1	2	4
	Luangwa Clinic		2		1	5	1	1	3
	Chimwenwe Clinic		3			4	2	1	5
	Wusakile Private Hospital		4			11	3		
	Ndola Central Hospital	3	2		2	5	1	3	5
	ADH Children's Hospital	2	1		1	4	1	2	3
Mufulira	Kamuchanga District Hospital		1		1	1	1	2	8

4.8 Staff trained in nutrition

In Eastern province sites, a few health care workers reported being trained in IMAM, community IYCF and also Nutrition/HIV. In Copperbelt province sites, only two nutritionists of those interviewed reported being trained in Nutrition/HIV. This was evident by the lack of knowledge and skills in nutrition counselling.

4.9 ART/PMTCT training plans

Short term training: All sites did not have short term training plans (1 week or 2 weeks). They mentioned that they are dependent on donors. Government does not fund short term of trainings. Donors include CHAZ for mission sites, CDC, CARE and CIDRZ for some government sites, CRS for St Francis and ZPCT II for all Copperbelt sites.

Long term training: Sites have staff development trainings in their action plans. They mentioned that funding for these trainings is not readily available. This assessment revealed that at least one member of staff in the majority of the sites is currently attending long term training within the country.

4.10 Dispensing nutrition commodities

With the exception of St Francis, all pharmacists and pharmacy technologists interviewed indicated that they can dispense RUTF and HEPS through the pharmacy and were willing to devise a system for ordering the commodities from the stores, recording and reporting that would work for their site. St Francis hospital indicated that the ART pharmacy is too small and that dispensing will be done through the warehouse.

4.10 Storage facility

Generally, storage was a concern in all the sites but they made a commitment to ensure they identified storage space for RUTF and HEPS. This included pharmacy warehouses, general warehouses, kitchen store rooms and bulk storage rooms. Ndola, ADH, Kamuchanga and Kitwe hospitals currently store their RUTF in the hospital kitchen storage rooms and they

mentioned that this is where they would store the Thrive RUTF and HEPS but dispensing would be done through the Pharmacy using existing requisition systems if possible. The team was not able to see the inside of Luangwa, Chipata, Kapata and Lundazi storage rooms because they were locked. All assessed storage spaces were well ventilated and secured except for Luangwa which did not have a grill door. Management assured the team that a grill door will be installed before the programme starts. Chimwemwe storage room does not have pallets. They may require assistance from the Thrive project to procure pallets before RUTF and HEPS are delivered.



Most storage rooms met all the specifications

This store room was secured, well ventilated, has both pallets and shelves.

4.11 Road accessibility

Road accessibility to all sites was good as most of the roads were tarred. All parking areas were spacious and well maintained. The parking spaces were also big enough for big trucks to navigate the road and turn, except for Luangwa clinic which did not have much space.

4.12 Community Linkages

District hospitals, health centres and clinics have established community linkages while big hospitals do not have hence the high lost to follow up client numbers. Since big hospitals are referral facilities, upon discharge clients are referred back to facilities they were referred from or which are nearer to their community.

5. Recommendations

Exit strategy

The Thrive project needs to develop a clear exit strategy that should be discussed with MOH and facilities.

Malnutrition information

- Because numbers of malnourished clients are unknown at this stage and the fact that enrolment of new clients vary month by month and to avoid the HEPS expiring in storage because of a short shelf life, the project decision to use the push system in the initial phase to forecast, purchase and deliver commodities to sites is ideal. However after the initial phase, a strong supply chain management system should be put in place.
- With the advent of ART, clinics see more and more patients who are overweight. There is need to focus nutrition counseling and education messages to patients who are overweight. According to WHO, overweight/obesity is one of the key metabolic/physiological changes that increase the risk of non-communicable diseases (NCDs).

Integration of NACS into HIV services

- Clients flow - Sites need to be assisted with the client flow, but this should be simple and not complicated to negatively impact the ART services. Also consider making this a QI objective
- Data entry and reporting - Thrive should discuss with partners that are supporting ART on how the DECAs will be used on the NACS program.
- Malnourishment among children under 5 should be a priority for NACS and can be a potential improvement aim

Data capture and reporting

- Nutrition data collected in HIV care and treatment sites should be reported together with other HIV data sets.
- Besides PEPFAR indicators, it will be ideal to develop program monitoring indicators which could include:

Human resource

- Due to human resource constraints there is need to consider task shifting where nutritionists and adherence/lay counsellors would undertake nutrition assessments and categorize malnutrition, nurses and nutritionists would conduct nutrition counselling and prescribe the RUTF and HEPS thus lessening the burden for the medical doctors and clinic officers.

Capacity building

- The NACS training should tackle practical issues such as client flow in the context of NACS so that opportunities are not missed in the integration.
- Training should include Nutritionists, Nurses, Pharmacists, Doctors and possibly data entry clerks and stores persons who are critical in the client flow chain so that they complement each other and also that every point of service is strengthened.
- Prior to program implementation, the project should plan and execute procurement of the required equipment (scales, height boards and MUAC tapes) essential for the functioning of the NACS program. However the existing equipment can still be used to conduct quality assessments.
- Conduct orientation of management during training workshops period. Frequently management does not need to be trained in NACS because they do not participate in program implementation. An hour sessions to discuss issues such as enabling NACS integration in existing services, management roles and responsibilities in ensuring NACS package is delivered could be what is necessary.
- Support the creation of Nutritionists or ART in charges as focal point persons at each facility to oversee the NACS program. This cadre will complement the work of the ART staff in the management of NACS commodities and will be primarily responsible for overseeing nutrition assessments, dispensing RUTF and HEPS, and the collection and timely reporting.

Supply chain management

- The project should strengthen the logistics system taking into account the commodities to be managed. This includes identification of an inventory control system (maximum and minimum stock levels at each level and re-order periods), logistics data to be collected and reported, and roles and responsibilities of all staff for supply chain activities.
- Train site logistics staff who will oversee and manage the storage, distribution and inventory keeping of the commodities. If possible all logistics of NACS program should be built on the existing system and not develop parallel systems which will overburden the sites with additional paper work.
- The project needs to concretize the idea of out sourcing provincial/district storage, distribution and transportation of the RUTF and HEPS to avoid breaks in supply chain. A

system should be worked out where the food is delivered to the Sites at regular intervals depending on the available space at Sites.

- Develop NACS standards operating procedures (SOPs) for sites related to food commodities to ensure quality commodity management.

Community linkages

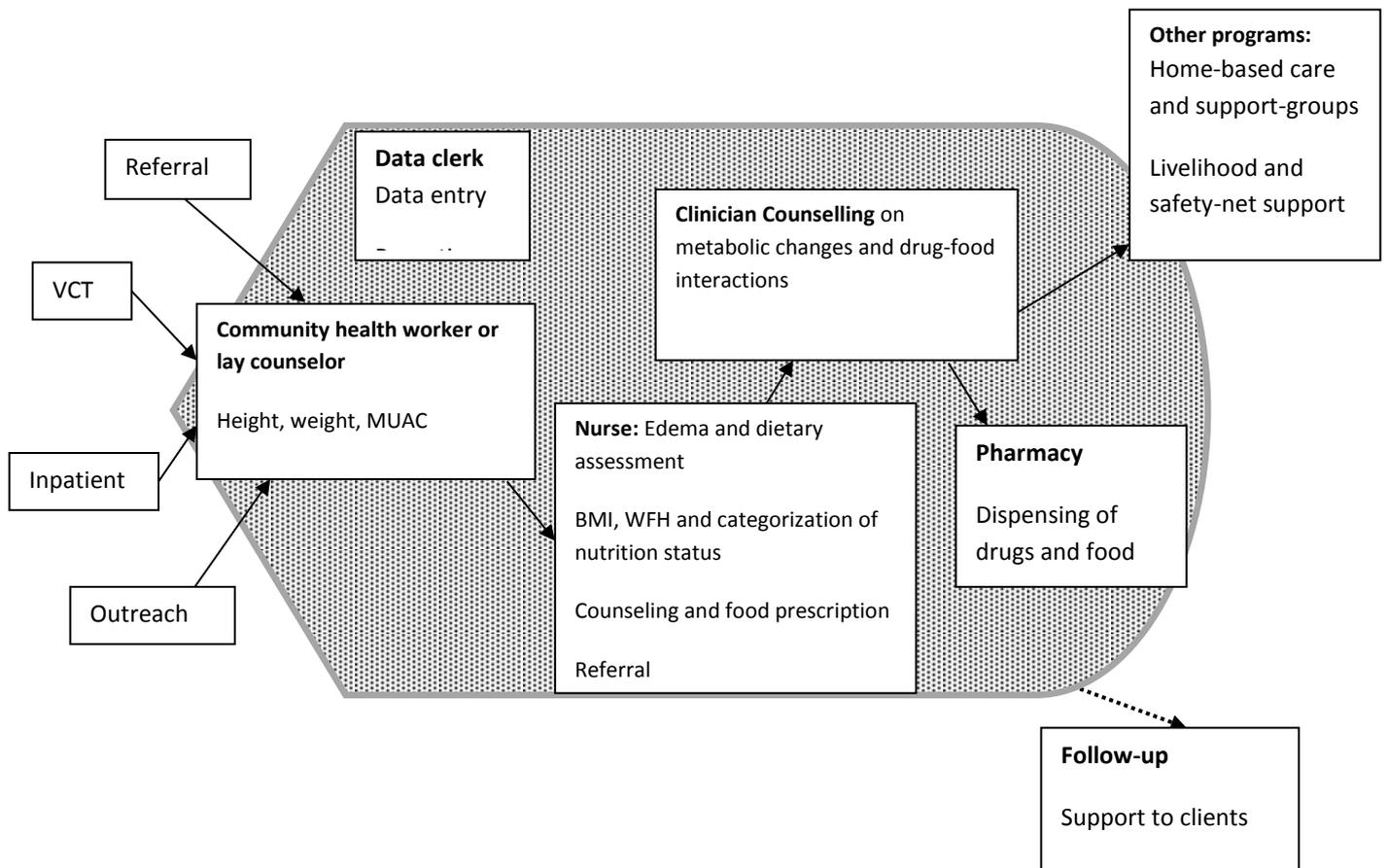
- Assess community linkages that exist and where they are weak, The Thrive Project should attempt to strengthen them so that malnourished clients are followed up.
- For big hospitals, The Thrive Project should use existing referral mechanisms to ensure clients receiving food support are not lost to follow up.

Appendix 1: Persons Contacted

No	Name	Title/Position	Facility	Contact
1	Chanda Chomba	Nutritionists	Chipata General Hosp	0968639951
2	Victor M Banda	Pharmacists	Chipata General Hosp	
3	Naomi Sakala	Nurse	Chipata General Hosp	
4	Olipa Zulu	Nurse (ART in Charge)	Chipata General Hosp	
5	Victoria Musonda	Nutritionists	Kapata Clinic	0973713981
6	Roda Zulu	CHW	Muzeyi Mission HC	0964419630
7	Nazeni Ndhlovu	PMTCT prog Officer	Lumezi Mission HC	
8	Kapembwe Nyasulu	EHT	Lumezi Mission HC	
9	Sr Piala Olomi	Sr in Charge	Lumezi Mission HC	
10	Jessie Sakala	ART prog Officer	Lumezi Mission HC	
11	Ireen Banda	ART nurse	Lumezi Mission HC	0979377715
12	Nashon Chirwa	Pharmacy dispenser	Lumezi Mission HC	
12	Zutphen Banda	DEC	Lumezi Mission HC	0976461572
13	Mrs Banda	CHW	Kanyanga Mission HC	0979257325
14	Elizabeth Zulu	ART Nurse	Lundazi District Hosp	
15	Sheba Zimba	Nutritionists-DMO	Lundazi DMO	0977705759
16	Dr Jane Mumba	Acting Med Sup	St Francis Mission Hosp	0977757274
17	Grace Musawa	Nutritionist	St Francis Mission Hosp	0967294270
18	Sr Bibian Mambwe	Sr in Charge	Muzeyi Mission HC	
20	Nalishabo N. Mvula	Accountant	Ndola DMO	
21	Susan Macwani	ZEN	Ndola Central Hosp	
22	Nyemba Maluka Mubanga		Ndola Central Hosp	
23	Mrs Kasonso	ART Coordinator	Ndola Central Hosp	0978232512
24	Mrs Esther Tembo		Ndola Central Hosp	
25	Rosemary Mulalami	Acting ART in Charge	ADH Hosp	0977199302
26	Munaambo Ngwaanze	DEC	ADH Hosp	0977589057
27	Nakamwi Akombaetwa	Pharmacist	ADH Hosp	0977653517
28	Evelyn Mbulo	Nurse	ADH Hosp	0977799204
29	Davison Kapotwe	Senior Nutritionist	ADH Hosp	0964339032
30	Dick Msiska	Senior Nutritionist	Kitwe Central Hosp	0966314017
31	Isaac M Shamima	Nutritionist	Kitwe Central Hosp	0977713318
32	Mwaticosela Tembo	Nutritionist	Kitwe Central Hosp	0969272700
33	Macriveness Njobvu	Nutritionist	Kitwe Central Hosp	0977345082
34	Fwanyanga Musisimi	Nutritionist	Kitwe Central Hosp	0969533912

35	Dr. Mulolo	ART in Charge	Kitwe Central Hosp	0965290278
36	Nkandu Chungu	Nutritionist	Kitwe DMO	09788059808
37	Dr. S. Mokha	Clinic care specialist	Kitwe DMO	0977721074
38	Dr. Chikafuna Banda	DMO	Kitwe DMO	0977312245
39	Jane Mbebeta Salima	Nutritionist	Kamuchanga DMO/Hosp	0977762190
40	Chitalu Kabwe	Pharmacy Technologist	Kamuchanga Hosp	0977622559
41	Christopher Chungu	ART in Charge	Kamuchanga Hosp	
42	Mwamba Mbulo	ART in charge	Luangwa Govt Clinic	0967949471
43	Lucia Mwenya	Sr in charge	Luangwa Govt Clinic	
44	Austin Tembo	Nutritionist	Luangwa Govt Clinic	0977596075
45	Alex Mvula	Nutritionist	Mwami Mission Hospital	0977217334
46	Mrs Limwanya	DEC	Mwami Mission Hospital	0964280443
47	Charles Phiri	DEC	Mwami Mission Hospital	0977604694
48	Fred Mweene		Mwami Mission Hospital	0967765843
49	Davies Machona	DEC	Mwami Mission Hospital	0978816904
50	Nalwinda Mainda	ART Coordinator	Wusakile Mine Hosp	0966902261
51	Moffat Phiri	Executive Officer	Lundazi DMO	
52	Joyce Mbewe	RN	Kapata Clinic	0955553842
53	Gertrude Mwale	ART Nurse	Kapata Clinic	0977284467
54	Sr Theresa Phiri	Sr in Charge	Kapata Clinic	0963660437
55	Marshall Shankaya	Hospital Manager	Kapata Clinic	0977542994
56	Lilian Sampa	ART Nurse	Kapata Clinic	0950563422
57	Manda Zulu	ART Nurse	Kapata Clinic	0963534903

Appendix 2: Client flow chart



Appendix 3: Assessment tool

Nutrition Assessment counselling and Support :

Site: ART ANC Pharmacy

Date: _____

I. General Information

Interviewers:

▪ Facility Name: _____

▪ Facility Type: _____

▪ Physical address/Postal address: _____

▪ Persons interviewed (name, position, and phone number):

Name: _____

Position: _____

Tel: _____ Email: _____

II. Client Information

2.1. Number of clients:

	Total clients	Active clients	Clients seen per day
ART clinic			
ART clients (adults)			
Pre-ART clients (adults)			
ART clients (children)			
Pre-ART clients (children)			
PMTCT			

ANC			
Children			

III. Facility information (please circle the appropriate answer)

<p><u>Accessibility to the facility</u></p> <p>3.1. Is the facility easily accessible from the main roads?</p> <p>3.2. What is the condition of roads to or around the facility?</p> <p>3.3. Are there separate entries for trucks and public vehicles to the facility)</p>	<p>a. Very good no problems anticipated</p> <p>b. Access is good but somewhat limited</p> <p>c. Access is very limited might cause delays</p> <p>d. N/A</p> <p>a. Very good no problems anticipated</p> <p>b. Fair but could cause delays in inclement weather</p> <p>c. Could often cause traffic delays</p> <p>d. Impassable for vehicles</p> <p>e. N/A</p> <p>Yes No N/A</p>
<p><u>Parking and trucks moving</u></p> <p>3.4. How much parking space is available for trucks inside the premises?</p> <p>3.5. Is there space outside for trucks to park and move around without obstructing the traffic?</p>	<p>a. more than 2 trucks</p> <p>b. 1-2 trucks</p> <p>c. no parking space for trucks</p> <p>d. N/A</p> <p>Yes No N/A</p>
<p><u>Water drainage</u></p> <p>3.8. Is there sufficient drainage/storm water drains to keep the yard dry?</p>	<p>Yes No N/A</p>

3.9. Is the area around the facility paved/tarred?	a. The whole premises is tarred/paved b. Partly tarred/paved around working areas c. No paving at all but 2x4 vehicle is sufficient d. No paving at all and 4x4 vehicle required e. N/A
<u>Cleanliness of yard</u> 3.10. Any evidence of a. uncut grass/bushes b. rubbish not removed c. blocked drains d. Rodents or animals around the facility	Yes No N/A Yes No N/A Yes No N/A Yes No N/A

IV Storage space

<u>Structure</u> 4.1. Describe the space that can be used to store food.	a. Fixed (4 walls, roof) b. Open (roof, no walls) c. N/A
<u>Dimensions</u> 4.2. What are the dimensions of this space? 4.3. What are the dimensions for food storage? 4.4. Number of pellets or shelves for food	Length ____ (m) Width ____ (m) Height ____ (m) Length ____ (m) Width ____ (m) Height ____ (m) Pellets _____ Shelves _____
<u>General condition building and weatherproof</u> 4.5. What is the condition of the space? a. Roof b. Windows c. Doors d. Floor (visible cracks) e. Inside gutters/drains	Very good need repairs Disrepair N/A Very good need repairs Disrepair N/A

<p><u>Rodent control</u></p> <p>4.6. Does the space have mesh/grids at entrances and ventilation areas to prevent access for pests/birds?</p> <p>4.7. Any signs of rodents and birds inside the space?</p> <p>4.8. Does the facility operator have an active pest prevention policy?</p>	<p>Yes No N/A</p> <p>Yes No N/A</p> <p>Yes No N/A</p>
<p><u>Ventilation</u></p> <p>4.9. Is there good ventilation to keep cargo cool and dry (specifically for areas with high humidity)?</p> <p>4.10. How is ventilation done?</p>	<p>Yes No N/A</p> <p>a. air con b. windows c. ceiling fan d. ventilation in the rook e. other: _____</p>
<p><u>Security measures</u></p> <p>4.11. Does the space have adequate lighting?</p> <p>4.12. Are there 24 hour security services available and security guards present?</p> <p>4.13. Are there secure locks?</p> <p>4.14. Is an alarm system available?</p> <p>4.15. Specify any other security measures available</p>	<p>Yes No N/A</p> <p>Yes No N/A</p> <p>Yes No N/A</p> <p>Yes No N/A</p> <p>_____</p> <p>_____</p>
<p><u>Hazardous materials</u></p> <p>4.16. Will potentially hazardous materials be stored at the same space as food (e.g. medications, flammables, cement, chemicals, fertilizer, asbestos, etc.)?</p> <p>4.17. Are these products stored in such a way that they will not contaminate food products?</p>	<p>Yes No N/A</p> <p>Yes No N/A</p>
<p><u>Inside facility</u></p> <p>4.18. Specify the type of security for the storage space</p>	<p>a. Grilled doors b. Grilled windows c. Alarm system d. Other _____</p>

4.19. Is there adequate lighting outside of the facility?	Yes No N/A
4.20. Does the storage space have basic safety equipment?	<ul style="list-style-type: none"> • first aid kit • fire extinguishers • safety gloves
<u>Available facilities</u> 4.21. What office facilities are available? 4.22. What other useful facilities are available onsite (e.g. equipment storage room, work station, toilet, running water, etc.)	a. Power supply/generators b. Phone/fax lines c. Satellite links d. Cell phone signal e. Computers f. Internet <hr/> <hr/> <hr/>

Storage space lay-out

Please provide a basic sketch of the storage space. Make note of where the food products will be stored in relation to other commodities. Include dimensions in metres.

Inside lay-out

(Please check the appropriate response)

4.23 In your opinion, is the capacity of the storage sufficient to accommodate RUTF and FBF?

Yes No

Comments: _____

4.24. In your opinion, if there is currently enough storage, is the capacity large enough to accommodate expansion?

Yes No

Comments: _____

4.25. Are damaged/expired drugs and related medical supplies monitored and kept separate from other inventory and removed from stock records? Yes No

Comments: _____

4.26. Is there a system in place for FEFO? Yes N/A

Comments: _____

V. Human Resources (if not applicable, put N/A)

5.1. Who will be responsible for the NACS (cadre)?

(Monitoring FEFO, Maintaining/Updating Records, Reordering food products when stocks are low, Complaints about product quality, Tracking product losses and other adjustments)

5.2. How many staff member are trained in the Nutrition and HIV 4 day course? _____

5.3. How many staff member have been trained in FBP? _____

5.4. How many staff member have been trained in IMAM? _____

5.5. Does the facility have casual labourers for on-loading and off-loading food products?

Yes No

VI. Equipment and materials

6.1. Number of functioning scales _____

6.2. Number of functioning height boards/length boards _____

6.3. MUAC tapes available _____

6.4. Nutrition management in HIV guidelines available? Yes

VII. Ordering/Requesting Food Products

7.1 From where does this facility currently place orders for drugs and related medical products?

a. District Hospital:

b. ART Site:

c. ANC Clinic:

d. Other: _____

VIII. Final Assessment

8.1 Please give an overall rating for the storage:

- a. Recommended for Thrive programme
- b. Recommended pending some alterations or improvements (please specify improvements)
- c. Not recommended for Thrive programme

8.2 Recommended improvements or alterations:
