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# USAID ASSIST Project Zambia Quality Improvement Progress Report

## Introduction

HIV and nutrition are related in myriad ways. People living with HIV (PLHIV) have increased energy and nutrient requirements for optimal treatment and health outcomes. Malnutrition associated with HIV and AIDS can severely affect an already compromised immune system, leading to increased risk of opportunistic infections and a decreased survival rate.

Zambia has a population of 13.1 million and a population growth of 3% per annum (CSO, 2010). In Zambia, 13 percent of adults age 15-49 are infected with HIV (15% of women and 11% of men). According to the Zambia Demographic and Health Survey (ZDHS) exercise of 2013-2014, HIV prevalence was highest among respondents living in Copperbelt Province (18 percent).

The ZDHS of 2013-2014 revealed increased malnutrition among children: 40 percent of children under age five are stunted, six percent are wasted, and 15 percent are underweight. Breastfeeding is nearly universal in Zambia. Ten percent of women age 15-49 are underweight, that is, they fall below the body mass index (BMI) cutoff of 18.5. Twenty-three percent of women are overweight or obese. However, nutrition assessment, counseling, and support (NACS) is not integrated into HIV services. There are currently no national guidelines for provision of nutrition support services to HIV-positive adults and adolescents. Nutrition support services are usually directed towards children who are malnourished and/or have HIV infection.

In 2013, the USAID ASSIST Project, in collaboration with two other USAID-funded projects--Food and Nutrition Technical Assistance (FANTA III) and Livelihoods and Food Security Technical Assistance (LIFT II)—began supporting the Government of Zambia through the Ministry of Health (MOH) nutrition department, to pilot NACS in Kitwe District. ASSIST is working in eight sites to strengthen nutrition services to PLHIV using quality improvement (QI) principles.

## Getting Started

In July 2014, the MOH and Ministry of Community Development Mother and Child Health (MCDMCH), with support from ASSIST, selected eight out of the 27 sites that are supported by FANTA in NACS implementation to pilot the NACS improvement activity. The selected sites met two criteria: they provided HIV services, including antiretroviral therapy (ART) and they had been trained in NACS by FANTA III.

Of the initial eight sites that were selected to pilot the NACS improvement work, two were significantly delayed starting and sustaining ART services. A decision was made to replace those sites with

## OCTOBER 2015

This progress report was prepared by University Research Co., LLC (URC) for review by the United States Agency for International Development (USAID) and authored by Robert Musopole, Amy Stern, Linley Hauya, and Anisa Ismail of URC. The contents of this report are the sole responsibility of URC and do not necessarily reflect the views of USAID or the United States Government. The report was produced by the USAID Applying Science to Strengthen and Improve Systems (ASSIST) Project which is made possible by the generous support of the American people through USAID's Bureau for Global Health, Office of Health Systems and is managed by URC under the terms of Cooperative Agreement Number AID-OAA-A-12-00101. The quality improvement intervention in Zambia is funded by the U.S. President's Emergency Plan for AIDS Relief (PEPFAR). URC's global partners for USAID ASSIST include: EnCompass LLC; FHI 360; Harvard University School of Public Health; HEALTHQUAL International; Initiatives Inc.; Institute for Healthcare Improvement; Johns Hopkins Center for Communication Programs; and WI-HER LLC. For more information on the work of the USAID ASSIST Project, please visit [www.usaidassist.org](http://www.usaidassist.org) or write [assist-info@urc-chs.com](mailto:assist-info@urc-chs.com).

facilities that were already providing ART services to avoid further delays in the pilot. The two new sites (Mindolo I and Kawana) began their improvement work about five months after the original six sites. The results presented in this report are from all eight sites.

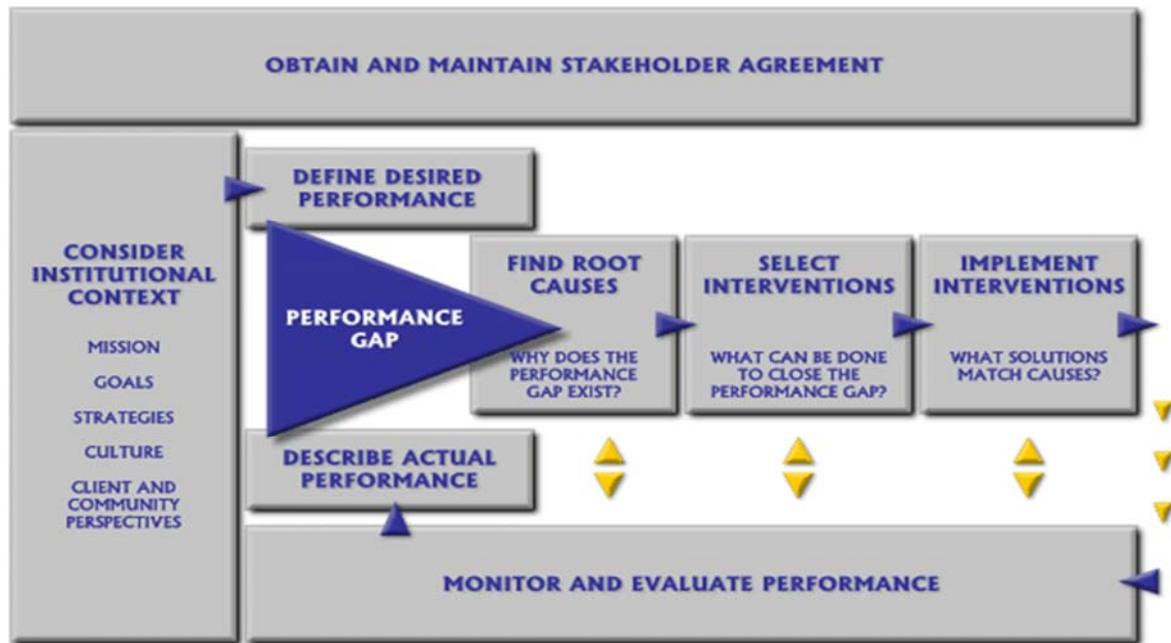
- Sites implementing NACS using quality improvement approach in Kitwe District**
- Kamitondo Health Centre
  - Ipusukilo Health Centre
  - Mulenga Health Centre
  - Kamfinsa Health Centre
  - Tinna Medical Centre
  - Copperbelt University (CBU) Clinic
  - Mindolo I Health Centre
  - Kawama Health Centre

The objectives of ASSIST’s work in Zambia are:

- 1) To support integration of NACS into facility-based ART, prevention of mother-to-child transmission (PMTCT), and maternal and child health (MCH) services using quality improvement.
- 2) To strengthen the capacities of district health managers and healthcare providers to apply improvement skills at both district and facility levels.

To begin, ASSIST provided QI training in July 2014 to district clinical and nutrition managers and facility-based healthcare providers from the eight facilities in Kitwe. The training was based on Zambia’s national quality improvement guidelines, the performance improvement approach (PIA). **Figure 1** shows the PIA concept.

**Figure 1: The Zambia Performance Improvement Framework**



This PIA model guides teams to improve care by working through nine steps: 1) Defining the context in which improvements will be made (resources/environment), 2) Obtaining and maintaining stakeholder agreement, 3) Defining the desired performance, 4) Defining the actual performance, 5) Defining the performance gap, 6) Identifying root causes of the performance gaps, 7) Selecting and designing interventions, 8) Implementing interventions, and 9) Monitoring and evaluating the results.

The ASSIST team introduced supplemental concepts of how the PIA can best be implemented to produce results by emphasizing the need for measurement, testing interventions on a small scale, and using performance data to make decisions about how to proceed with a particular intervention.

After the QI training, ASSIST began coaching visits to support sites in applying improvement principles and then convened a learning session to get facility and district staff better acquainted with the work that needed to be done. ASSIST introduced sites to the MOH standards for NACS and

guided them to identify gaps and areas for improvement. The standards for NACS include: nutrition assessment and categorization of patient's nutrition status, nutrition counselling, referral and follow-up, and nutrition support, including provision of supplementary foods and linking patients to community support services.

The teams began with nutrition assessment and categorization of nutrition status because the baseline data showed that only a few assessments were being done and not in a comprehensive manner. Teams did not know what proportion of their HIV clients were being assessed or if those clients' nutrition status was being documented. Without this information, it was not possible to follow up with clients who displayed moderate or severe acute malnutrition.

Given that clinics had only been providing NACS services for three months, two issues emerged:

- 1) Not all clients were being assessed for nutrition status.
- 2) The health workers did not know and did not record the number of clients attending their clinics. They did not know the proportion of clients who were currently receiving NACS services, if at all.

ASSIST worked with the sites to form quality improvement teams that were responsible for designing and overseeing the improvement work. The teams assessed the situation in their respective clinics and agreed on desired performance statements (DPS) or goals. All eight improvement teams identified major gaps in assessment and categorization of nutrition status, and ensuring that all clients were assessed and categorized became the first desired performance.

## Testing Interventions

To increase assessment and categorization, the teams selected small, specific interventions to try in their clinics to close the gap. Interventions were tested for a short period of time- from one day to several days. The teams then analyzed clinic data to determine the effectiveness of the intervention. If the intervention tested was effective, the intervention was adopted. If not, the intervention was either adapted or discarded.

In quality improvement work, this process is repeated each time with a new intervention until the desired performance has been achieved. Testing the interventions before adopting them ensures that only effective interventions are implemented.

For a list of all interventions that were effective to improve nutrition assessment and categorization, see **Appendix 1**.

## Measuring Improvement

Defining and tracking performance indicators relevant to the desired performance statements helps improvement teams see their progress towards achieving their goal. Teams collect data for these indicators regularly and use the information to observe variations in improvement. Tracking indicators help teams decide if an intervention that has been introduced in the clinic yields improvement or not.

ASSIST provided the teams with the global NACS indicators, and teams selected the relevant indicators for their DPS. The first indicator tracked was "Proportion of clients assessed and categorized for nutrition status."

To measure this indicator, teams needed to know the total number of clients attending their clinics (denominator). Clinic attendance was measured by ensuring the daily attendance register was

### Putting in place data systems to support improvement

The QI team in Mindolo I clinic could not tell how many clients they were seeing in their clinic on a given day. Without this information, they were unable to calculate the proportion of clients assessed for nutrition status. To identify the best way to calculate daily attendance, the team introduced a daily attendance book/register. This intervention was tested for one week.

The intervention was deemed effective because all 44 clients that attended the clinic during that week were captured in the register. This intervention was adopted and is currently being implemented. The clinic now has an accurate attendance record of all clients they see for HIV and TB services.

completed for all clients attending the HIV and TB clinics. Teams also counted the number of HIV-positive mothers and their HIV-positive or exposed babies who attended antenatal and postnatal services in the MCH clinic by looking in those registers. One site, Kamfinsa Clinic, gave each patient a number tag upon their arrival at the HIV clinic. The final number given out on any given clinic day provides the tally of patients seen that day.

### Supporting the Quality Improvement Teams

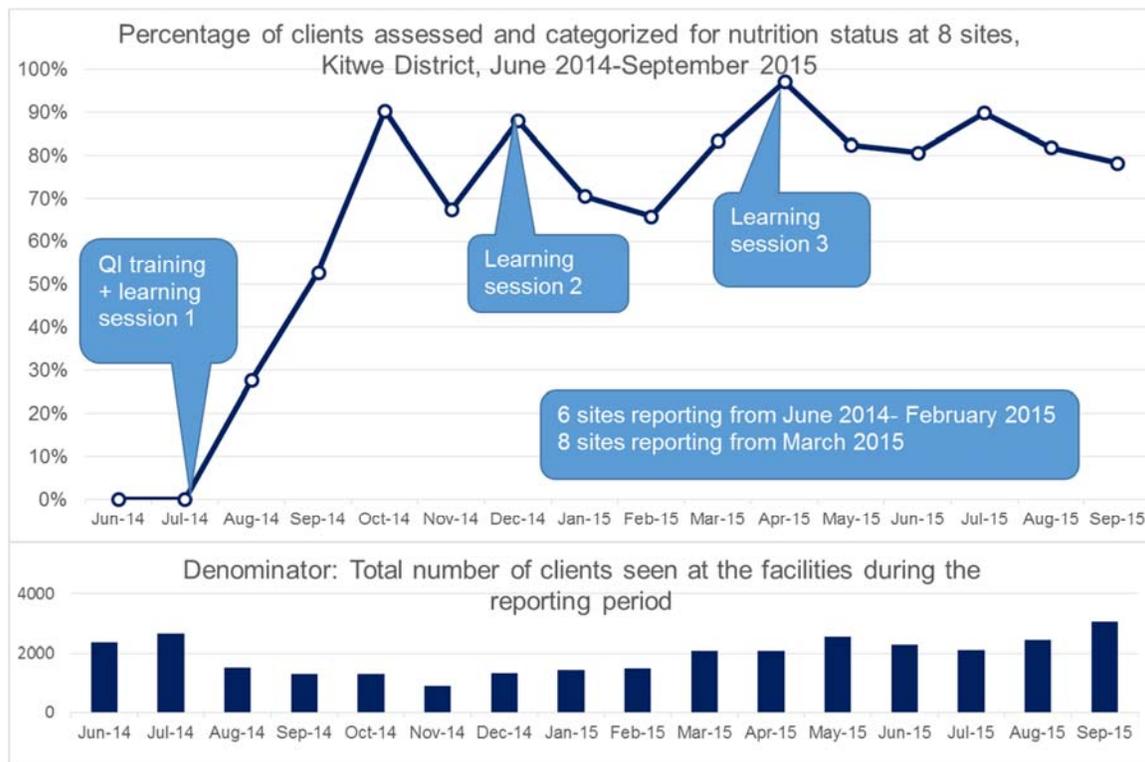
As the teams went through the improvement process, ASSIST, in collaboration with MOH/MCDMCH, provided support through regular coaching visits. During these visits, ASSIST supported the teams to refine their performance goals, identify appropriate interventions to test, and chart their results to provide visual representation of their progress.

Participatory learning sessions were organized every quarter, where up to four representatives from each facility QI team shared lessons and experiences from the improvement work. During these sessions, MOH/MCDMCH and ASSIST would provide brief refreshers on the PIA, focusing on gaps that were identified during the coaching sessions.

### Results of the Improvement Work

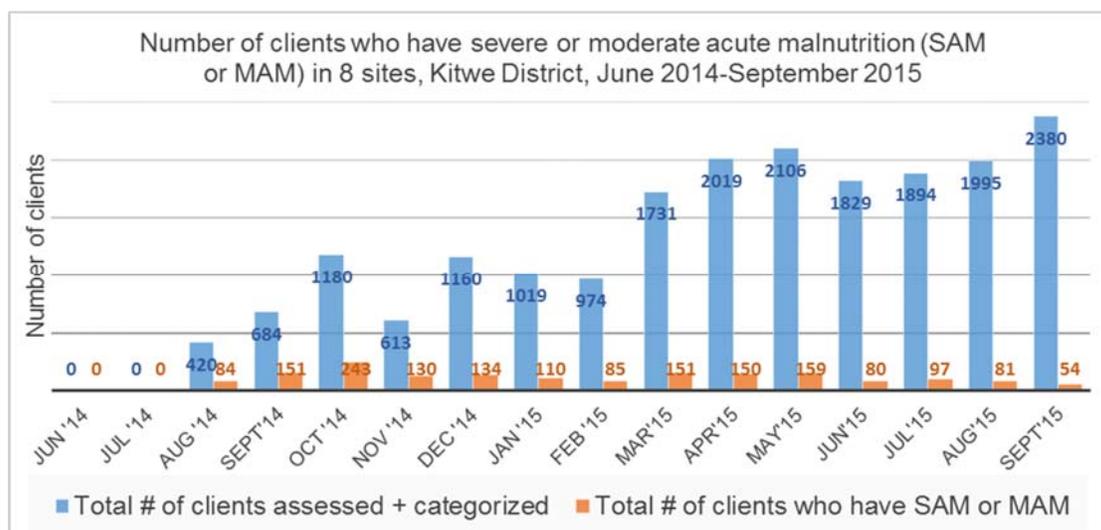
As the teams tested various interventions, they began to increase the proportion of clients who were being assessed and categorized for nutrition status at the clinics. **Figure 2** shows the proportion of clients assessed and categorized in the eight sites (six initial sites from August 2014 to February, 2015 and after which we scaled to the two more sites). Site-level improvements in screening and categorizing patients for nutrition for each of the eight sites are presented in **Appendix 2**.

**Figure 2: Results for assessment and categorization at 8 sites in Kitwe**



With the work that has been done to improve assessment and categorization of patients, facilities are able to identify malnourished clients and offer them nutrition support services. Before the improvement work started, the nutrition needs of these clients were not known and therefore remained unmet. **Figure 3** shows the number of malnourished clients who have been identified and supported over the months.

**Figure 3: Number of clients categorized with severe or moderate acute malnutrition (SAM or MAM) at 8 sites in Kitwe District**



Between August 2014 and September 2015, up to 243 clients a month have been identified as malnourished. These clients are receiving high-energy protein supplements (HEPS) and counselling to manage their malnutrition. Their nutrition status is monitored during their subsequent visits.

### Moving to a New Desired Performance Statement

In April 2015, the teams met at the 3<sup>rd</sup> learning session and determined that they had achieved their first DPS (with the exception of the two newer sites which were still working on reaching 100% or close to it). ASSIST guided the teams to identify a new area for improvement.

During the learning session, the teams discussed current challenges in the provision of NACS services for malnourished clients. Three common issues emanated from this discussion:

1. Incomplete documentation of patient data in the ART clinic. Nutrition information was not recorded in the patient files.
2. Incomplete documentation in the nutrition registers.
3. Service providers were not tracking the progress of malnourished clients and could not track the health and ultimate outcomes of the clients.

ASSIST guided the teams to develop goals based on these challenges. The teams then developed new desired performance statements to improve documentation and better track the progress of clients enrolled in nutrition management. They also defined indicators to track the progress of these DPS.

### District and Provincial Level Support

ASSIST continues to work closely with the district and provincial health offices. All activities such as learning sessions and coaching visits are conducted in collaboration with the district and provincial offices. ASSIST and FANTA III, in collaboration with the Ministry of Health, worked with other implementing partners to develop a consolidated monthly report form for NACS. This has made it possible for all the implementing facilities to consolidate their reporting for nutrition activities. The district has expressed confidence that QI is their responsibility and has been closely engaged with ASSIST's work from the very beginning.

## **Next Steps**

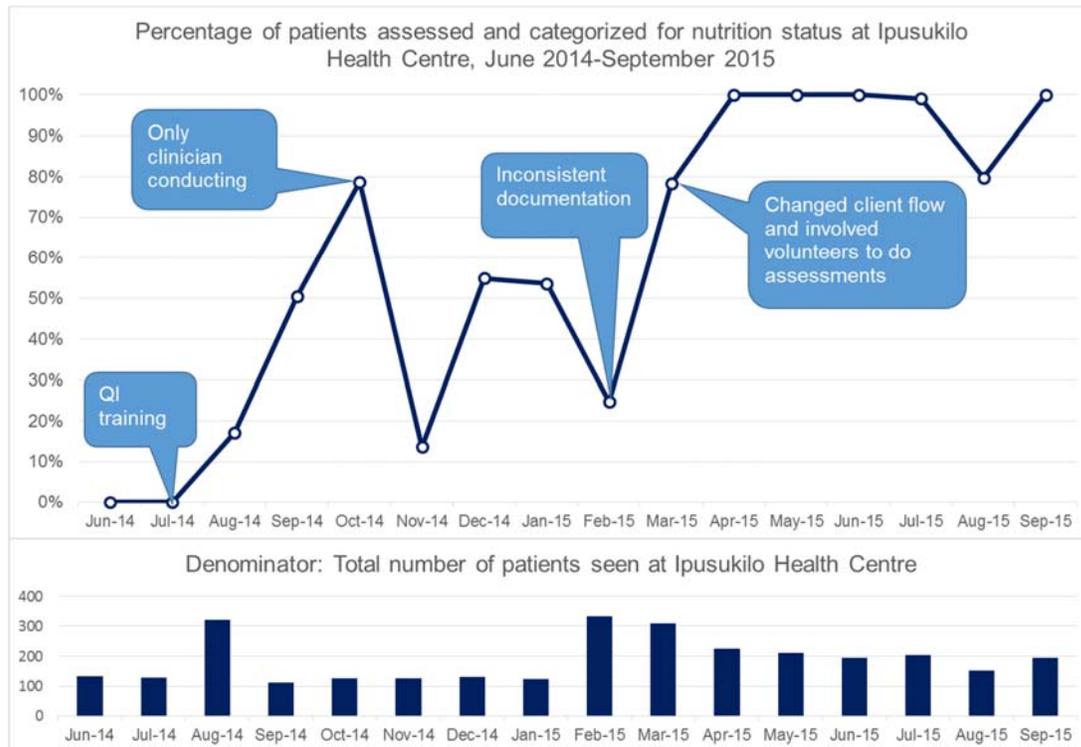
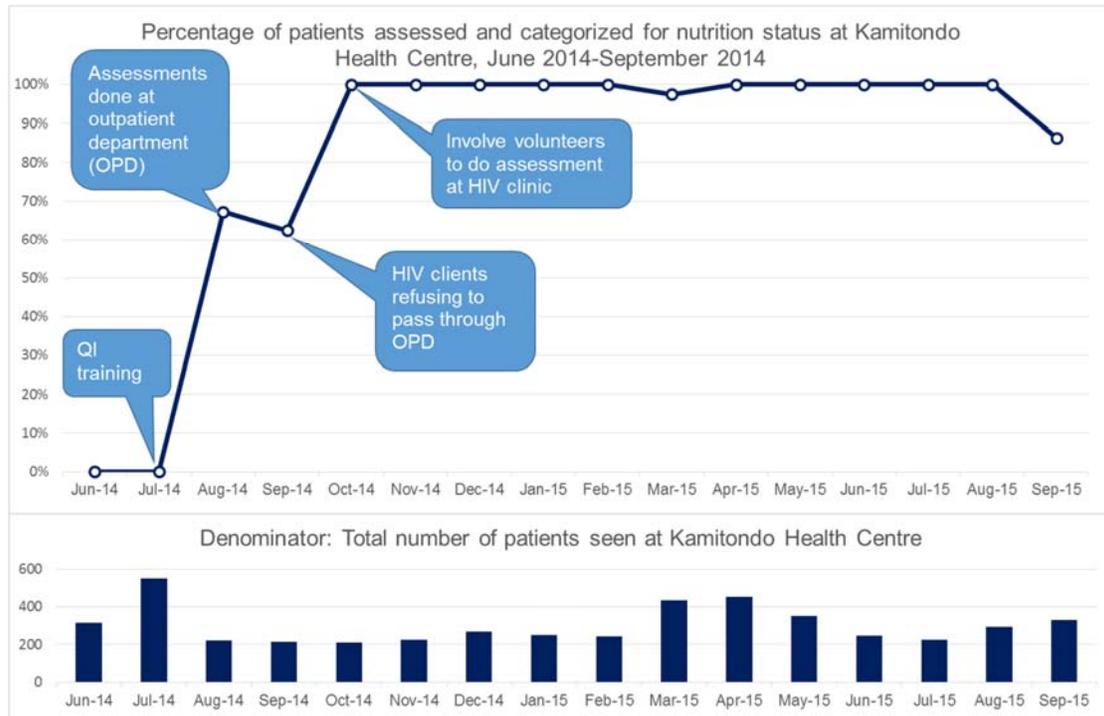
ASSIST will continue supporting the province, district, and facility teams to improve the integration of NACS using the PIA. Plans are underway to scale up NACS using QI in the remaining 14 FANTA-supported sites in Kitwe to cover all 22 sites that are providing HIV services in Kitwe.

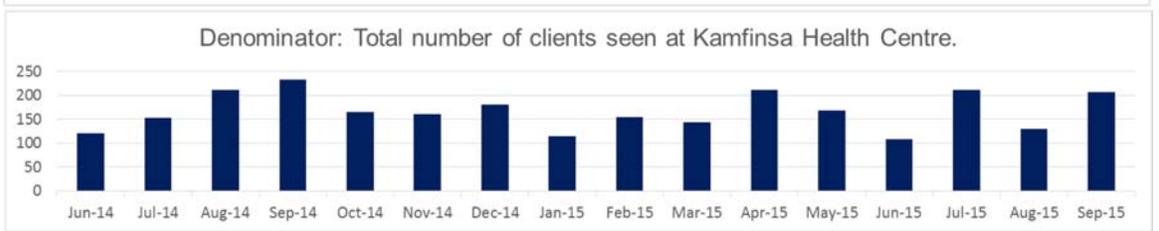
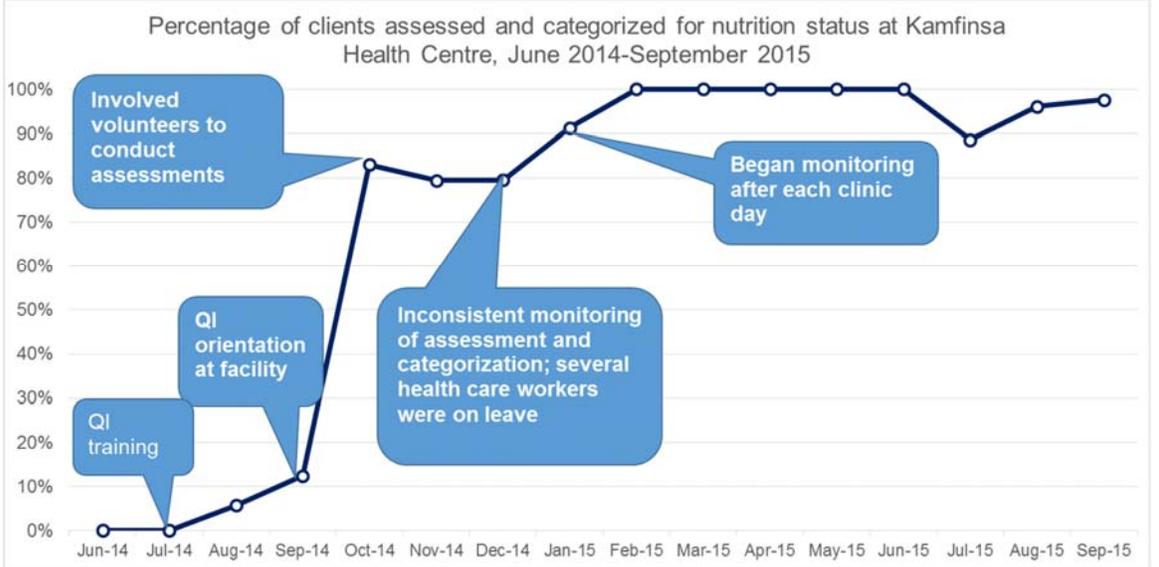
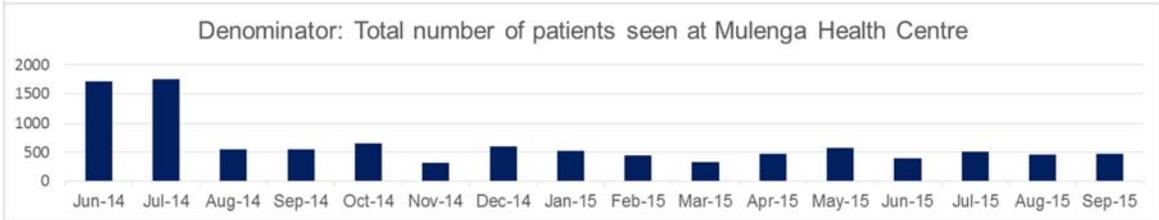
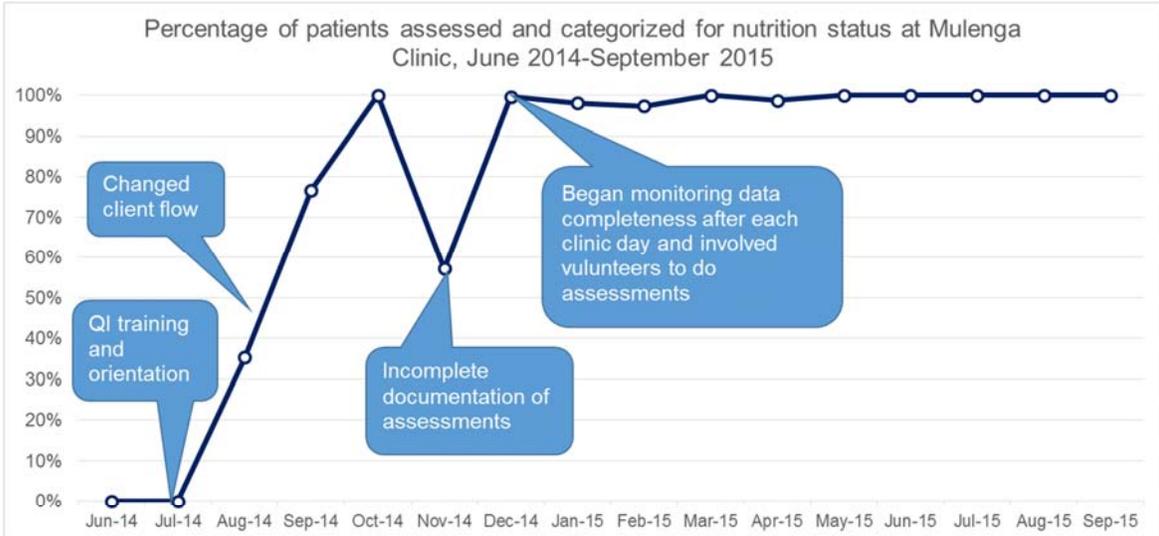
NACS is also being spread to another district, Mkushi, with five sites participating in the pilot beginning in August 2015. ASSIST will continue to provide technical support to the facility teams and build the district's capacity in improvement, especially in conducting coaching and learning sessions.

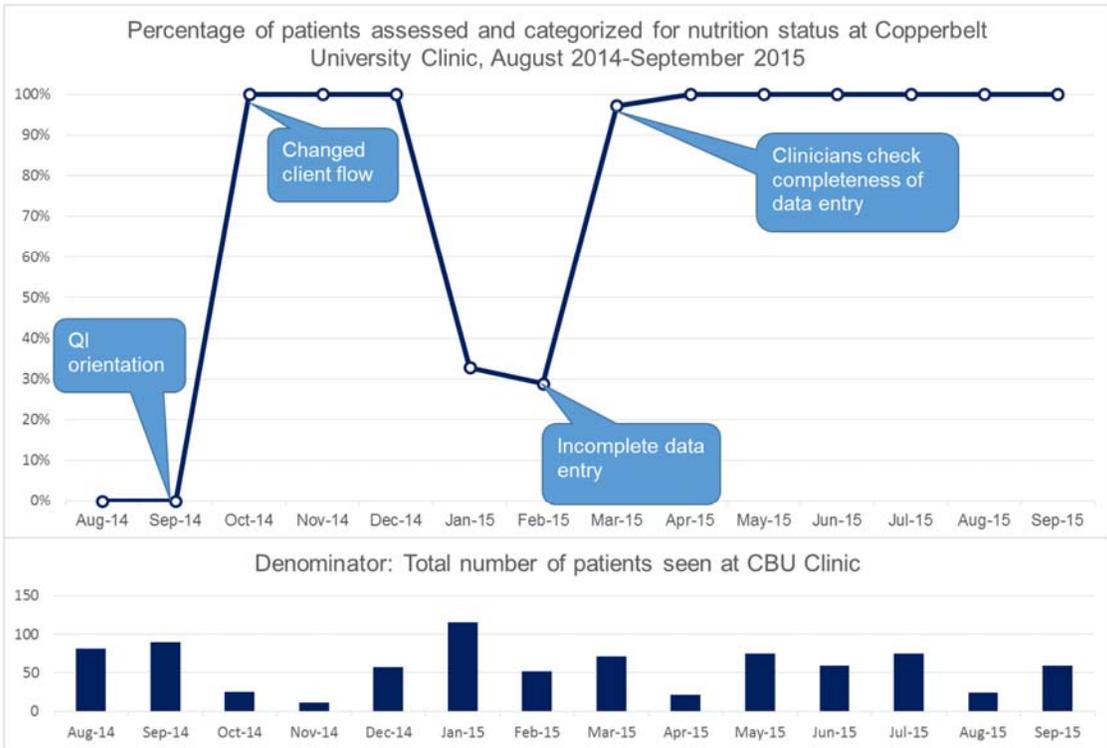
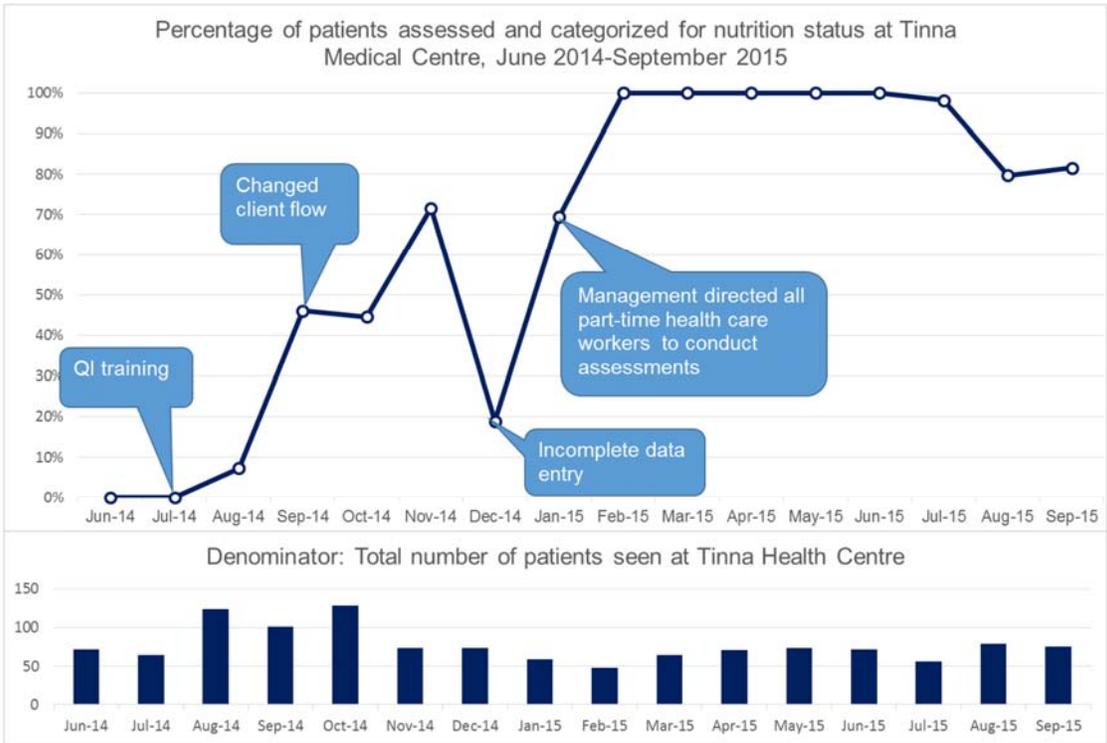
## Appendix 1: Effective Interventions for Improving Nutrition Assessment and Categorization

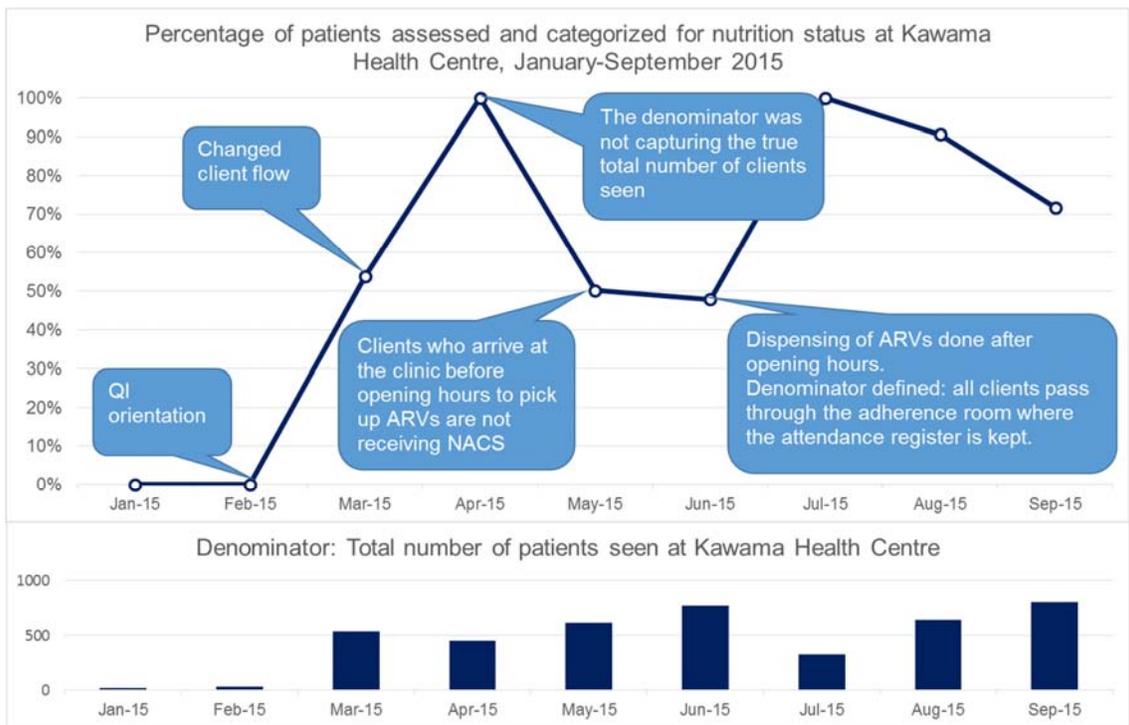
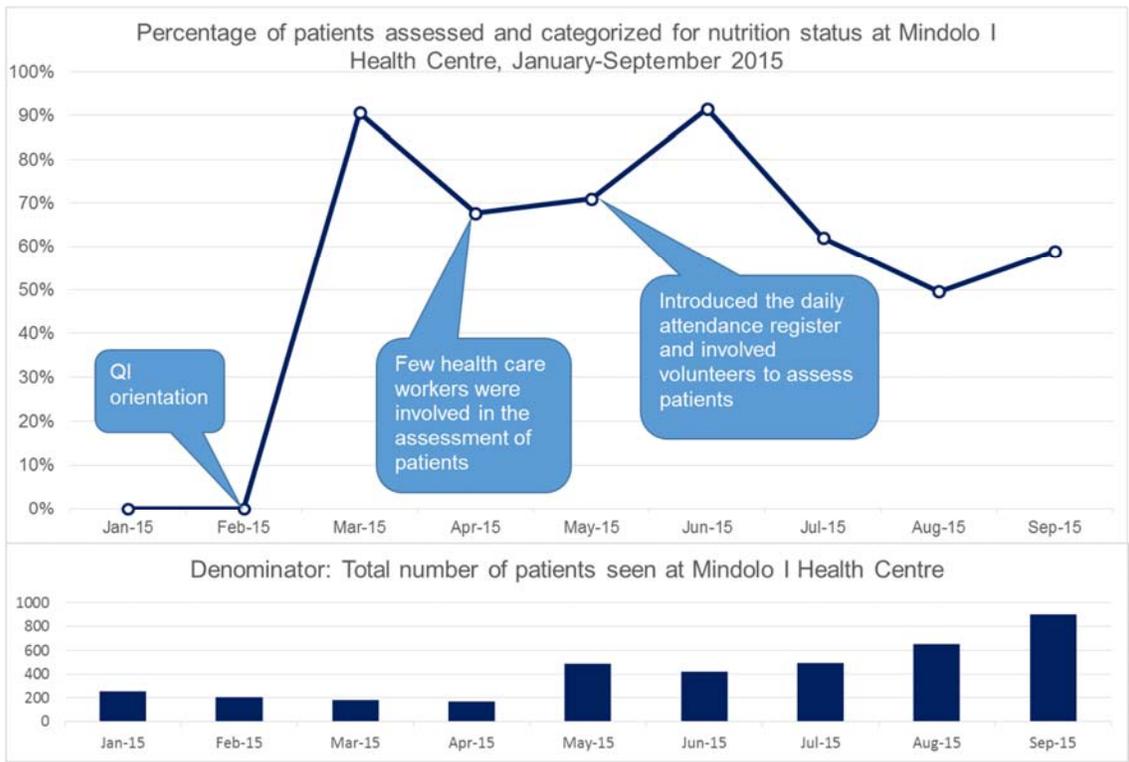
Intervention	Description of the intervention
Introduction of attendance book for ART	Teams introduced an attendance booklet at the ART clinic to capture all clients who visit the clinic.
Involvement of community health volunteers and neighborhood health committee members to assess HIV clients	Neighborhood health committee members and other volunteers were oriented on how to take weight, height, and mid-upper arm circumference (MUAC) of HIV clients. They were observed by service providers to assess whether they were taking the measurements correctly. Those that were taking the measurement correctly were then assigned to the ART, MCH, and TB clinics to assess clients.
Involvement of clinic staff, such as nurses, adherence counsellors, and pharmacy officers, to conduct assessment and categorization of HIV clients	Nurses, adherence counsellors, and pharmacy officers who were not trained on NACS were oriented and allocated at the clinic to help with assessment and categorization of HIV clients.
Changing the flow of clients in the clinic	The teams changed the patient flow by moving assessment points to the registration station at ART, TB, antenatal care (ANC), and under 5 clinics.
Incorporation of nutrition assessment and categorization on the list of vital measurements	Weight, height, MUAC, and calculation of weight for height and body mass index (BMI) were included on the patient vitals list so that each client visiting the clinic was assessed and categorized for their nutrition status.
Improving data management	Teams began crosschecking data completeness and analyzing their data regularly. Data completeness is crosschecked after each clinic day, and the analysis is done weekly or monthly.

## Appendix 2: Time Series Charts Showing Improvement at Individual Facilities









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