The Thrive Project
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Annual Report
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Acronyms

AIDS	acquired immune deficiency syndrome
ART	antiretroviral therapy
CBD	community-based distributor
CHW	community health worker
DQA	data quality assessment
DSD	direct service delivery
GMP	Good Manufacturing Practice
HACCP	Hazard Analysis Critical Control Point
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
MOH	Ministry of Health
MSL	Medical Stores Limited
NACS	nutrition assessment, counseling, and support
OVC	orphans and vulnerable children
PEPFAR	President's Emergency Program for AIDS Relief
PLHIV	people living with HIV
PMTCT	prevention of mother-to-child transmission of HIV
QI	quality improvement
RUTF	ready-to-use therapeutic food
SAM	severe acute malnutrition
TA	technical assistance
USAID	United States Agency for International Development
WHO	World Health Organization

1 Executive Summary

The Thrive Project is funded by USAID from 2012 to 2017. This report summarizes the third year of project implementation, during the period October 2014 to September 2015.

The objective of the Thrive Project is to improve the nutritional status of people living with HIV, including adults and children, by promoting good nutrition and preventing malnutrition. This project supports the delivery of nutrition assessment, counseling, and support (NACS) services in government health facilities. These nutrition interventions are envisioned to contribute to enhancing antiretroviral therapy and palliative care outcomes for clients.

The following are the three main objectives of the Thrive Project:

1. Provide NACS for people living with HIV/AIDS and orphans and vulnerable children.
2. Build the capacity of nutrition service providers.
3. Support local production of specialized nutrient supplements.

As part of the NACS services, clients who are assessed and identified as malnourished are counseled and then given high-energy protein supplements of 6 and 12 kilograms as a take-home ration. The food ration is given to both children and adults each month. This provision of supplemental food is intended to last up to four months depending on the severity of the malnutrition.

During the reporting period, the Thrive Project has expanded its support to an additional 18 health facilities, bringing the total number of facilities supported by the project to 34 out of the targeted 50 health facilities that need to be reached by 2017. These 34 health facilities are in four provinces in Zambia.

With extensive collaboration from the hospital staff and volunteers, NACS services have been successfully integrated into the HIV care and treatment routines in these health facilities. This year, 19,000 eligible clients received food and/or other nutrition services. During the past three years, 48,943 clients were reached out of the five-year project target of 50,000.

This year, 470 health care workers received in-service training in the provision of NACS services in the project-supported health facilities. In the past three years, 720 health care workers participated in NACS training, reaching 90 percent of the life of project target of 800.

More than 5,000 malnourished clients were identified and provided with food supplements this year. This brings the total number of clients identified as malnourished and receiving support to 14,910 out of the life of project target of 20,000.

To ensure that local supplemental foods are nutritious, safe, and of high quality, the Thrive Project has worked together with the partner food processors to build their capabilities to manufacture, market, and distribute the product. As a result of this support, the processor has attained the Good Manufacturing Practices standard.

The project strategy is to transition health facilities from being provided extensive support to receiving reduced frequency of technical assistance. It is expected that each health facility will be able to implement NACS services independently. A significant component within this approach is to stop delivery of high-energy protein supplements to the health facility and introduce commercialization of the food supplements in the communities. The intent is to ensure the availability of the food supplements and not be dependent on the project's support. During this reporting period, 10 health facilities successfully changed over from requiring extensive external support to independently managing NACS services; these communities near these facilities have access to the food supplements through community-based distributors.

The Thrive Project is closely aligned with the provincial and district level government structures to encourage understanding of NACS and to promote the sustainability of the intervention. In an effort to expand NACS coverage, the Thrive Project also worked together with two other international nongovernmental organizations, including FANTA III, to support the integration of NACS into 25 health facilities and the Catholic Relief Services MAWA project in the Eastern Province.

The Thrive Project's overall performance during the reporting period has been good. The project has been effective in assisting health facilities in Zambia to better serve malnourished HIV-positive clients, as well as mothers and children affected by HIV/AIDS. Overall, the Thrive Project has made significant progress toward achieving many of the third-year targets and the five-year obligatory targets outlined in the USAID contract.

2 Introduction

The purpose of the Thrive Project is to improve the nutritional status of people living with HIV (PLHIV) including adults, children, and orphans by promoting good nutrition and preventing malnutrition. This project supports the delivery of nutrition assessment, counseling, and support (NACS) for HIV-positive individuals and orphans and vulnerable children (OVC). The target beneficiaries are clients enrolled in HIV/AIDS prevention and treatment services. The nutrition interventions should contribute to the improvement of antiretroviral therapy and palliative care client outcomes. The packet of nutrition services is to be implanted in 50 health facilities and surrounding communities during 2013–2015. The Thrive Project is expected to assist these health facilities reach 50,000 PLHIV and OVC clients during this five-year period. In addition, a subset of these clients (20,000) are to receive a specialized food product based on an established eligibility criteria. It is also expected that 800 health workers and managers and 300 community health workers should be trained in prevention and treatment of malnourished beneficiaries.

The Thrive Project is a consortium of four organizations, with each partner responsible for specific outputs within the structure of three separate modules. For example, module one is the responsibility of PATH and includes safeguarding the quality of the nutrition services provided in each targeted health facility. Module two is the responsibility of FHI360 and focuses on implantation of all technical training activities and introducing NACS quality improvement exercises within the health facilities. Module three is supported by TechnoServe and is responsible for the quality and distribution of the supplemental food products. Community interventions are implemented by Overseas Strategic Consulting in collaboration with all the partners.

This report summarizes the performance of Thrive Project activities in Year 3, from October 2014 to September 2015. During the period under review, the Thrive Project in Zambia expanded support from 16 health facilities in two provinces to 34 health facilities in four provinces. Each of these health facilities was routinely monitored and the health facility staff were trained and provided with on-the-job assistance by the Thrive Project teams stationed in the provinces. In addition to in-service support, each health facility was provided with high-energy protein supplements (HEPS) for eligible malnourished HIV and AIDS clients. More than 26,500 HIV-positive clients received supplemental food or other nutrition services during this year.

2.1 Partners

The Thrive Project is a consortium of partners working to achieve the same goal. The primary responsibilities of each of the partners are described in Table 1.

Table 1. Summary of Thrive Project partner roles.

Partner	Role
PATH	Integration of nutrition assessment, counseling, and support (NACS) package within the health systems.
FHI360	Provision of training, mentorship, and supervision for clinical and community health workers in the delivery of NACS.
TechnoServe	Provision of technical assistance to local private manufacturers to produce affordable, high-quality, and safe high-energy protein supplements (HEPS).
Overseas Strategic Consulting	Development of the capacity of community health workers and community-based organizations to stimulate behavior change communication, and increasing gender sensitivity for enhancement of NACS services.

2.2 Collaboration

The Thrive Project is being implemented in strong collaboration with key government ministries and departments, including the Ministry of Health; Ministry of Community Development, Mother and Child Health; and the National Food and Nutrition Commission. The ministries have been most active in the preparation of the nutrition register, organization of NACS performance standards, selection of health facilities, and support of training activities. In addition, there was extensive collaboration between the Thrive Project and the provincial and district government representatives. Thrive provincial staff participate in government-led meetings and activities and jointly visit sites with government counterparts.

During this year, USAID introduced the Site Improvement Monitoring System (SIMS) as a means of checking Thrive Project–supported health facilities' performance and management procedures. The SIMS goal is to increase the impact of PEPFAR programs on the HIV epidemic through standardized monitoring of the quality of PEPFAR support at the site level. The Thrive Project this past year learned, along with the health facility staff, about basic PEPFAR expectations and how to guide the health facility personnel to make the required procedural adjustments.

Thrive has a contractual obligation to collaborate closely with the Catholic Relief Services MAWA project in Eastern Province. This collaboration has centered on the MAWA Saving and Internal Lending Committee (SILC). These committees have been involved in selling HEPS and following up malnourished NACS clients in their catchment areas.

2.3 Administration and Personnel

This year, the project managed one small field office in each of the four targeted provinces. The Thrive staff in each of these offices are experienced nutritionists or trainers. They are responsible for providing consistent and timely support to each of the targeted health facilities. Emphasis is on providing in-service guidance to the health facility staff to encourage the adaptation of new procedures.

In total there are 18 national, professional staff in the Thrive Project. The performance of this group has been excellent and instrumental in winning the support of government counterparts and health specialists at national, provincial, district, and health facility levels.

2.4 Financial Information

During the period from October 2014 to September 2015, the Thrive Project budgeted $4,104,149 and, of this amount, $3,094,790 was spent by September 2015.The project closed with a burn rate of 85 percent.

3 Description of Activities

The following is a description of progress achieved during the past 12 months within each of the three modules in the Thrive Project.

3.1 Module 1: NACS package of services provided at clinical and community levels

The Thrive Project has increased the number of health facilities being supported from the initial 16 in Eastern and Copperbelt provinces to the current 34 health facilities across four provinces. There were 18 new health facility additions (4 from Copperbelt and 7 each from Central and Southern provinces). Additionally, another set of 16 health facilities from Central (8) and Southern (8) provinces were pre-assessed and selected for inclusion into the NACS implementation and will be brought on board next year (FY4).

3.1.1 NACS integration

This year, the level of integration of NACS in the Thrive Project–supported health facilities was assessed by the Thrive Project subjective team analysis. This process has helped the project to determine the level of NACS integration in each health facility and identify gaps in performance and provision of NACS services. The criteria used in categorizing the health facilities included the following: (1) perceived level of provincial, district, and health facility management support of NACS services; (2) level of health

facility staff ability to integrate NACS in their routine provision of HIV services; (3) level of collaboration with other internal service delivery departments (antiretroviral therapy, maternal and child health, outpatient department); and (4) completeness of data routinely submitted. Based on these criteria, the project was able to assign the 34 health facilities to the following three categories of performance in NACS implementation: high performing (15 health facilities), average performing (7), and low performing (12). The Thrive Project focuses on providing extra support to low-performing health facilities. This includes soliciting more support from government staff for close monitoring and increased mentoring from Thrive Project staff.

3.1.2 Health facility transition from direct service delivery to technical assistance

The Thrive Project during this reporting year continued to provide direct service delivery support to 24 health facilities. Direct service delivery (DSD) includes intensive onsite monitoring and mentoring of NACS service delivery and provision of locally produced HEPS for all clients identified as malnourished. In addition, the Thrive Project continued to support 10 health facilities through a technical assistance (TA) approach. These health facilities received less frequent mentoring support and were being helped to work out mechanisms expected to maintain NACS services independently. In addition, these health facilities no longer receive HEPS from the project. Clients of the TA health facilities can now access HEPS through commercial outlets and community-based distributors, who sell the HEPS in local communities. The transition from DSD to TA is intended to test the sustainability of the project interventions.

3.1.3 Monitoring and evaluation and reporting

During the reporting period, 26,519 clients received the full NACS package (from the target of 19,000 clients). This has pushed the life of project result to 48,943. This number represents 97 percent of the project's five-year target of 50,000. The target was exceeded because more clients went through the assessment process than originally anticipated. One of the factors was that assessment was not only targeted at malnourished clients, as had been done previously in some facilities. Assessment was done on all HIV-positive clients irrespective of their HIV status. The total number of clinically malnourished HIV-positive individuals who received HEPS during the reporting period was 5,911 against the target of 8,600. This result has driven the life of project result to 14,910, representing 74 percent of the five-year target of 20,000. The project did not meet the yearly target for the number of clients receiving food because some health facilities only started dispensing food in the second quarter of the reporting year. The number of preventing mother-to-child transmission of HIV (PMTCT) clients receiving NACS services during the reporting period is 859, which is 143 percent above the planned yearly target of 600. The life-of-project result for PMTCT clients now stands

at 1,580, representing 105 percent of the end-of-project target of 1,500. During the reporting period, 470 health care workers were trained in NACS. The training number was 127 percent above the target number of 370. Also, 72 out of 100 community health workers were trained during the reporting period. Overall, 720 health care workers (90 percent) and 253 community health workers (84 percent) targeted have been trained in provision of NACS services. The 136 active volunteers in the 34 health facilities assisting with the implementation of NACS services have proven to be extremely supportive.

In addition, 426 metric tons of HEPS has been procured and distributed through 34 Thrive Project–supported health facilities and 25 FANTA III–targeted health facilities. This represents a 44 percent achievement against the life-of-project target of 952 metric tons.

In 2015, it was planned that the Thrive Project would purchase 15 metric tons of ready-to-use therapeutic food (RUTF). This purchase, however, was not completed because it was not possible for the selected vendor to meet the required specifications. As a consequence, the purchase process was significantly delayed.

Refer to Table 2 below for the summary of targets and results to date.

Table 2. Summary of Thrive Project achievements by indicator for the reporting period (October 2014 to September 2015) and the life of the project (LOP).

Indicator	LOP target	2015 target	Oct 2014 to Sept 2015	% reached against 2015 target	Cumulative LOP	% reached against LOP target
Number of eligible clients who received food and/or other nutrition services.	50,000	19,000	26,519	140	48,943	98
Number of HIV-positive, clinically malnourished clients who received therapeutic or supplementary food.	20,000	8,600	5,911	69	14,910	75
Number and percent of PMTCT clients (including exposed infants) who are both assessed and counseled.	1,500	600	859	143	1,590	105
Number of HIV-positive adults and children newly enrolled in clinical care during the reporting period who received clinical assessment by at least one of the following at enrollment: WHO staging or CD4 count or viral load.	3,000	1,744	7,164	411	7,164	239
Number of HIV-positive adults and children who received clinical assessment by at least one of the following during the reporting period: WHO staging or CD4 count or viral load.	15,000	11,625	7,164	62	7,164	48

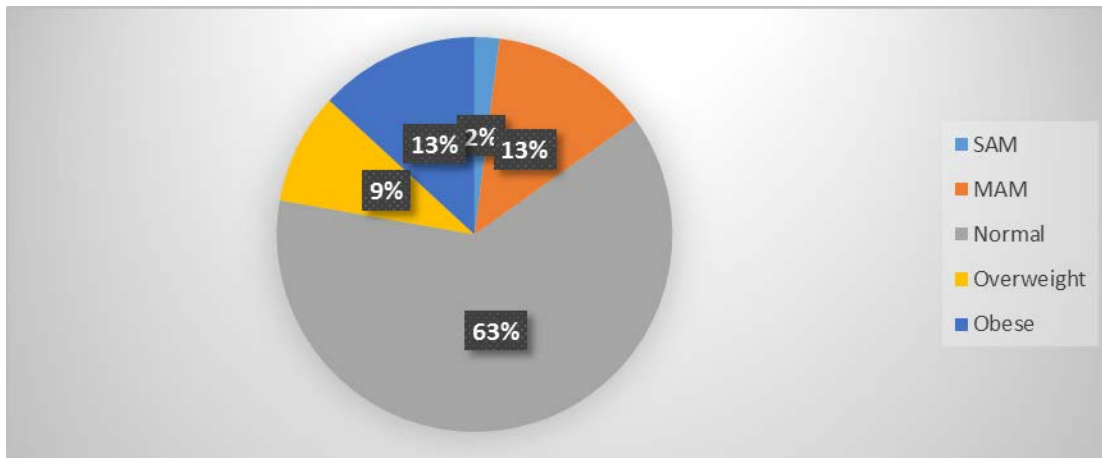
Indicator	LOP target	2015 Target	Oct 2014 to Sept 2015	% reached against 2015 target	Cumula-tive LOP	% reached against LOP target
Number of health care workers who successfully completed an in-service training program using the national guidelines during the LOP.	800	370	470	127	720	90
Number of CHWs/ volunteers who successfully completed a NACS services training program using the national guidelines.	300	100	72	72	269	90
Number of metric tons of HEPS produced locally.	952	157	247	158	426	45
Number of metric tons of RUTF procured internationally.	40	15	10	10	10	25

Acronyms: CHW, community health worker; HEPS, high-energy protein supplement; NACS, nutrition assessment, counseling, and support; PMTCT, prevention of mother-to-child transmission of HIV; RUTF, ready-to-use therapeutic food; WHO, World Health Organization.

3.1.4 Prevalence of malnutrition among NACS-served population in nine health facilities

During mentoring visits, nutrition data for July through September 2015 from nine health facilities in Copperbelt Province was compiled in an effort to understand the prevalence of malnutrition among the target population. As shown in Figure 1, of the total population served in the nine facilities, clients with severe and moderate malnutrition together represent 15 percent (2 percent and 13 percent, respectively), and 22 percent of clients were either overweight or obese (9 percent and 13 percent, respectively). Positive living messages and counseling for this category have continued to be important.

Figure 1. Proportion of nutrition categories at nine selected sites in Copperbelt Province (July through September 2015)*



**Source: Mentoring results based on client records*

3.1.5 IMAM database - trainings

To facilitate data capture and reporting, the Thrive Project provided 14 targeted health facilities in Central and Southern provinces with computers. The computers were used for entering NACS information into the Integrated Management of Acute Malnutrition (IMAM) electronic database, which the Thrive Project has adopted from the Ministry of Health. Trained data-entry clerks were selected and engaged at each targeted health facility. The data-entry clerks underwent a training as well as onsite orientation in NACS data management.

3.1.6 Data quality assessments

To ensure that the quality of data collected in project sites is accurate, reliable, and complete, the Thrive Project implements a monthly data quality assessment (DQA) at health facilities. This includes, in part, verifying the data recorded in patient records, the accuracy and completeness of data in the nutrition registers, and the precision of data transfer to the IMAM database. This is an interactive process that allows quick identification of potential errors in the data generated.

USAID also conducted a DQA review in selected Thrive Project–supported health facilities in Central and Copperbelt provinces. This DQA process identified three critical challenges. The first was to improve the health facility personnel use of data-capturing instruments. For example, in many health facilities implementing NACS services, the staff were not fully completing the nutrition registers and verification of reports was not done. The second challenge was a need for the Thrive Project to focus site visits on: (a) improving the filing of documentation and (b) showing that site visits at the health

facilities are effective in improving NACS services. The third concern was that many trained health facility staff were not fully conversant in the definition of NACS indicators.

Based on the findings from the USAID data quality assessment and from the Thrive Project's internal DQA, the project has begun to address the concerns. Actions taken included reorientation of health care staff and volunteers within the health facilities on the use and need for completing data collection instruments, distribution of indicator definitions to health staff, and reorientation of data-entry clerks in data verification procedures. The Thrive Project also focused on supporting health facility staff to ensure that the data is accurate and documents are correctly filed. All Thrive staff are providing written documentation at each facility outlining observations and recommendations.

3.1.7 Mid-term evaluation

The Thrive Project mid-term evaluation commenced during the reporting period. The evaluation was divided into two parts. The first part was implemented in July 2015 in collaboration with the Ministry of Health (MOH) and the Ministry of Community Development, Mother and Child Health (MCDMCH). Six government representatives were assigned to participate in the onsite assessment of the NACS services being offered in 16 health facilities.

The health facilities assessed were in the Copperbelt and Eastern provinces. The 16 health facilities were the first facilities that the Thrive Project began to work with in mid-2013. These health facilities represented all the sites the Thrive Project independently collaborated with until April 2015.

The second part of the mid-term evaluation is focused on the NACS clients' knowledge, attitudes, and behaviors related to their nutritional status and their opinions about the services provided to them. Planning for this second part of the mid-term evaluation began in the fourth quarter of Year 3 (2015) with the Tropical Disease Research Centre, located in Ndola. Implementation of the second part is expected to start in October 2015, and results will be available in January 2016. The Thrive Project will identify key recommendations generated in the evaluation and implement the required follow-up.

3.2 Module 2: Training, mentorship, and supervision provided to clinical and community health care workers

3.2.1 Health care worker trainings

The Thrive Project planned to train 370 health care workers (HCWs) in NACS, IMAM, and quality improvement, but instead trained 470 (147 males and 323 females). During the reporting period, the attrition rate of trained staff was high due to health facility staff

rotations. Project data indicate that 51 percent of HCWs trained over the past year remain active in the implementation of NACS at health facilities. For example, at Livingstone Central Hospital, Southern Province, of the 20 HCWs trained in NACS, only 6 are active. At Ndola Central Hospital, of the 9 HCW trained in NACS, only 1 (ART-in-charge) is active. The addition of four new health facilities and the need to cater to the three satellite clinics in the Copperbelt Province, plus the need to train more HCWs in quality improvement, resulted in a 127 percent increase.

Of those trained, there were 249 nurses, 80 clinical officers, 53 nutritionists, 51 pharmacists and pharmacy technologists, 18 medical doctors, 11 environmental health technicians, and 8 psychosocial counselors and social workers. Various cadres are trained so that they complement each other's roles in providing NACS services.

3.2.2 NACS trainings results

The Year 3 plan was to train 250 HCWs from 14 new sites in Central and Southern provinces. Instead, nine trainings were held across two provinces and 222 HCWs participated in these trainings.

Overall, there was significant improvement in knowledge score levels between the pre-test they took on the first day of the training and the post-test they were given on the last day. The average pre-test score for all the participants was 52 percent, and the average post-test result was 79 percent.

Similar trainings were done for the Copperbelt and Eastern provinces. The total number of participants in the two provinces were 80 in three separate trainings. The average pre-test score was 59 percent, while the average post-test score was 85 percent.

3.2.3 Integrated management of acute malnutrition training

The MOH had a limited number of clinicians qualified to manage severe acute malnutrition (SAM) in its health facilities. Unqualified clinicians who are given the responsibility of managing patients with SAM unknowingly use practices that are suitable for most children but highly dangerous for SAM clients. The Thrive Project partnered with the MOH to train clinicians at all the project-supported sites. Two six-day trainings were conducted (in Livingstone and Kabwe) following the World Health Organization course, *Management of Acute Malnutrition.* These trainings attracted 32 nurses, 12 nutritionists, 11 clinical officers, 4 medical doctors, and 1 pharmacist. Of these, 14 were male and 46 were female. As a result of these trainings, the clinicians have a better opportunity to manage SAM patients. Because of the recognized value of these trainings, the MOH has requested more support from the Thrive Project in the coming year.

3.2.4 Quality improvement training

Quality improvement (QI) trainings are meant to raise the value of NACS and increase the technical and cost efficiency of NACS services. Four QI trainings were held in Kapiri Mposhi, Livingstone Ndola, and Kitwe. A total of 108 HCWs participated in these trainings. Cadres trained and the average class knowledge score for the pre-test given on the first day and the post-test on the final day of the training are listed in Table 3. These results show significant improvement in knowledge score across all four trainings. The average pre-test score was 41 percent and the average post-test score was 50 percent.

Table 3. Number of health care workers trained in quality improvement and their pre-test and post-test knowledge scores.

Province	Participants (108)	Average pre-test score (%)	Average post-test score (%)
Central	26 (9 male; 17 female)	24	32
Southern	27 (9 male; 18 female)	66	68
Copperbelt	27 (6 male; 21 female)	47	61
	28 (9 male; 19 female)	28	40
	Average score	**41**	**50**

3.2.5 Community health worker training

Three community NACS trainings were held in Kabwe, Ndola, and Livingstone. In total, 72 facility-based CHWs were trained. Facility-based CHWs are instrumental in implementing NACS due to staff shortages in the health facilities. The average pre-test score of the 72 CHWs was 59 percent and the average post-test score for the same group was 79 percent, indicating an increase in knowledge.

3.2.6 Technical support

Technical support was provided on a monthly basis to ensure smooth implementation of NACS. Some issues identified and resolved were: NACS client flow; onsite NACS orientation; key requirements for assessment, counseling, and treatment of malnutrition; entering NACS data in medical records; incorporating NACS in individual and group HIV counseling, and synchronizing NACS with ART review dates.

3.2.7 Quality improvement

All 34 health facilities undertook varying levels of QI activities. Health facilities that have been implementing NACS during the past six months focused on developing QI plans and forming QI committees. In health facilities where QI is well established, the quality of NACS services continued to be measured using the four QI indicators: assessed correctly, classified correctly, counseled appropriately, and prescribed correctly and received correct food supplements as shown in Table 4 below.

In the table below, out of the 21 health facilities assessed and implementing QI, 18 sites (90 percent) fully met expectations on how clients were assessed at each visit and 19 met expectations on how clients were classified on their nutritional status at each visit. Of the 21 sites implementing QI, only 9 sites accurately prescribed and dispensed the correct type and amount of specialized food supplements at each visit, and 14 health facilities correctly counseled clients in relationship to their assessment and classification results. Based on this assessment, it is evident that more technical support is needed in assisting the health facilities to better manage the prescription and dispensing of the specialized food supplements.

Table 4. Eastern and Copperbelt quality improvement (QI) status in 21 health facilities.

Health facility	% of clients assessed correctly at each visit	% of clients classified correctly at each visit	% of clients prescribed correctly and received correct supplements at each visit	% of clients counseled appropriately at each visit	QI status as of September 2015	Remarks
Kitwe Central Hospital	99	99	98	100	All indicators are above are 90%	Meet expectation
St Francis Mission Hospital	100	96	100	95		
Ndeke Clinic	96	99	97	99		
Chamboli	99	100	93	91		
Riverside Clinic	93	95	62	99	One indicator is below 90%	Need improvement
Kwacha Clinic	99	98	79	96		
Ronald Ross Hospital	99	99	91	84		
Kamuchanga Dist. Hospital	93	98	90	88		
Luangwa Clinic	89	96	90	99		
Kanyanga Mission RHC	91	100	70	100		
Kapata Urban Clinic	100	93	86	99		
Natwange	100	100	63	93		
Mindolo	100	99	97	71		
Buchi Clinic	92	98	64	60	Two indicators are below 90%	Need attention
Wusakile Mine Hospital	98	98	86	86		
Lumezi Mission Hospital	71	83	100	100		
Chipata General Hospital	96	98	66	88		
Mwami Mission Hospital	86	100	88	100		
Arthur Davison Hospital	82	93	65	100		
Chimwemwe Clinic	75	94	74	93		
Ndola Central Hospital	97	88	69	85	Three indicators are below 90%	Need intervention
Muzeyi Mission RHC and Lundazi District Hospital are not included due to incomplete data.						

3.2.8 Assessment of seven health and nutrition pre-service training institutions

The Thrive Project commissioned an assessment of seven health and nutrition pre-service institutions in October 2014. The overall objective was to provide a detailed review of needs and opportunities in the pre-service training schools' curricula to include NACS components in training. Major findings were:

- Stakeholder knowledge about NACS was low.
- Elements of NACS were not covered in the traditional nutrition training in Zambia.
- Nutritionists trained in Zambia were unable to meet the NACS job demand.

Curriculum review was identified as the cornerstone strategy to bring about the much-needed reform in nutrition training. Two options were identified for curriculum review:

- Teach NACS elements in different courses but explain linkages to overall NACS approach.
- Include NACS as a unit in existing nutrition courses.

It is the Ministry of Health's responsibility to lead the operationalizing of these findings. The Thrive Project will collaborate with MOH to identify possible options for inclusion of NACS into the pre-service curricula.

3.3 Module 3: Local production of high-energy protein supplement and procurement of Ready-to-Use Therapeutic Food

3.3.1 HEPS production and distribution

The Thrive Project in 2015 distributed a total of 247 metric tons of HEPS to health facilities in Central, Copperbelt, Eastern, and Southern provinces. The HEPS was distributed to 49 health facilities—24 supported by the Thrive Project and 25 supported by FANTA III.

3.3.2 Proposed modification of HEPS packaging

The Thrive Project in 2013 began distributing HEPS to the health facilities in 500-g packets. This packet size was not ideal for two reasons: (1) the 500-g packet made it difficult to accurately give the prescribed amount of HEPS to clients and (2) the larger packet required the client to open and close the packet following use, which increased the risk of contamination. To overcome these two problems, a single-serving 100-g HEPS packet was approved by the Ministry of Health in early 2015.

3.3.3 Ready-to-use therapeutic food (RUTF) procurement and distribution

The Thrive Project procured 10 metric tons of RUTF and distributed it to the 34 project-supported health facilities. The RUTF was distributed through Medical Stores Limited (MSL), and the use of RUTF at health-facility level was managed by the Ministry of Health. The approval by USAID for the Thrive Project to conduct IMAM training made it possible to target the RUTF to all the Thrive Project health facilities.

3.3.4 Charter implementation

During the past two years, the Thrive Project provided technical assistance to two separate food processors through the mechanism of project charters. These charters focused on Food Safety Management Systems (FSMS); Optimization of Production Processes and Formulation; Marketing Strategy Development and Implementation; and Supply and Distribution Management System Implementation.

The objective of these charters was to expand the food processing companies' position in the HEPS value chain, increase their production volume, reduce cost, and improve product quality and safety. This ensured that the HEPS was available, affordable, and accessible.

This year the focus has been on COMACO's certification to the Hazard Analysis Critical Control Point (HACCP) standard—an internationally recognized food safety management system. COMACO, the main HEPS processor partner for the Thrive Project, is at the stage to be audited and certified.

3.3.5 National standard for HEPS development

The Zambia Bureau of Standards (ZABS) revealed that Zambia did not have a national standard to guide the manufacture of HEPS. The Thrive Project initiated discussions with ZABS on the need to develop a national standard for HEPS. The Thrive Project submitted a proposal to ZABS on the development of the HEPS standard. As a result, a HEPS standard was approved and published in December 2014.

3.3.6 GMP certification (COMACO)

Good Manufacturing Practice (GMP) and HACCP certification is an important recognition of the processors' knowledge, skills, and competence in implementing GMP and HACCP in their manufacturing facilities. Certification provides processor, government enforcement, trade agencies, and consumers with justified assurance that control systems are in place to assure the production of good-quality and safe food. In March 2015, COMACO was awarded the certificate of attainment to the GMP, which is foundational and a prerequisite for implementation of the HACCP plan.

3.3.7 Environmental compliance

The Thrive Project has developed and established standard operating procedures (SOPs) to mitigate and monitor adverse impacts on the environment caused by operations at COMACO and at health facilities.

The SOPs provide guidance on whether the commodities meet the agreed specifications. The quality control SOP includes visual inspection for foreign materials, color of grain and soy beans, and determination for moisture content and presence or absence of aflatoxins and pesticides. Consignments that do not meet specifications would be rejected, but this has not happened because of the robust educational programs and quality inspections that COMACO has deployed at farm level.

At the health facility level, the Thrive Project has established a working relationship with the environmental health technologists/officers who ensure that the SOPs for stock management and pest control respectively are implemented to avoid prospects of keeping stock beyond shelf life and damage to stock due to pests. Thrive has also developed procedures for disposal of any product that might be rendered substandard while in the custody of health facilities. Disposal would involve incineration of substandard product at the health facility incinerator.

USAID visited Thrive Project–supported health facilities in Copperbelt Province to assess environmental compliance. USAID expressed satisfaction with the procedures followed.

3.3.8 Community-based distributors

The Thrive Project oriented community-based distributors (CBDs) in Copperbelt and Eastern provinces. These CBDs were engaged at community level to sell HEPS to clients and to the general public. This is a mechanism the project has employed to ensure that the food commodity will be readily available in communities where Thrive Project clients live. There are 74 active CBDs associated with 11 Thrive Project–supported health facilities. These CBDs sold more than 1.5 metric tons of HEPS.

4 Conclusion and 2016 Priorities

The Thrive Project's performance and achievements in collaboration with the Ministry of Health, individual health facilities, and communities has been positive. NACS services have been successfully integrated into the care and treatment of HIV-positive patients and in other service points within 34 health facilities. This year, the project has accomplished most of its yearly targets and in some cases has exceeded the five-year targets. In addition, the project effectively implemented transition modalities that tested the abilities of the health facilities to begin to work independently to maintain NACS services and at the same time explored the viability of marketing HEPS in the communities. There was also good progress made in promoting the production standards required to ensure the high quality of locally produced HEPS.

Despite these achievements, a number of requirements still need to be completed. Specifically, the Thrive Project needs to continue to strengthen community linkages and establish durable referral systems that identify and support HIV-positive malnourished individuals and children. In addition, the marketing of HEPS in local communities as a wholesome food product needs to be significantly expanded.

The Thrive Project in 2015 suggested to USAID that a midterm evaluation would be useful to measure the level of performance of NACS services in the health facilities. In addition, the clients' reactions to these services and the clients' knowledge gained and associated behaviors would also be assessed. This assessment has been delayed and must be completed. The results from this evaluation will be extremely helpful in identifying improvements required in the project's performance and the adjustment necessary to meet the clients' needs.

Because the Thrive Project has completed some specific five-year targets, there will be a need to work together with USAID to make adjustment to increase the number of contacts with the clients. Linked with this priority is the requirement to assist the health facilities to improve their recordkeeping systems as identified through the USAID-sponsored Site Improvement Monitoring System. A related observation is the necessity in selected targeted health facilities to improve the quality of the NACS counseling offered to the clients. It is evident that some health staff are not interacting effectively with clients and tend to base counseling on standard messages rather than referring to the clients' main concerns.

The final priority in 2016 will be to complete the proof-of-concept research that is designed to assess the value of volunteers in the implementation of NACS services within the health facilities.