



Focus Group with men in Melijo village, Adjumani

Semi Quantitative Evaluation of Access and Coverage (SQUEAC)

Adjumani District, Uganda

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LIST OF ACRONYMS

ACF	Action Contre la Faim
CSB	Corn Soy Blend
DHO	District Health Office
FGD	Focus Group Discussion
GAM	Global Acute Malnutrition
HF	Health Facility
HMIS	Health Monitoring Information System
IMAM	Integrated Management of Acute Malnutrition
ITC	Inpatient Therapeutic Care
IYCF	Infant and Young Child Feeding
LOS	Length of Stay
MAM	Moderate Acute Malnutrition
MoH	Ministry of Health
MTI	Medical Teams International
MUAC	Middle Upper Arm Circumference
NGO	Non-Governmental Organisation
OPD	Out-patient Department
OPM	Office of the Prime Minister
OTC	Outpatient Therapeutic Centre
RUTF	Ready to Use Therapeutic Food
RWC	Refugee Welfare Council
SAM	Severe Acute Malnutrition
SFP	Supplementary Feeding Programme
SMART	Standardized Monitoring and Assessment of Relief and Transitions
SQUEAC	Semi Quantitative Evaluation of Access and Coverage
UNICEF	United Nations Children's Fund
VHT	Village Health Teams
WASH	Water and Sanitation for Health
WHZ	Weight for Height Z Score

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EXECUTIVE SUMMARY

In February 2017, a coverage assessment of Supplementary Feeding Programme (SFP) to treat Moderate Acute Malnutrition (MAM) and Outpatient Therapeutic Centres (OTC) to treat Severe Acute Malnutrition (SAM) was conducted in Adjumani District, Northern Uganda. The assessment used the SQUEAC (Semi-Quantitative Evaluation of Access and Coverage) methodology and covered services delivered by Action Against Hunger (SAM) and Medical Teams International (MTI) (MAM).

The assessment identified a coverage estimation of **21.7% (CI 95% 14.4-31.5%)** for the SFP component, the sample size to classify SAM coverage was not reached due to a low prevalence of SAM.

The quantitative and qualitative data collection and analysis revealed a series of boosters and barriers to access, providing detailed information on what is positively and negatively affecting coverage. **Positive factors** include the presence of active and motivated Village Health Teams (VHTs) that are effective in screening in the community using MUAC, and supporting mass screenings using weight for height (WHZ). They are effective at disseminating messages to the community and building awareness of malnutrition and the IMAM services available. VHTs also follow up known cases in the community, and ensure attendance to the programme.

The **negative factors** were more numerous, with those relating to **screening** using WHZ having the biggest impact on coverage. Systematic screening of all children at the health centre using MUAC and WHZ is a requirement, however investigation found that not all health centres were screening using WHZ. This results in many malnourished children who present with other conditions (such as malaria) not being diagnosed and recruited into the programme. **Stock outs**, caused by poor reporting and also pipeline delays have been an issue in both the SFP and OTC programmes. Consequently, this has highly contributed to defaulting, rejection of new cases and a loss of trust in the programmes. Incorrect **rejections** of the host community at the health facility due to lack in resources were reported, resulting in loss in trust of the host community health services. Within the OTC programme, there is a high level of **defaulting** (43%) at Adjumani Hospital, cases that transfer to other health centres that are closer to their homes after treatment in the ITC programme. This reflects the inadequacies in reporting systems that result in tracking of cases not taking place.

At the **community level**, there are varying levels of activity and presence within the VHTs, particularly within the refugee and host communities. Key informants in the host community were often without a VHT or unaware of VHTs and their activities. The refugee community were far more likely to know who their VHT is, and have had interaction with them, often through regular MUAC screening. **Sharing** and **selling** of RUTF and particularly CSB++ are common in the communities, particularly refugee settlement, impacting the length of stay in the programme and perceptions of the programme.

Following the assessment, the SQUEAC team developed **recommendations** listed below to address the barriers, a full list can be found in section 8:

- Ensure that WHZ screening is systematic at all contact points within health facilities
- Ensure proper forecasting practices for therapeutic feeds are conducted
- Change in policy to a 50-50 resource allocation for host and refugee communities
- Encourage clients to communicate movement plans and ensure health workers are communicating practices on notifying of movements with them

- Strengthen performance indicators for VHTs
- Deliver regular focussed awareness raising activities within communities and settlements on malnutrition causes, symptoms and treatment
- Reduce selling of RUTF and CSB++ at markets
- Reduce sharing of therapeutic feeds at the household level

These recommendations were coupled with a series of actions, responsible persons and the level of priority in an Action Plan. Action Against Hunger and MTI staff should ensure the implementation and follow up of these activities in order to improve access and coverage of SAM and MAM treatment services in Adjumani District.

1.0 INTRODUCTION

1.1 OVERVIEW OF THE AREA

Bordering South Sudan to the north, Adjumani district is part of the West Nile sub-region of Northern Uganda. Between December 2013 and September 2015, as conflict in South Sudan intensified, almost 90,000 refugees travelled across the border to Adjumani District, to join the 12,000 refugees previously residing in Adjumani¹. In 2016, as fighting intensified, the numbers of fleeing peaked; Uganda received the single largest number of refugees, with 330,577 new arrivals as of October 31st 2016. On average, 61,000 new refugees were fleeing to Uganda every month from July 2016². The estimated total number of refugees in Adjumani as of February 2017 is 209,919³, whilst the host community population is approximately 210,000⁴.

The Ugandan refugee policy promotes self-reliance amongst refugees, and they are given the rights to move freely, trade and work. There are refugees also residing in host communities, although data is limited on the precise numbers. Refugee settlements are interspersed with host communities, where access to services is equal. Upon arrival, refugees from South Sudan receive a plot of land on which to build their new homes and grow crops. Refugees additionally are free to access public services such as healthcare and education⁵.

There is some limited information available on the different tribes available, extra information was collected anecdotally from team members. The majority are Dinka, the second most common is Nuer, with other tribes including kuku, Lokoro, Murle, Shilluk, Zande, Madi and Nubian. A common language is Arabic, which is sometimes spoken in settlements with mixed populations although not all refugees are able to speak this. The host community are predominantly of the Madi tribe, and so there is a common language shared with the South Sudanese Madi.

¹ (UNHCR, 2015). *UNHCR South Sudan Situation*. [online] UNHCR South Sudan Situation. Available at: <http://data.unhcr.org/SouthSudan/region.php?id=47&country=229>

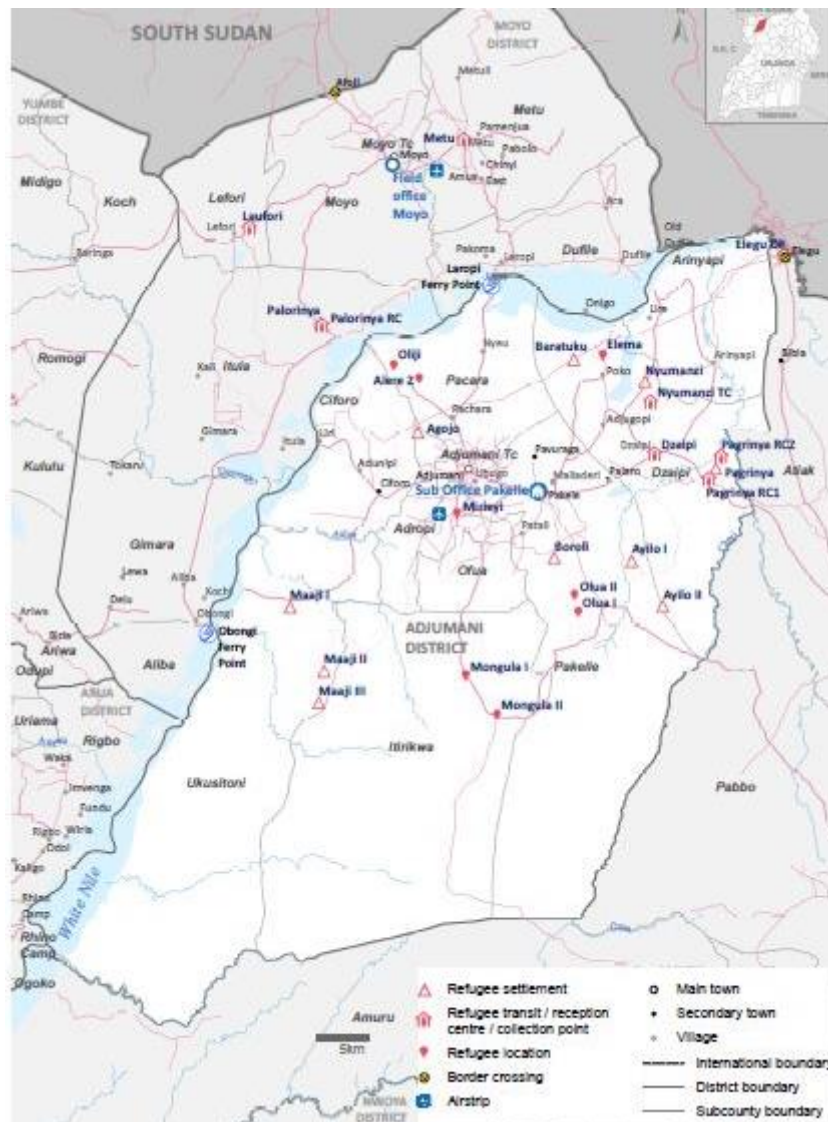
² (UNHCR, 2016). *UNHCR South Sudan Regional Response Plan*. [Online] Relief Web. Available at: <http://reliefweb.int/sites/reliefweb.int/files/resources/SOUTH%20SUDAN%202017%20Regional%20Response%20Plan.pdf>

³ (UNHCR, 2017). *South Sudan Situation, Information Sharing Portal* [online] UNHCR. Available at: <http://data.unhcr.org/SouthSudan/region.php?id=47&country=229>

⁴ (World Bank, 2016). *Uganda Offers Refugees a Home Away from Home* [online] World Bank. Available at: <http://www.worldbank.org/en/news/feature/2016/08/31/uganda-offers-refugees-home-away-from-home>

⁵ (UNHCR, 2015). *UNHCR [Online] Uganda hosts record 500,000 refugees and asylum-seekers*. Available at: <http://www.unhcr.org/uk/news/latest/2015/12/567414b26/uganda-hosts-record-500000-refugees-asylum-seekers.html>

Figure 1 Map of Adjumani



Source: UNHCR 2017

1.1.3 STRUCTURE OF THE HEALTH SYSTEM IN UGANDA

The health structure in Uganda is tiered. There is one referral hospital in Adjumani town, and 41 health centre IV, III and II in the district (one is in a prison and 1 a police base, and so not available to the public). For the purpose of this report, all (apart from the hospital) will be referred to as a health centre or health facility. The smallest unit for the provision of healthcare are VHTs, they are trained in basic healthcare and are the first point of contact for health related issues in most communities. The health system relies heavily on village health teams to screen children for malnutrition and to refer them.

1.1.4 NUTRITION SITUATION

There have been several assessments conducted of the prevalence of malnutrition in Adjumani. The most recent, in August 2016, was a rapid SMART survey of Pagirinya settlement, the newest of the settlements covered in this assessment. Food Security and Nutrition Assessments (FSNA) were also conducted in December 2015, of both host and

refugee communities, however there was no further information available at the time of the assessment.

Table 1: Prevalence of Malnutrition

Assessment	Date	SAM	MAM	GAM
Rapid SMART - Pagirinya ⁶	August 2016	0.5% (0.1-1.9 95% CI)	9.7% (7.7-12.2 95% CI)	10.2% (7.9-13.0 95% CI)
Expanded Nutrition Survey Report – host community ⁷	December 2015	0.5% (0.1-2.6 95% CI)	6.4% (3.9-10.5 95% CI)	6.9% (4.2-11.0 95% CI)
Expanded Nutrition Survey Report – refugee community ⁸	December 2015	0.8% (0.3-1.9 95% CI)	10.2% (8.1-12.8 95% CI)	11% (8.8-13.7 95% CI)

1.1.5 NUTRITION ACTORS IN ADJUMANI

In response to the influx of December 2013, various nutrition actors that included WFP, United Nations Children's Fund (UNICEF), Action Against Hunger, Medical Teams International (MTI) and Concern Worldwide began implementing emergency nutrition interventions to reduce malnutrition-related morbidity and mortality⁹.

Action Against Hunger commenced support in 4 health centres which were located close to refugee settlements. As the number of refugees increased in Adjumani, more settlements, and thus, more health centres opened in the rest of Adjumani. However Action Against Hunger continued operating in the original 4 health centres, and has not expanded to cover more health centres.

In March 2016, Action Against Hunger Uganda received funding from the Swedish International Development Cooperation Agency (SIDA) to implement an integrated emergency nutrition, WASH and food security project in the refugee hosting districts of Adjumani and Kiryandongo in Uganda. The objective of the project is to increase access and coverage of curative and preventative actions against malnutrition among children under 5 years, pregnant and lactating women and other vulnerable groups.

The nutrition strategy of the project is to offer curative services for management of acute malnutrition by strengthening and supporting the district health systems to provide care and treatment for Severe Acute Malnutrition (SAM) and Moderate Acute Malnutrition (MAM) among children under 5 and pregnant and lactating women. This is implemented through a two-pronged approach targeting capacity building for health workers at health facility level and at community level capacity building and facilitation for Village Health Teams (VHTs). Presently Action Against Hunger supports 4 OTC and works with a total of 120 Village

⁶ Action Against Hunger 2016. Pagirinya Rapid SMART Survey Report, Adjumani district, Uganda.

⁷ OPM, Unicef, WFP, UNHCR 2016. Expanded Nutrition Survey Report – host communities.

⁸ OPM, Unicef, WFP, UNHCR 2016. Expanded Nutrition Survey Report – refugee communities.

⁹ Coverage Monitoring Network, 2015. *Coverage Assessment Adjumani District*. [Online] CMN. Available at: <http://www.coverage-monitoring.org/wp-content/uploads/2015/11/Adjumani2015FINALreport.pdf>

Health Teams (VHTs) in Adjumani district. Additionally the interventions are complemented by the services provided by the district health office and other nutrition partners including Concern Worldwide, LWF and Medical Teams International.

There are programmes that run concurrently alongside OTC and SFP programmes, including Maternal Child Health and Nutrition (MCHN) programmes, IYCF counselling (Infant and Young Child Feeding), Micronutrient powder distribution, Health System Strengthening (HSS) activities and Mother to Mother Peer Support Groups.

Table 2 Nutrition Services in Assessment Area

Health Centre	Settlements Covered	Component	NGO
Bira III	Boroli	OTC	ACF
		SFP	MTI
		Community	MTI/ACF
Mungula IV	Mungula	ITC	CWW
		OTC	ACF
		SFP	MTI
		Community	MTI/ACH/CWW
Lewa II	Olua I and II	OTC	ACF
		SFP	MTI
		Community	MTI
Pagirinya III	Pagiriniya	OTC	MTI
		SFP	MTI
		Community	MTI/ACF
Ayilo II	Ayilo I and II	ITC	MTI
		OTC	MTI
		SFP	MTI
		Community	MTI/LWF
Adjumani Hospital	-	ITC	CWW
		OTC	ACF
		SFP	No SFP component
		Community	ACF (in 5 villages within Adjumani town council)

1.1.6 COMMUNITY COMPONENT

VHTs take a lead role in bridging the gaps between health centres, programme staff and the communities. There are currently two VHTs (male and female) in each village, and between 4 and 6 in each block of a refugee settlement, depending on the block size. Community activities focus mostly on refugee populations, and they include community dialogues, community dramas and community radio shows, nutrition weeks, mother to mother care groups and male peer groups.

1.1.7 ASSESSMENT AREA

Action Against Hunger is currently operating in one isolated area in the East of Adjumani district, in partnership with MTI and Concern Worldwide. There are no maps of the area available, and so we were reliant on old maps lacking in detail and knowledge of the team. This area is geographically separate from the West of the district and so it was decided that it

would be representative of the population to conduct it in these areas. To reflect the allocation of resources for both refugees and the host community¹⁰, the coverage assessment was conducted across a geographical area that included refugee settlements and their host communities.

Refugees and the host community have equal access to primary health care, and so there should be no differentiation at the health centre between populations¹¹. The government's position on hosting refugees is that as a guiding principle, 30% of the resources should be dedicated to the development of host communities. For these reasons, it was decided that the coverage assessment would also include the host population.

Several other reasons decided the reason to focus on this area, rather than the whole district:

- Action Against Hunger are only implementing in this area, and so the results of the assessment would be more useful to them if it is focussed on this area.
- The partners working in the other areas of Adjumani were unresponsive to invitations to participate in the assessment. Therefore, obtaining data and information, would have been challenging. In addition, accessing health centres and the communities in the catchment areas could have also been a difficulty, potentially compromising the quality of the assessment.
- The population of the entirety of Adjumani currently stands at approximately 440,000 and given the resources and time allocated for this assessment, to cover this area would result in a compromise in the quality of the assessment.

1.2.1 RATIONALE FOR ASSESSMENT

The purpose of the assessment was to evaluate access and coverage of selective feeding programmes in Adjumani following one year of implementation. The specific objectives of the assessment were as follows:

- To map out coverage of the OTC and SFP in the Action Against Hunger supported health facility catchment areas in the Eastern area of Adjumani using SQUEAC methodology
- Identify factors affecting the uptake of OTC and SFP services in the health facility catchment area (boosters and barriers)
- Develop specific recommendations, based on survey outcomes, to improve acceptance and coverage of the program

1.2.2 PREVIOUS COVERAGE ASSESSMENTS

A previous coverage assessment was conducted in August 2015¹², covering only refugee communities. The main boosters to coverage were strong community mobilisation and active VHTs who were screening regularly in the community using MUAC and running nutrition

¹⁰ The Guardian, 2017. 'Switched on' Uganda welcomes refugees – but at an environmental cost. Available at: <https://www.theguardian.com/global-development-professionals-network/2017/mar/02/uganda-welcomes-refugees-environmental-cost-trees>

¹¹ Ministry of Health, 2010. The Second National Health Policy; Promoting People's Health to Enhance Socio-economic Development. Republic of Uganda, Ministry of Health.

¹² Coverage Monitoring Network, 2015. *Coverage Assessment Adjumani District*. [Online] CMN. Available at: <http://www.coverage-monitoring.org/wp-content/uploads/2015/11/Adjumani2015FINALreport.pdf>

education sessions. There was a strong awareness of the aetiology, prevention and treatment of malnutrition in the community. This is enhanced through several partner organisations running additional nutrition programmes alongside the existing IMAM components.

The main barriers to coverage were the poor coordination and cohesion among IMAM implementing partners. Other barriers cited included long distance to the facility and poor experiences at health facilities due to poor organisation.

Based on recommendations from the coverage survey conducted in August 2015, quarterly screening of all children under 5 has been implemented. Medical Teams International and Action Against Hunger teams coordinate screenings in refugee settlements (*Boroli, Mungula, Pagiriniya, Ayilo 1 and 2*), through mobilising programme staff and using the VHT to mobilise communities and conduct the anthropometric measurements.

1.3 METHODOLOGY

A SQUEAC assessment is semi-quantitative, using a mixture of quantitative and qualitative data. Each type of data is collected throughout the assessment in the following three stages. This culminates in the reliable estimation of coverage and a clear understanding of factors affecting coverage.

STAGE 1

- Quantitative routine programme monitoring data (e.g. trends in admission, exit, recovery) and data collected on beneficiary record cards (e.g. MUAC on admission).
- Existing contextual information: agriculture, labour, disease, food-consumption, which may already be available from sources such as nutritional anthropometry surveys, agricultural assessments, livelihood surveys, food-security assessments.
- Qualitative data collected through informal group discussions and interviews.

STAGE 2

- Uses small studies, small surveys, and small-area surveys to confirm or deny hypotheses about programme coverage that arise from the analysis of programme and qualitative data.

STAGE 3

- Uses Bayesian techniques to estimate overall programme coverage with a small sample survey¹³.

1.4 TEAM STRUCTURE

The team consisted of a mixture of staff members, Ministry of Health (MoH) staff and enumerators from both the local and refugee communities. The core team was made up of 3 Action Against Hunger staff members all working on the programme, a nutrition specialist from the MoH, and 8 enumerators, 6 from refugee populations and 2 from the host community. There was also engagement from World Food Programme (WFP) whose staff attended training on a number of days. The enumerators from the refugee settlements were

¹³ Adapted from: Myatt.M et al, Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/ Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference (<http://www.fantaproject.org/publications/squeac-sleac.shtml>)

all VHTs that are facilitated by Action Against Hunger, and therefore care was taken to ensure that they were mixed by the languages they spoke, and it was ensured that they did not visit the settlements that they are from to prevent bias.

1.5 CHALLENGES AND LIMITATIONS

- Due to the lack of availability of maps, there was a lack of clarity of the assessment area and the scale of the assessment. This resulted in some confusion on what was included in the assessment area and the late inclusion of Olua, as it was deemed to be geographically part of the area, and in the catchment of Lewa health centre. The challenge was overcome through obtaining a map, and hand drawing locations on the map, to provide an understanding of the area. We also relied heavily on the local knowledge of the team and the drivers.
- Data was difficult to obtain from other nutrition partners, resulting in delayed analysis of data and in the case of the ITC data, no analysis.
- Both population data and geographic information at the village level are poor, census information was only available in paper copy. When data collection took place in host villages, the village boundaries were often unclear, or parts of a village did not exist (most villages are split into sections by letter). This was the same in refugee settlements, where a block may not exist or only be half populated. In these cases, the team relied on local knowledge, triangulated by a number of sources to indicate boundaries. If in doubt, a larger area would be sampled, to reduce the risk of missing the intended out.
- There are many languages spoken in Adjumani district, the host community speak Madi while the refugee communities speak several different languages; main being Dinka and Madi, Arabic is also a common language spoken. Care was taken to select a team that spoke a variety of languages, and to select enumerators who could speak more than one language and so adapt to different locations. That being said, there were situations where some enumerators were unable to communicate in the location they had been sent to, which put more pressure on their teammates.
- The team was unable to interview a key informant to the assessment, the district nutritionist. This would have provided clarity on some of the key issues found, and is therefore a limitation to the assessment. Similarly, the District Health Officer (DHO) was new to the job, and therefore had limited knowledge on the nutrition interventions in the district.

2.0 STAGE 1: QUANTITATIVE ANALYSIS

Quantitative data analysis was performed for both OTP and TSFP through analysis of monthly programme reporting data (from Action Against Hunger and Medical Teams International) and through analysis of the integrated nutrition registers. Action Against Hunger and Medical Teams International use different electronic reporting systems and so in the case of the OTC programme, where both organisations are implementing, data was compiled. The electronic data included a combination of Health Monitoring Information System (HMIS) data from MTI, and routine programme data collected by Action Against Hunger teams. Where data was available, it was analysed from January 2016 to December 2016. Table 3 explains the data that was analysed, where the gaps are in the data and if there are mistakes in data recording.

2.1 ANALYSIS OF INDIVIDUAL CASES

In order to obtain additional information that is not available through analysis of electronic data alone, data from the integrated nutrition registers was collected.

Data per individual case was analysed for 4 out of 8 health centres, issues with data availability at the time of data collection and analysis prevented analysis of all health centres. A 10% sample of SFP admissions was taken (n=78), which was stratified throughout the year by taking every tenth case in the registers. Due to the smaller sample size of the OTC component, all cases were collected (n=227).

2.2 DATA ANALYSED

Table 3 Programme Data Collected and Analysed

Health Centre	Monthly Reporting Data (Electronic)		Integrated Nutrition Data Collected by hand	
	SFP	OTC	SFP	OTC
Bira III	January – December 2016. Repetition in data between October and November 2016	January – December 2016	July – December 2016	July – December 2016
Mungula IV	January – December 2016	January – December 2016	January – December 2016	January – December 2016
Lewa II	January – December 2016	January – December 2016	January – December 2016	January – December 2016
Pagiriniya III	August – December 2016 (health centre opened July 2016)	August – December 2016	Unable to obtain registers on time	Unable to obtain registers on time
Pagiriniya Health Post	August – December 2016 (health centre opened July 2016)	August – December 2016	Unable to obtain registers on time	Unable to obtain registers on time
Ayilo I	January – December 2016	December 2016 missing	Unable to obtain registers on time	Unable to obtain registers on time
Ayilo II	January – December 2016	October and November 2016 missing	Unable to obtain registers on time	Unable to obtain registers on time
Adjumani Hospital	Not applicable	January – December 2016	January – December 2016	January – December 2016

Additional Data Collected by Hand Included:

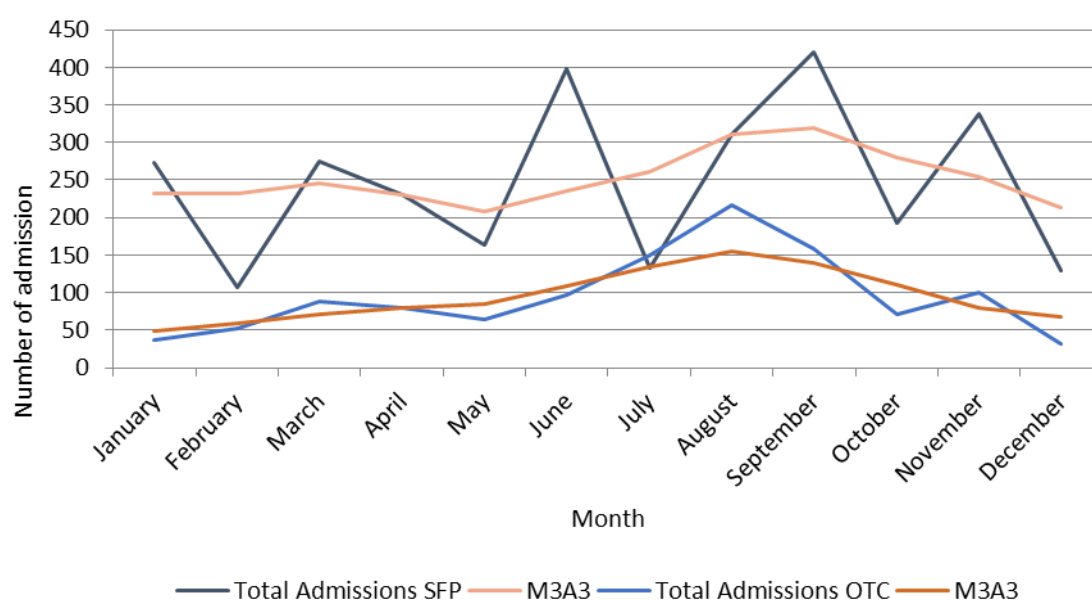
- MUAC on admission and default
- Length of Stay (LOS) at discharge and default
- MUAC/WHZ admissions
- Referral Source

2.3.1 ADMISSIONS OVER TIME

Admissions were plotted over time to identify seasonal trends and changes in admissions. A seasonal calendar was also developed from knowledge of local participants and programme staff.

A total of 385 SAM cases were admitted from January to December 2016 for the OTC programme and a total of 2972 MAM cases were admitted from January to December 2016 for the SFP programme.

Figure 2 Admissions Over Time (OTC and SFP)



The target number of beneficiaries in 2016 for the OTCs supported by Action Against Hunger was set at 457 (this was calculated based on the total population and the prevalence of SAM). By the end of 2016, was 457, the number of children treated admitted into the OTCs supported by Action Against Hunger programme is was 385. There was therefore a small difference in the projections and the total admissions. It was not possible to calculate the same for SFP projections and admissions as the information was not available from MTI proposals.

Figure 3 Total Admissions per Health (OTP)

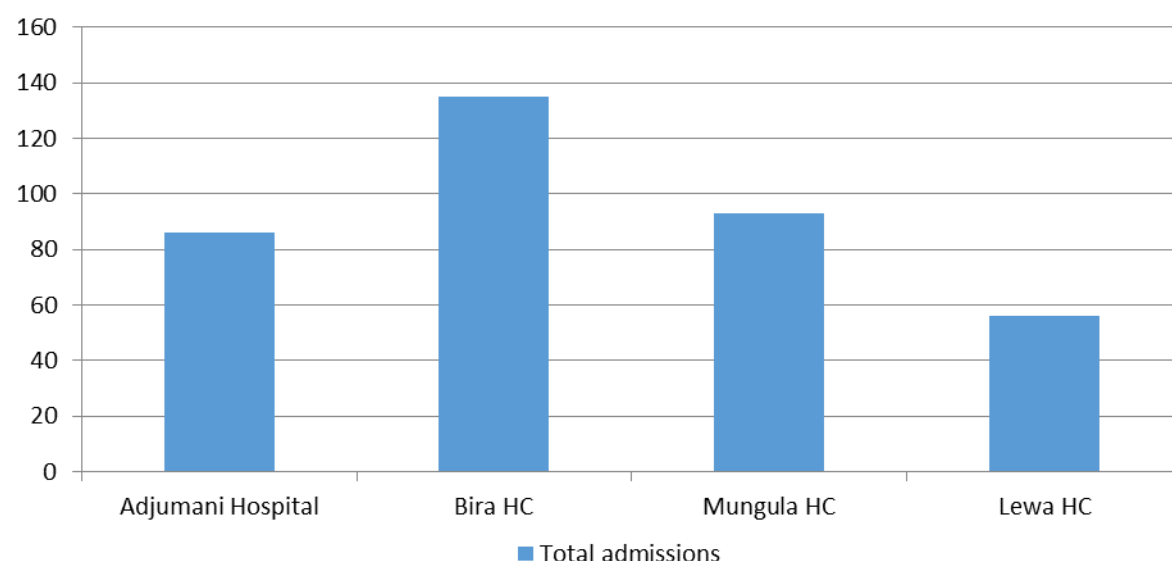
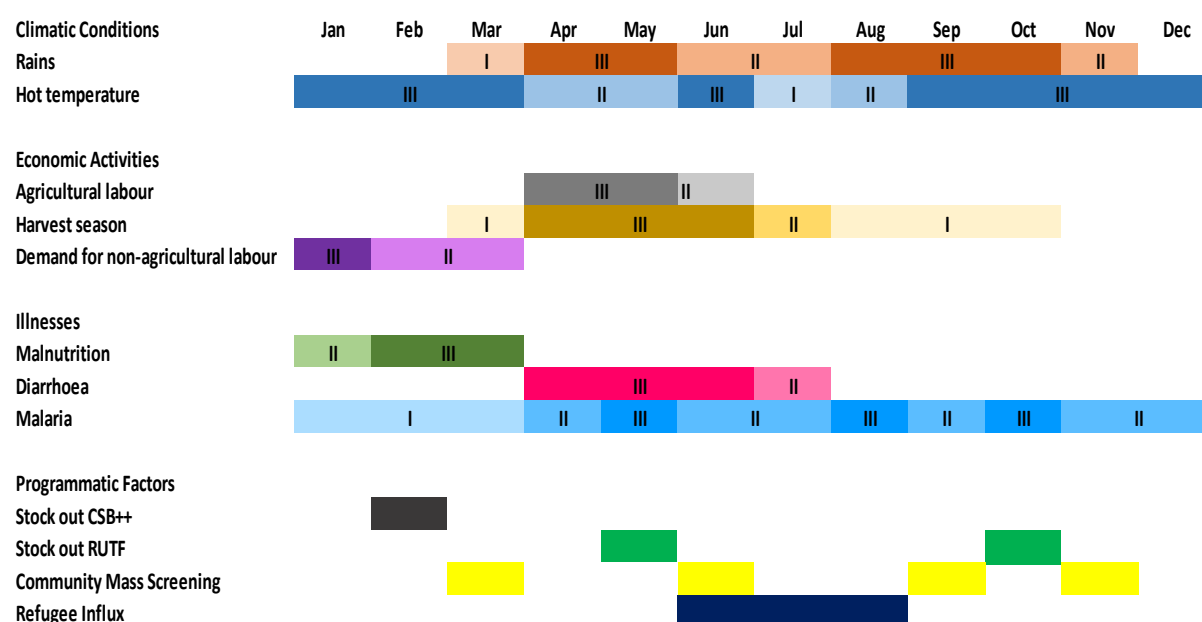


Figure 3 indicates the number of admissions into the OTC programme per health centre, these admissions are expected as they correlate with the size and catchment area of each health centre.

Figure 4 Seasonal Calendar



An increase in admissions between May and August can be observed for the OTC component, this reflects the influx of refugees that occurred during this period. Decreases in admissions can also be seen in May and October, which correspond with reported stocks outs of RUTF.

The SFP component saw periods of high and low admissions characterised by sharp rises and falls during the year. There was a stock-out of CSB++ in February which accounts for the decrease in admissions. Mass screenings were conducted in March, June September and November, which correspond with the spikes in admissions during these months. The OTC component saw that community mass screenings have less of an impact on admissions, this is most likely due to the low prevalence of SAM in the communities. There is also correlation between the months when malaria levels are high and the SFP admissions, this suggests that there is referral of malaria cases at the health centre.

The red line, M3A3, is where medians of sets of three successive data points (M3) have been taken. The results are then smoothed by taking the arithmetic means of sets of three successive smoothed data points (A3). The more times you apply a moving average, the more smoothing is applied to the data. This allows for a greater long term analysis of admissions. This way we can see variations over the data period without the abnormal fluctuations distorting the data set.

2.3.2 ADMISSION CRITERIA

Screening in the community takes place using WHZ and MUAC, in the health facilities, WHZ screening should take place at all contact points and children are admitted based on both criterion. Therefore, we analysed the distribution of WHZ and MUAC admissions through analysis of data collected from the nutrition registers.

Figure 5 Admission Criteria (OTC)

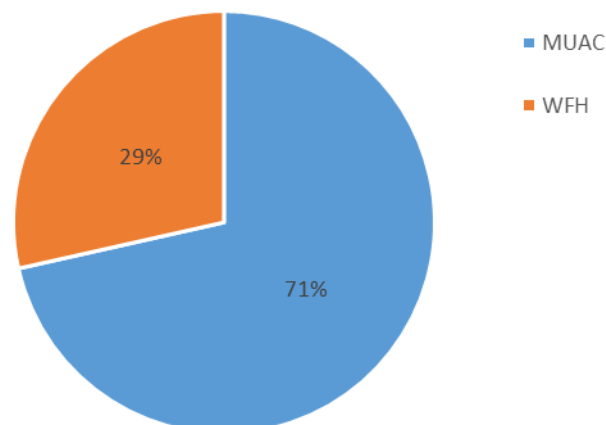
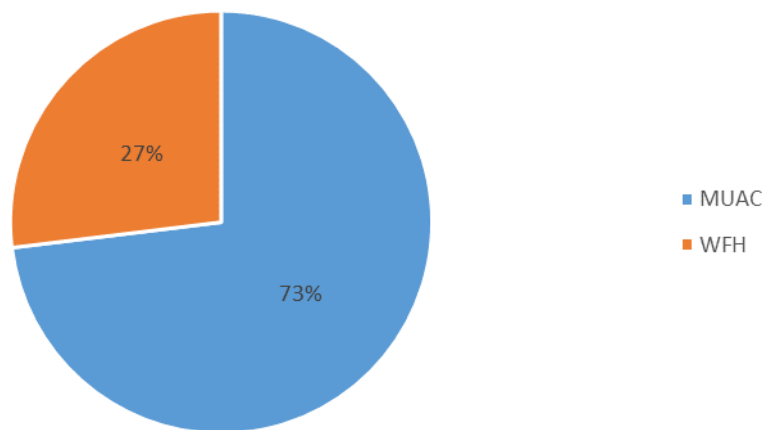


Figure 6 Admission Criteria (SFP)



The proportion of admissions on MUAC are similar for both SFP and OTC. Considering the quarterly mass screening activities being implemented in the community (using weight for height), and the requirement for children to be screened using WHZ in all contact points at health centres, the proportion of WHZ admissions is low. This indicates that there is a gap in screening processes, for example, not all children are not being screened at the health centre using weight for height.

2.3.3 MUAC ON ADMISSION

Figure 7 OTC MUAC on Admission January-December 2016 (n= 197)

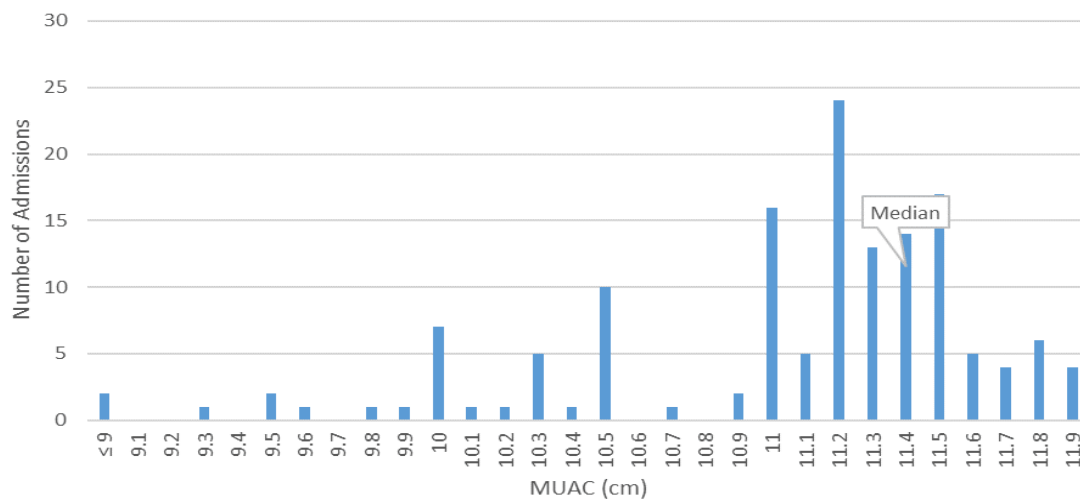


Figure 7 shows that the majority of cases were admitted in the early stages of SAM (median MUAC on admission 11.4 cm). This is encouraging as it demonstrates that SAM cases are being identified before the condition has the chance to deteriorate and indicates good awareness of malnutrition or active case finding in the community.

Twenty six percent (n=59) of cases were admitted on a MUAC of greater than 12.5cm. Further disaggregation of this data, demonstrates that 18 of these had been admitted on WFH. Nine were admitted with oedema, 12 had been admitted in Adjumani Hospital where there is no SFP, and 9 had been admitted during February and March when there was a

stockout of CSB++, and so would have been given RUTF. Eleven cases had been admitted incorrectly to the wrong programme.

However, a small number of admissions presented late, when the condition was critically low (<10.5cm). This is concerning, as these cases are critical, and this indicates late case finding in the community.

There is some indication of digit preference for measurements of 10, 10.5, 11 and 11.5 which may suggest that the person screening is rounding measurements to the nearest multiple of 5.

Figure 8 SFP MUAC on Admission January-December 2016 (n=73)

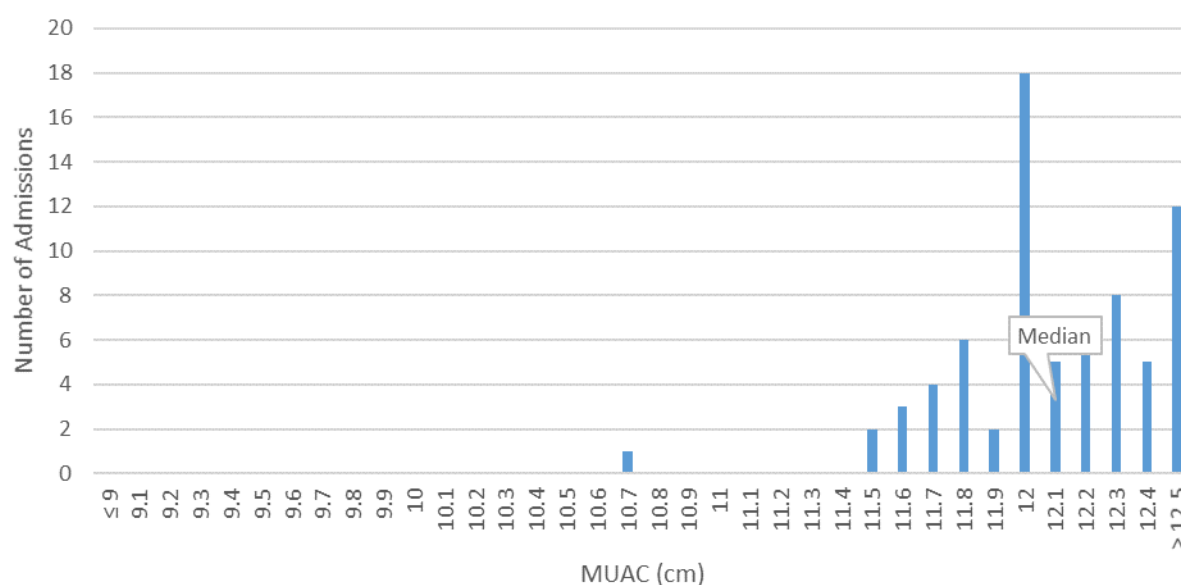


Figure 8 shows that the vast majority of cases were admitted in the early stages of MAM (median 12.1 cm). A substantial amount of the sample as also admitted at equal to greater than 12.5 cm which indicates those who were admitted on WHZ.

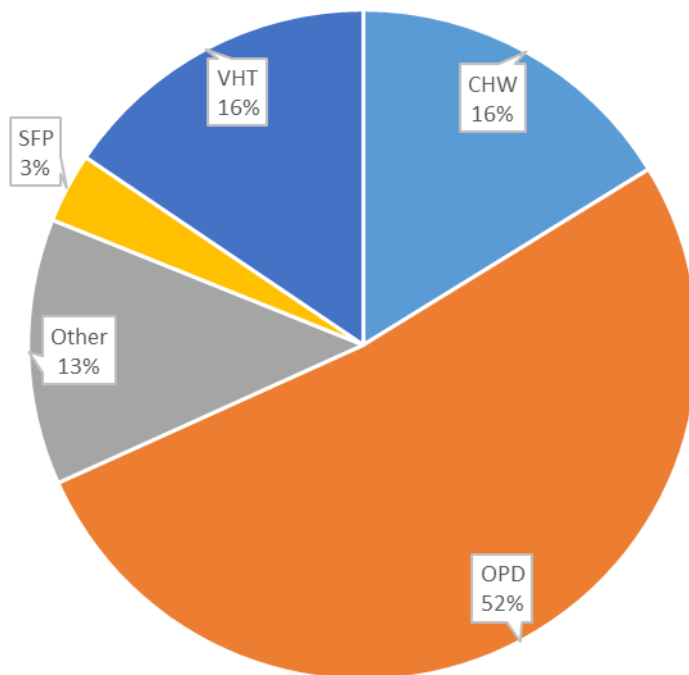
Several cases in our sample were admitted at below 12cm, indicating delayed case finding. This is also indicative of the transition between OTP and SFP, whereby patients are recorded as a new admission, and so it is likely that these cases have transitioned between the programmes. This demonstrates good case retention and efficiency of the programmes. One case was found at 10.7cm, this indicates a mistake made in either recording or in admission.

There is indication of preference for measurements of 12cm, suggesting strong digit preference for multiples of 5.

2.3.4 SOURCE OF REFERRAL TO OTC/SFP

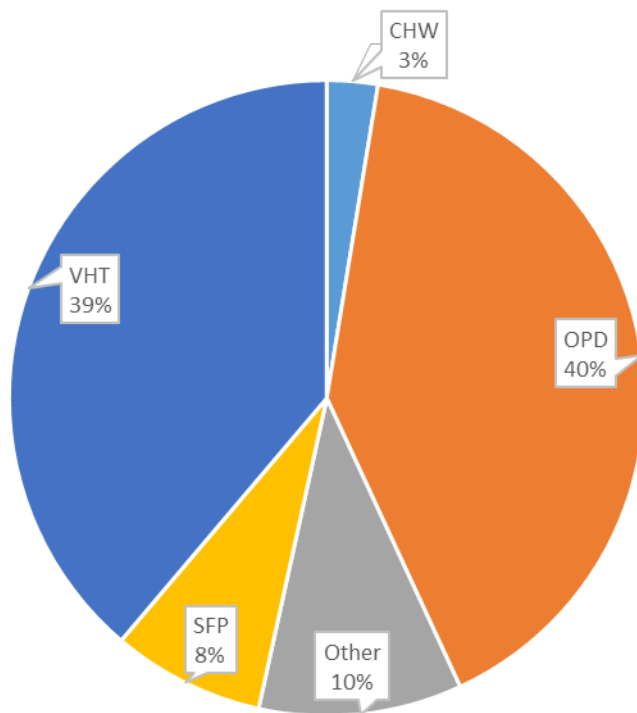
The sample of data taken from health facilities was also useful in demonstrating where cases were referred from for OTC and SFP. The data for SFP and OTC was aggregated as it was similar, however the host and refugee data was disaggregated to reflect differences in recruitment for the programmes. The aim of conducting this analysis was to investigate the referral mechanisms, and analyse if some referral mechanisms are more powerful than others in the different populations.

Figure 9 Referral Source Host Community



52% of host community admissions come from OPD, whereby they are admitted to the programme as they have presented with another illness. 16% of admissions come from CHWs, which is indicative of the positive impact of community screenings, this is much higher than in the refugee population where only 3% of referrals are by CHWs, suggesting that this community outreach component is stronger in the host community. The number of referrals by VHTs in the host community (16%) are much lower than in the refugee communities (39%), reflecting the difference in the allocation of resources to the host communities and the number of active VHTs present.

Figure 10 Referral Source Refugee Community



Similarly to the host population, a large proportion (45% OTC and 53% SFP) of admissions were referred through the Out Patient Department (OPD) meaning that cases have been identified and referred when they seek treatment for other illnesses. This is encouraging as it suggests positive screening practices at health facilities for malnutrition, however it also displays late treatment seeking behaviour from the carers, possibly due to a lack of awareness that their child is suffering from malnutrition. The second largest proportion (28% OTC and 19% SFP) is from VHTs which is positive as it indicates good case finding within the communities. It is likely that the proportion of referrals made by VHTs is higher, however once at the health centre, they are misreported as caregivers can forget to take the referral slip. The number of referrals made by CHWs is low (3%) suggesting that health worker outreaches to the community are infrequent.

Figure 11 Length of Stay (OTC) January-December 2016 (n=106)

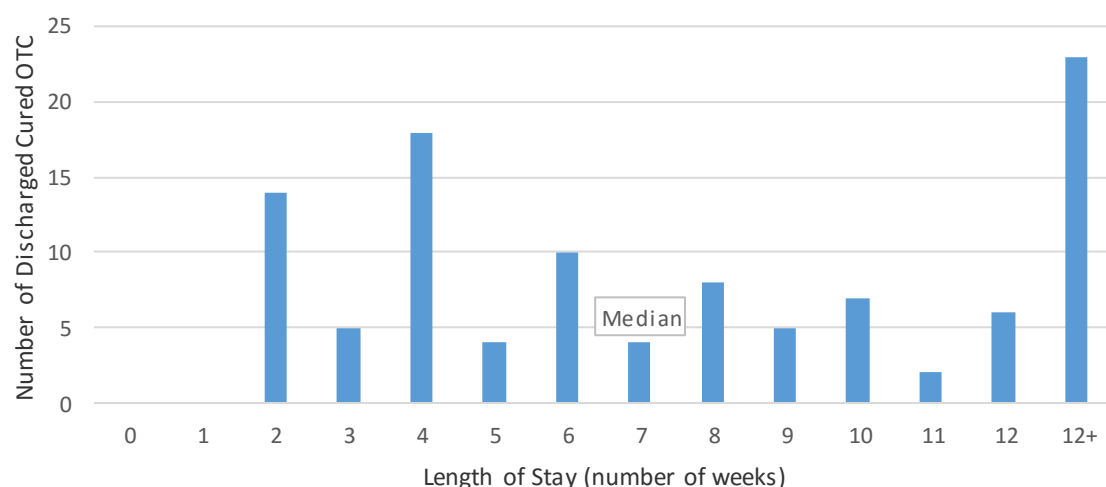
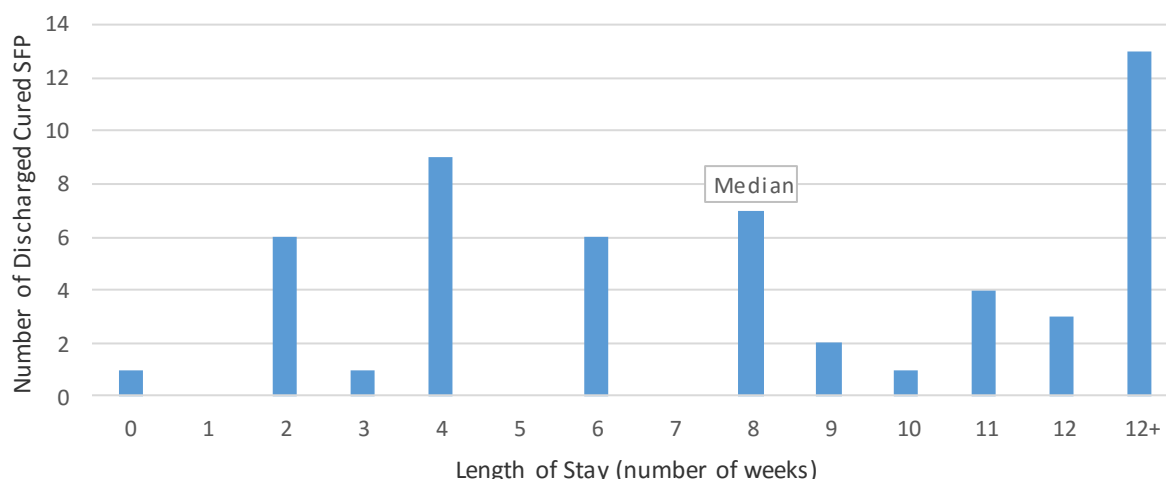


Figure 12 Length of Stay (SFP) January-December (n=53)



The majority of cases for both OTC and SFP exceed a stay of over 12 weeks which exceeds the recommended length of stay (LOS) national standard of less than 60 days (approximately 8.5 weeks) for OTC and less than 90 days (approximately 13 weeks) for SFP programmes. The significant number of cases exceeding a 12 weeks may indicate that correct treatment protocol is not being observed. For example, observed selling and sharing of nutrition commodities is extending the time needed in the programme. A length of stay of this duration is concerning as it will increase the likelihood of defaulting and raise programme costs. The median LOS however for OTC (7 weeks) and for SFP (8 weeks) is in line with the Uganda IMAM guidelines.

A long length of stay has implications on coverage. It is more likely to result in defaulting as caregivers see no improvement in the nutrition status of their child. It also poses consequences to programme resources, as it takes a bigger supply of therapeutic food to cure a child.

2.4.1 DISCHARGE OUTCOMES

Discharge outcomes were plotted over time, and in parallel with the seasonal calendar. Electronic data was available for all months of the year although gaps did exist, specifically in missing MTI data for Ayilo II for the months of October and November and Ayilo I in December. All of the data presented in these charts came from the electronic databases compiled by Action Against Hunger and MTI.

Figure 13 Discharge Outcomes of OTC programme for all Health Centres

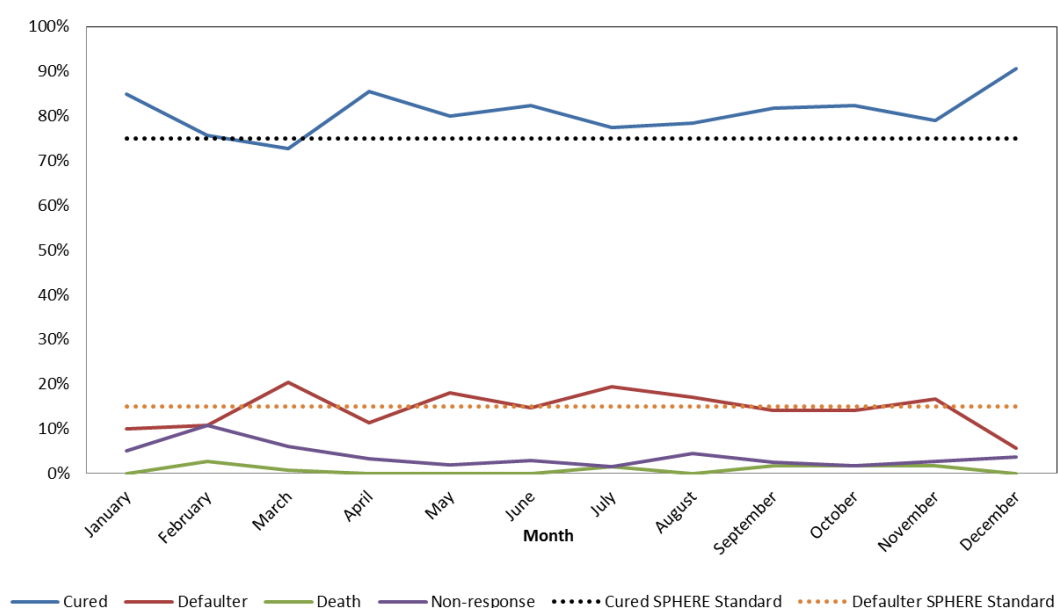


Figure 13 demonstrates that, for the majority of the timeframe, ACF and MTI are successful in achieving cure rates in line with the Sphere standards of 75%. Cure rates were found to be particularly high in April and December with rates of 85% and 91% respectively, with a decrease in defaulters during this period. Cure rates rose to 85% (the same as January) in April and maintained a steady rate of above 75% the rest of the year. There is little impact of seasonality on discharge outcomes, however small increases in defaulting were seen in March, May and July. The slight increase in defaulters in March was likely to be due to the distribution of fresh food vouchers halting temporarily, which caused some mothers to stop attending the OTC. The increase in defaulters in May is most likely attributable to the stock out of RUTF that was recorded, and the increase in July was caused by movement of refugees between health centres as this was the peak of the refugee influx. Further investigation was conducted through analysing the discharge outcomes by health centre (see Figure 14).

Figure 14 Discharge Outcomes OTC by Health Centre

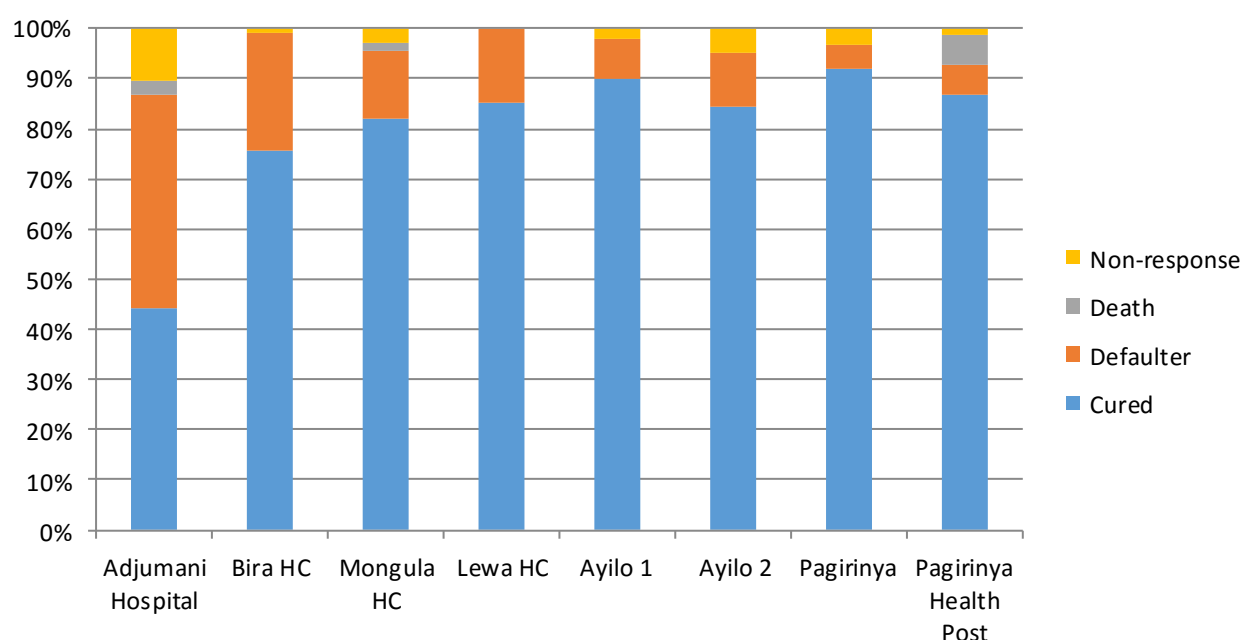


Figure 14 shows that Adjumani had a particularly high default rate (43%) and a particularly low cure rate (44%) when compared to the other health centres and international standards. Further analysis of electronic data found that Adjumani hospital saw a drop in cure rates (55%) and a rise in defaulter rates (31.67%) during March which was the lowest performance of all the health centres and accounts for the overall drop in during this time. Bira also saw a high default rate of 27.2% during the month of March.

Analysis of discharge outcomes per health facility also revealed that Adjumani had a period of low performance during the month of September. During this month defaulter rates overtook cure rates and peaked at 77.78%, with a cure rate of only 5.56% (death 11.11% and Non-Responder 5.56%).

Further investigation of individual defaulter cases in Adjumani hospital, show that of our sample, all of these cases are refugees living in settlements. We were unable to access the inpatient records to verify, however triangulation through interviews with ACF staff indicated that these cases had been inpatient cases, and transferred to OTC services when well enough. At this point, they had self-transferred to health facilities closer to their settlement, however this was not recorded in registers, but instead recorded as a defaulter.

Figure 15 Discharge outcomes for SFP programme for all health centres

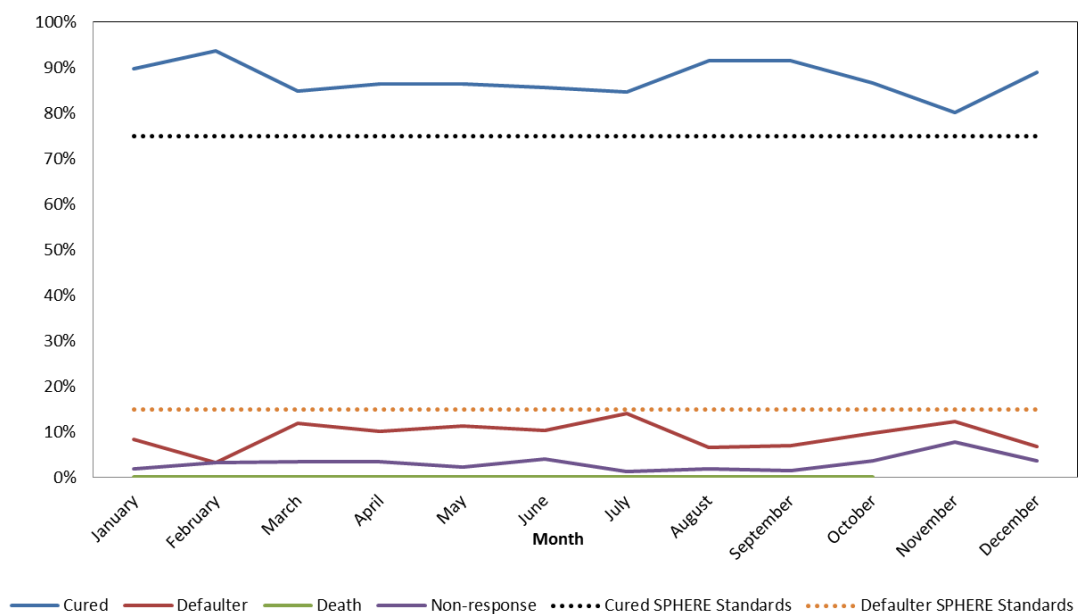
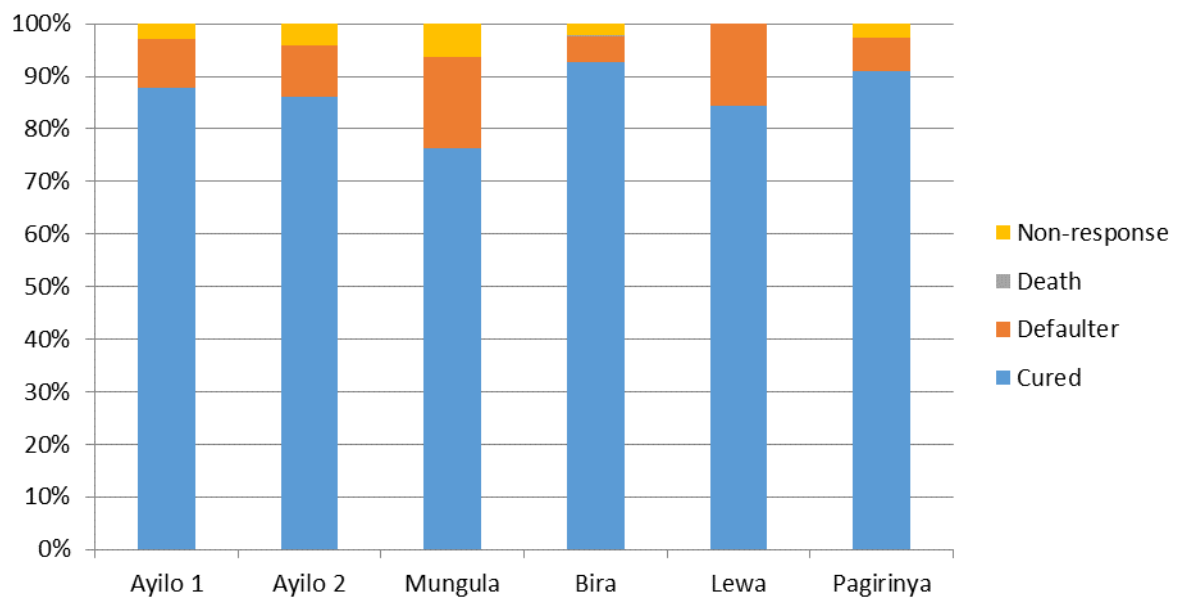


Figure 16 Discharge outcomes SFP by health centre



Both figures 15 and 16 show that the SFP component was successful in achieving relatively high cure rates and never dropped below SPHERE standards (75%). Figure 7 shows that a rise in defaulters and a drop in cure rates occurred between February and March (from 94% to 85%). This corresponds with a CSB++ stock out that occurred during February for 3 weeks, resulting in defaulters. During this time, health workers sent children home after giving counselling, and when CSB++ was available again a major follow up and community dialogued infinitive was launched. Interestingly, cure rates were steadily maintained and did not begin to rise again until July suggesting the follow up was not successful in returning all cases that

left after the stock out to the programme. However, the cure rate was maintained at the relatively high level of 85% during this period.

2.4.2 DEFAULTERS

Figure 17 Defaulters over time (OTC)

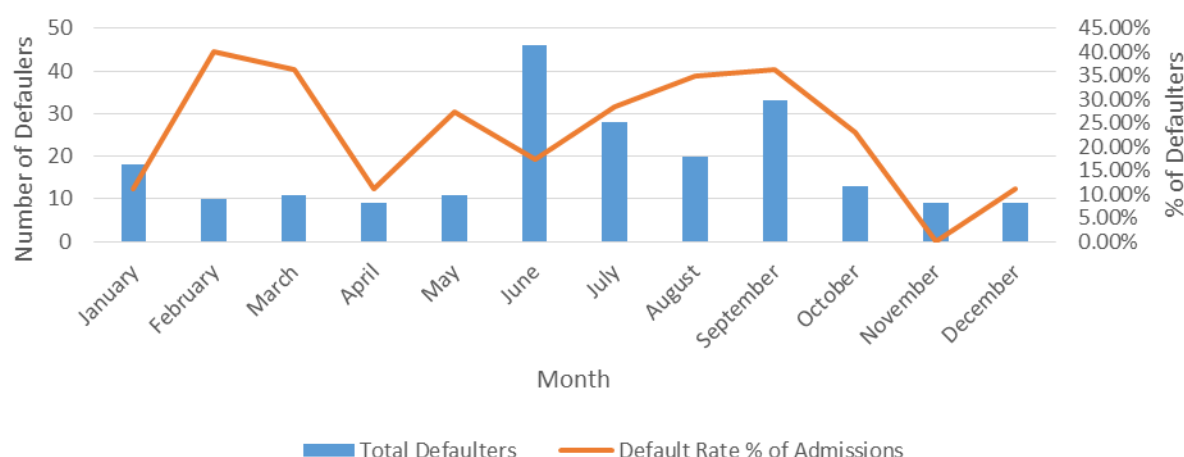


Figure 17 shows that the number of overall defaulters was highest in June and September in the OTC programme, this is most likely attributable to the refugee influx leading to high admissions, and the subsequent movement and transfer of refugees to different health centre catchment areas. Stock outs also occurred in May and October. The increase in defaulting in June could be attributed to this, however no difference in defaulting was seen in October/November.

The small sample size of the SFP defaulters (n=11), made analysis less useful than for OTC, and therefore it was decided not to include this data in the analysis for Stage 1.

2.4.3 TIME TO DEFAULT

Figure 18 OTC Time to Default

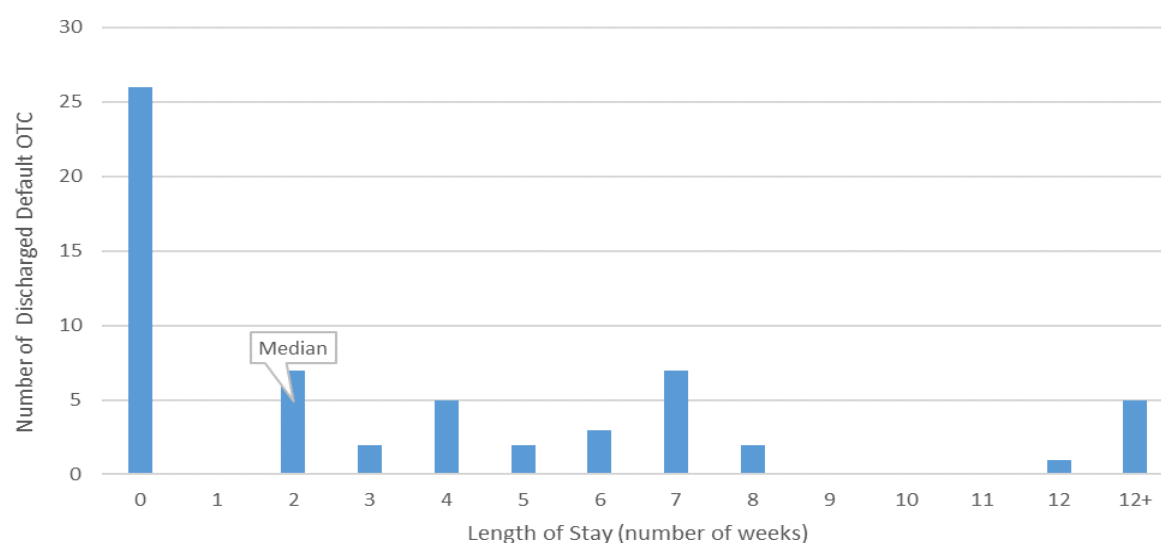
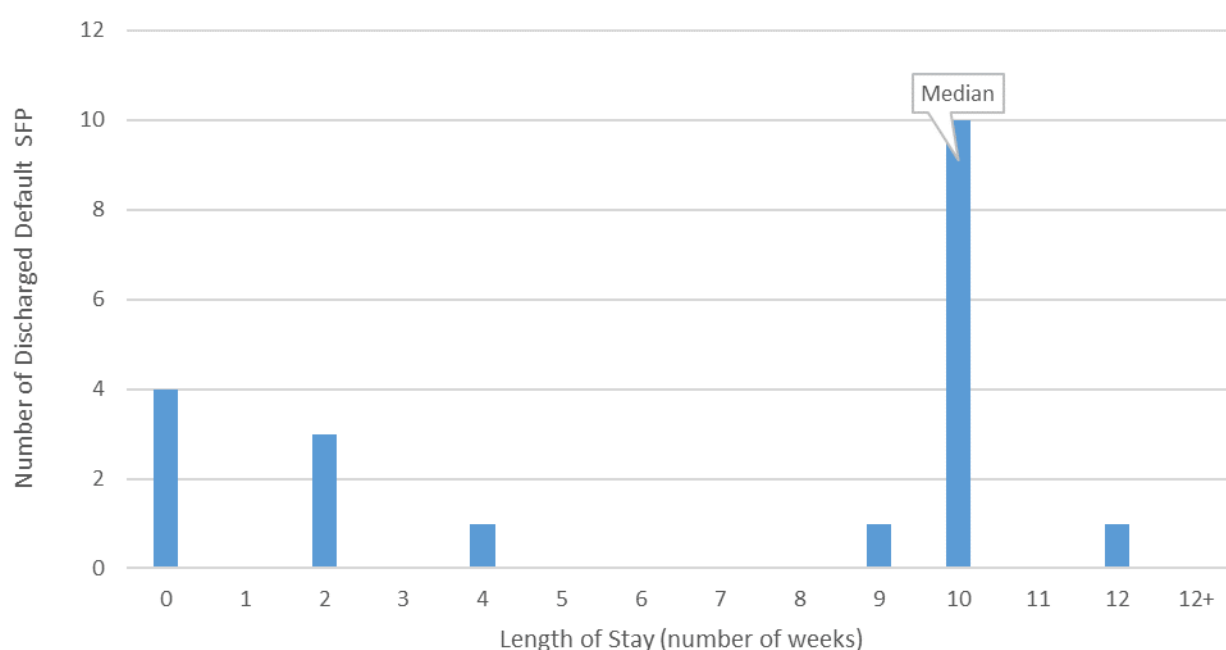


Figure 18 shows that the vast majority of defaulting occurs after the first visit at the health facility. Triangulation with qualitative data and through further investigation into the date of default, the majority of the defaults happened during the influx (July – October 2016) and so this could be attributed to the transfer of refugees from transit centres to more permanent settlements. Out of the 26 defaulters who defaulted in the first week, 13 were admissions at Adjumani hospital, suggesting they had been transferred from the inpatient unit (ITC) to outpatients. Further qualitative data collection with health workers at Adjumani hospital confirmed that these cases had returned to settlements and villages and started treatment in health centres closer to their homes. The same response was given by health workers at Bira Health Centre, where there 5 defaulters at one week.

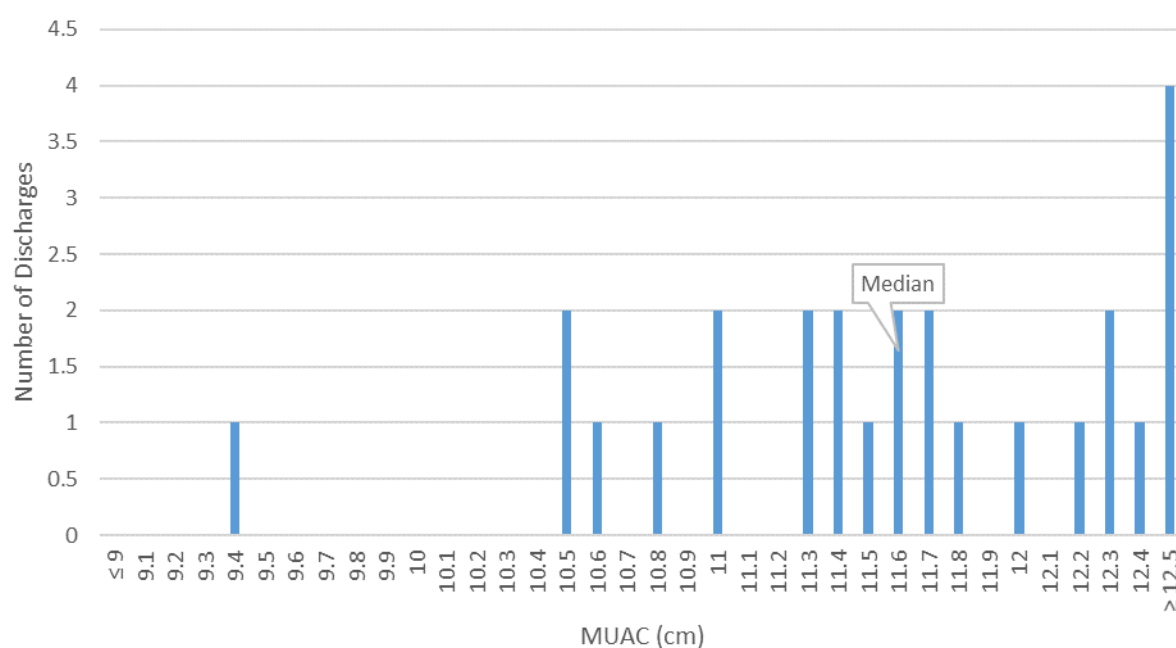
Figure 19 SFP Time to Default



The SFP component differs from OTC in that the vast majority of defaulters in the sample occurred at 10 weeks. This suggests that defaulting is occurring after caregivers have observed an improvement in their child's condition and do not feel they need to return to SFP to complete treatment. This also links with the long length of stay which can result in a greater likelihood of defaulting.

A further review of defaulting was achieved by analysing MUAC on last visit to observe at what stage during treatment most children are defaulting. There was a significant number of cases that did not have a MUAC score recorded on exit, which makes analysis difficult.

Figure 20 OTC MUAC at Default



The majority of cases defaulted with a MUAC of 12.5cm and above suggesting that these were cases that were weight for height admissions who had defaulted. Of the total sample 46.1% defaulted at 11.5 mm MUAC and below which is concerning as shows that the children were still SAM cases (38.4% defaulted still in MAM).

The small sample size of SFP cases gives us limited information on the stage at which cases default, so it was decided not to include this in the analysis.

2.5 OBSERVATIONS OF DATA RECORDING AND KEEPING

An analysis of OTC (n=227) and SFP (n=78) register admissions from 4 different sites from January – December 2016 was conducted in order to triangulate findings from the electronic data (MUAC on admission for example) and to evaluate the quality of data records from the source, as well as adherence to protocols.

The registers are neat and the different elements are easy to read, making each case's progress easily trackable. Sometimes however, the final MUAC is not recorded, this prevents us from identifying cases as cured or default, and often WHZ measurements were not taken or recorded. Another observation noted is the irregularity in return times, whereby patients are not returning on the same day each week. There were also a number of incorrect recordings and cases admitted incorrectly, whereby cases did not meet admission criteria, yet were accepted into the programme.

2.6 GENERAL OVERVIEW OF QUANTITATIVE DATA ANALYSIS

The fluctuations throughout the year are correspondent with the events of the seasonal calendar. In both SFP and OTC, approximately a quarter of admissions were by weight for height, the remainder were MUAC. Considering the quarterly mass screening of all children using weight for height, and that screening with weight for height should be conducted at all

contact points in the health facility, it would be expected for weight for height to make up a higher proportion of admissions.

Referral sources were different for the host community and refugees, in refugee communities, referrals by VHTs are more than double than in the host community, indicating that VHTs are less active here.

Discharge outcomes for OTC are largely within Sphere standards, however, disaggregation by health facility showed that Adjumani Hospital has extremely high default rates at 43%. This is most likely due to transfers from the programme that are recorded as defaults rather than transferred out.

3.0 QUALITATIVE DATA COLLECTION AND ANALYSIS

Qualitative data was collected to complement and provide further information on the quantitative data collection.

The findings from stage 1 are indicative that the community perceptions of the IMAM programme are the same for both SFP and OTC services. There was little difference in the factors that affect programme uptake, both negatively and positively. Therefore, boosters and barriers have been grouped together and differences in the programme components have been highlighted where necessary.

Table 4 Positive and Negative Factors to Coverage

Both positive and negative factors	
Awareness of IMAM programme	Community members were asked where they would first seek help for a child that is malnourished. The following was discovered. • Most of the respondents could not reference the IMAM programme directly or indirectly; • Men and local leaders were least aware of the programme. • Lack of awareness amongst some VHTs. For example, VHTs in Biyaya Central and Mudruangwa did not know about the IMAM programme • The lack awareness regarding the IMAM programme was more common in host communities than refugee settlements. Conversely, there was also good awareness of the IMAM programme, particularly in refugee settlements. There are strong community mobilisation components which mean that there is a general awareness, although often a deeper understanding was missing. For example, differences between the treatments for SAM and MAM were not understood. Often the awareness was higher in caregivers and particularly when there is an active VHT in the area.
Awareness of treatment	Informants were asked if they could explain the course of treatment (including the procedures and the length of treatment for MAM/SAM).

protocol, assessment means and SAM and MAM	Some of the key findings included: • Some VHTS and caregivers did not have a good awareness of treatment protocol. • Several caregivers could not identify a MUAC tape and similarly had not had children measured by VHTS. For example, VHT informants in Pagirinya refugee settlement and in Biyaya Central who could not identify RUTF and could not explain the difference between MAM and SAM. However, there were also many instances in which a good knowledge of nutrition assessment was found amongst health workers, VHTs as well as from a variety of other sources including mothers, religious leaders, community leaders, men/fathers and teachers. A specific example is during focus group discussions in Zoka and Tanyaka in which mothers could describe the appearance of RUTF as well as identify the purpose of MUAC tape and height board.
Sensitisation and screening	It was found that sensitisation of caregivers by VHTs and health workers was a positive factor for improving coverage through increasing awareness of malnutrition. Health talks in which signs and symptoms of malnutrition are explained are carried out in health facilities, including when caregivers attended OPD and VHTs also conduct sensitisations in the community during screening activities. There are additional sensitisation activities at the monthly general food distribution days. However, despite community screenings (particularly in refugee settlements) taking places regularly, many key informant groups indicated that poor sensitisation towards malnutrition existed, resulting in a lack of understanding of why their children are being screened. This was founded in a lack of awareness of malnutrition which could result in less mothers identifying the need to refer their children for treatment.
Screening in the health facility	The Uganda guidelines for Integrated Management of Acute Malnutrition state that children should be screened using both MUAC and WHZ at all contact points in the health facility. The VHT however would only take WHZ if the MUAC was <12.5 indicating a disjoint between policy and practice. Screening for malnutrition at all contact points was identified as a positive factor for coverage. Specifically, it was found that screening was conducted when children are taken to the health facility for other health problems, as well as VHTs conducting door to door and mass screening in the community.
Activity Levels of VHTs	Respondents were asked if screening had been conducted in the community and if so how this was conducted. It was confirmed that regular community screening (both door to door and mass screening) do take place, and this is perceived as effective factor in identifying malnutrition. This was triangulated by a wide range of sources including mothers, fathers, VHTs, health workers, children and community leaders. However, there is a lack of parity in screening activities, and most door to

	door and mass screenings take place in refugee settlements. This has resulted in varying levels of VHT activity and thus awareness with VHTs. In host community areas, community members stated that VHTs are only active when it comes to distributing drugs and immunisations, and do not screen for malnutrition. Other community members were not aware of the existence of VHTs in the community, this was more pronounced in the host community, in some villages, there are no trained VHTs.
Awareness of malnutrition	Overall, knowledge of symptoms of malnutrition was found to be good. Mothers of children both in and out of the programme were best able to identify symptoms, which is positive in showing that caregivers can identify and understand malnutrition. It was found however, that often the symptoms of the most severe wasting were identified, and the less severe were not included in descriptions. Some caregivers were unable to demonstrate any understanding of the signs and symptoms of malnutrition, suggesting that caregivers would not know when their children required treatment. Community members and VHTs were asked to list signs and symptoms of malnutrition but could not always identify these in detail all cases. This may be because they are identifying cases of malnutrition that are more severe, and not relating the moderate symptoms to malnutrition.

Table 5 Negative Factors to Coverage

Negative Factors	
Malnutrition not prioritised	A theme that emerged during the Stage 1 qualitative research was that the treatment of malnutrition was not prioritised by some caregivers. For example, mothers were often aware of the signs, symptoms and causes of malnutrition as well as the services available but did not feel malnutrition was significant enough to seek treatment. This differs from opportunity cost in that mothers did have the time and resources to seek treatment. A recurring example was mothers stating that they forgot their appointment times and health staff reporting that they often did not return at the appropriate times.
Poor environment at the health facilities	Health workers reported that the poor environment at the health centre is a barrier to coverage. This specifically referred to a lack of shelter in the screening area which caregivers attending had to wait out in the rain or sun for long hours whilst awaiting assessment. Observations by the SQUEAC team confirmed that waiting areas are open to the elements. On one day, it was also observed that caregivers did not attend the health facility until after the rain had finished meaning programme times were much later than usual.
Long screening process leads to long waiting times	Health workers, VHTs, community leaders and women with children in the programme identified long screening processes and waiting times at health centres as a barrier to coverage. Long waiting times, especially when combined with a lack of proper shelter at health facilities, was reported to

	deter the regular attendance of caregivers. For example, caregivers would often have to take the whole day out to attend screening or follow up treatment and were not seen on a first come first serve basis.
Preference of refugees over nationals at HF (and poor attitude of HWs)	There were instances where refugees have received preference over Uganda nationals from host community in health centres. Informants included mothers, host community leaders, host community fathers and health workers. For example, one community member said that a health worker in Pagirinya told her that they would only accept refugees into the programme, and not nationals due to a lack of resources.
Stock outs of CSB and RUTF	Stock out of CSB and/or RUTF as a key barrier to coverage. Stock outs were reported to break down trust with caregivers in the community and result in defaulters due to people not returning after stock out. It also prolonged the length of stay and caused non-responders due to gaps and inconsistencies in treatment. Stock outs of CSB++ also occurred in February 2016 for a period of 3 weeks. The process in the instance of a stock out is to send the mothers/children home providing counselling, and to launch major community dialogue when stock is back in to inform the caregivers and bring children back in for treatment. The reasons for stock outs differ, with RUTF stocks outs resulting from reporting errors and a lack of communication between departments; the health centre, the district and UNICEF. Stock outs of CSB++were experienced because of a pipeline delay that was not in the control of the health centre or district or due to any reporting error.
Movement of refugees making tracking hard and causing defaulters	Movement between settlements is common amongst refugees and was identified as a key barrier by health workers, community leaders and mothers of children in the programme. For example, a community leader from Olua said that movement occurs in his settlement as some families seek better services in other settlements. Two health workers from Bira health facility identified the movement as a major reason for defaulting amongst children in the programme. The main issue is that it is hard to track refugees between settlements and health facilities so it is very hard to determine if a child has returned to treatment. If a health centre is able to identify a new admission as being from another health centre the health workers will communicate and the case can be updated as referred rather than defaulted. However, this is rare. Mothers are also aware that they are not supposed to move between settlements and so will not declare if they are a transfer. This is believed to affect coverage primarily as it is hard to determine if refugees on the move default or continue treatment. Preference for different treatment also causes movement of refugees, for example, some women go to Juba children's hospital for treatment as they prefer the medicines available there.
Distance	Although all the health facilities in the catchment area are within the distance outlined within the Uganda Guidelines it was nonetheless

	highlighted by mothers, health workers, VHTs, men, teachers, and local leaders as an aspect that affects coverage. Although within the regulated distance, many caregivers still had to walk many kilometres to reach the health facility. For example, in Zoka Itirikwa a mother of two children defaulted from the programme because the distance to Mungula health facility was too far to travel (8km).
Opportunity costs	Household and or community commitments prevented caregivers from seeking treatment due to lack of time and capacity. The main activities that prevent caregivers taking their children for treatment were agriculture and household activities. Agriculture was reported to be a primary barrier during the rainy season between April and May in which the mothers are busy in the fields (or kitchen gardens for refugees) and do not take their children to the health centre.
Stigma	SAM is a more visible condition and so is more prone to stigma, however the prevalence is very low in Adjumani, and therefore it is a rare phenomenon there. There was some evidence of stigma regarding malnourished children experienced by caregivers in settlements and the host community. This included malnourished children being hidden by mothers as they are worried about being berated by others for not caring for their children. For example, it was reported that healthy children were not allowed to play with malnourished children as mothers were scared this would also make them sick, which indicates a lack of awareness as well as stigma. Further to this there was also a report by women in the catchment area of Mungula health centre that health workers complain that when they bring children in for screening and they are classified as MAM, they are not caring for their children. Therefore, although stigma is manifested differently for the two conditions, the team believe that the impact on coverage is similar for both SAM and MAM.
Lack of male involvement in childcare	It was found that men in the area tend to be significantly less involved in childcare, and it is primarily seen as the job of women in the community. Men in the community were asked who is responsible for taking children for treatment, and although there were isolated reports of a father involvement, it was found that the vast majority of men do not take on this role. This is a barrier when considered alongside the other activities that mothers are responsible for, such as agriculture and household activities, as it increases the burden on mothers. They are less likely to have time to take their children for screening and to continue weekly programme visits, if they are busy with their other commitments, and thus negatively impacting coverage.

Sharing of therapeutic feeds	The sharing of CSB++ was reported to be common at a household level in Adjumani. This was caused by caregivers having a lack of understanding on the importance of using exclusively for malnourished children, as well as a lack of food available, particularly for refugees. For example, since July 2016, refugee communities have had their rations cut from 14kg to 6kg per person per month. There is also reported sharing of RUTF, however this is not as prevalent as CSB++ is the most common therapeutic food due to increased recipients of SFP programmes.
Selling of nutrition commodities	As reported by health workers, VHTs, community leaders and a group of mothers during a FGD; nutrition commodities are sold on the 'black-market' and can be easily bought at the local market for approximately 5000 shillings. One reported motivation for this was that some grandmothers in the community like to mix CSB++ into their food as they believe it is good for them. Mothers also sell CSB++ and use their earnings to buy meat, to provide dietary diversity for their children.
Lack of Transport	There is a lack of transport for both health workers to reach the community for outreach and for community members to reach the health facility, suggesting a gap in the accessibility of treatment and the connection between HF and community. For the community members and refugees, a lack of access or financial resources for transport means that they have to walk a reasonable distance to reach the health facility.
Incorrect referrals by VHTs resulting in rejection at the health facility	Qualitative data collection demonstrated incidences of incorrect referrals or misdiagnosis of SAM and MAM. Caregiver's frustration of screening process, one mother explained that sometimes, when VHTs refer children to the health facility, the health workers say the child is fine and send them back to the community. This results in mothers losing trust in screening and do not abide by future referrals. It was also found that some caregivers who have their children screened often, refuse future screenings as they have not received treatment (as their children were not malnourished). This indicates a lack of sensitisation, understanding of the process and belief in the process and reasons for regular screening.

Table 6 Positive Factors to Coverage

Positive Factors	
Follow up of clients In community	Evidence was found that the follow up of clients in the community did occur. This was primarily reported by health workers and VHTs as being an effective component of in preventing defaulters and ensuring proper treatments. This was corroborated by mothers in certain areas, for example in Pagrinya where a mother recalled that VHTs were following up on children enrolled in the IMAM programme.

4.0 STAGE 2 – TESTING THE HYPOTHESIS

One hypothesis was developed based on the assumption that the OTC and SFP programmes are integrated.

4.1 HYPOTHESIS

Areas with trained, active VHTs will have high coverage (>50%), areas with untrained, inactive VHTs will have low coverage (<50%).

4.2 JUSTIFICATION

During Stage 1, the team had reason to believe that VHTs have an impact coverage.

- There are host villages with no active VHTs, and also one settlement which has areas with no VHTs (training of VHTs begun during the assessment).
- There are VHTs who are actively screening with MUAC on a monthly basis in refugee settlements (Boroli, Mungula).
- Reflected in the higher number of admissions made through OPD days in the host community, and more admissions made through VHTs in refugee populations.
- VHT screening data demonstrates availability of data for screening in refugee settlements, but not host communities.

4.3 SAMPLING

Sampling was done in 2 stages; village/settlement block sampling and sampling of SAM and MAM children in each village/block.

Six villages/blocks were selected that fulfilled the hypothesis criteria. Three with no documented VHT activity and 3 with documented VHT activity, verified through cross analysis of VHT screening data.

VHTs in selected areas were also given questionnaires (appendix 6), with the aim of gaining a further understanding of their activities. See section 4.9 for a summary of this.

4.4 METHODOLOGY

A team of 16 people (four from the core team and 12 additional enumerators) sampled the 6 villages over the course of 2 days. In each village, door-to-door case finding of SAM and MAM children was conducted to ensure that all malnourished children (both in and out of OTC and SFP programmes) were found. All team members were experienced in anthropometric measurements (MUAC screening, oedema, weight/length and height measurements, reading MOYO charts), however they were re-trained in diagnostic measurements. They were also given training to ensure that all cases are found, and provided with packets of RUTF and CSB++ to facilitate the identification of cases that are in the programme.

At each household, all children 6-59 months were first measured by MUAC. For all children with MUAC measurements less than 15cm, WHZ measurements were then taken, which required taking the child's weight using an electronic Salter scale and height (or length if under 2 years of age) using a height board. Z-scores were designated using the WHZ Moyo chart. Children were classified as SAM if they were SAM by any measure (MUAC less than 11.5cm, WHZ < -3SD (standard deviations) or presence of oedema), and MAM if MAM by any measure (<12.5cm MUAC or ≥ -3 and < -2SD) but not SAM.

Table 7 Definitions of SAM and MAM according to Uganda IMAM guidelines

Age Category	Nutritional Indicator	Moderate Acute Malnutrition (MAM)	Severe Acute Malnutrition (SAM)
Children from 6-59 months	Weight for Length/Height (WFL/H)	Greater or equal to -3 z-score and less than -2 z-score ($\geq -3SD$ & < -2SD)	Less than -3 z-score (< -3SD)
	MUAC cut-off	Greater or equal to 11.5cm and less than 12.5cm ($\geq 11.5cm$ & < 12.5cm)	Less than 11.5cm (< 11.5cm)
	Bilateral pitting oedema	No bilateral pitting oedema	Presence of bilateral pitting oedema

Recovering cases: children found to be enrolled in a programme but have recovered from MAM or SAM. These cases have been successfully treated for MAM or SAM, but have not yet been discharged from the SFP or OTC. The recently released 2016 IMAM guidelines state that a child may be discharged as cured once it presents with a MUAC of 12.5 cm or more for two consecutive visits. Therefore, a child will be a 'recovering case' for two to three weeks at the end of their treatment.

4.5 RESULTS

Table 8: Stage 2 SAM Cases

Village/settlement	VHT Activity	SAM covered	SAM uncovered	SAM recovering	TOTAL SAM
Boroli C	Yes	0	0	0	0
Ayilo 2 E	Yes	0	2	0	2
Mungula D	Yes	0	2	0	2
Melijo	No	0	0	0	0
Pagirinya	No	0	0	0	0
Mgbere A	No	0	0	0	0

Table 9: Stage 2 MAM Cases

Village/settlement	VHT Activity	MAM covered	MAM uncovered	MAM recovering	TOTAL MAM
Boroli C	Yes	0	1	0	1
Ayilo 2 E	Yes	0	5	0	5

Mungula D	Yes	0	1	0	1
Melijo	No	1	1	0	2
Pagirinya	No	1	3	0	4
Mgbere A	No	0	2	0	2

4.6 ANALYSIS

For the analysis of the results simplified lot quality assurance sampling (LQAS) was done in order to obtain a classification of coverage, and to determine whether the hypotheses were confirmed or denied. The SPHERE standard for coverage of CMAM programmes in rural of 50% was used.

The following formula was used to determine the decision rule for the hypothesis:

$$d = \left\lceil n * \frac{p}{100} \right\rceil$$

d = decision rule; **n**= number of cases found and **p**= coverage standard defined

Table 10: Stage 2 Conclusion (OTC)

Areas with active VHTs (SAM cases only)	Conclusion	Areas with inactive VHTs (SAM cases only)	Conclusion
n = 4 d = 2 covered cases = 0 Meets d? No	Decision rule not met therefore coverage classified as being below the standard	n = 0 d covered cases = 0 Meets d? Inconclusive	Zero cases found, so inconclusive

Therefore, the hypothesis for OTC (villages/settlements with active VHTs) is rejected, as areas with active VHTs have low coverage.

Table 11 Stage 2 Conclusion (SFP)

Areas with active VHTs (MAM cases only)	Conclusion	Areas with inactive VHTs (MAM cases only)	Conclusion
n = 7 d = 3 covered cases = 0 Meets d? No	Decision rule not met therefore coverage classified as being below the standard	n = 8 d = 4 covered cases = 2 Meets d? No	Decision rule not met therefore coverage classified as being below the standard

Therefore, the hypothesis for SFP (villages/settlements with inactive VHTs) is denied, since areas with active VHTs have low coverage.

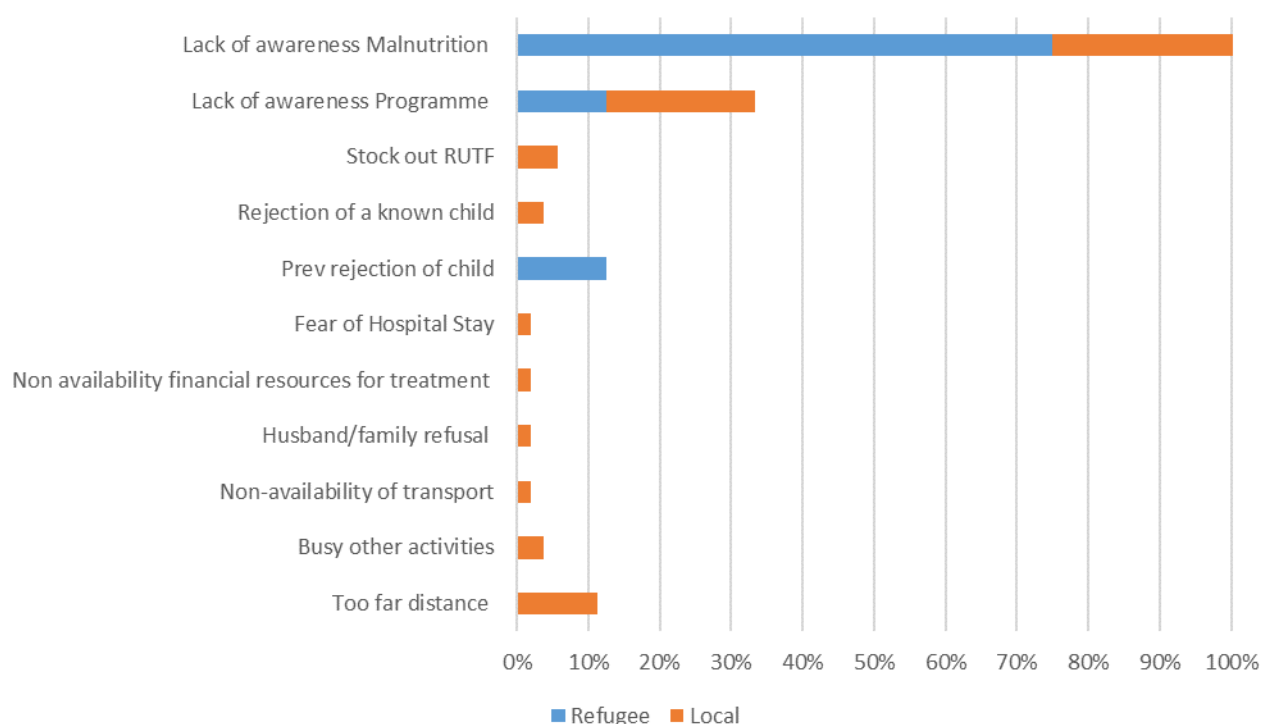
From the results of Stage 2, we can conclude that as the coverage standard has not been met for both OTC and SFP, it is likely to be uniformly low across the whole survey area. It was therefore concluded that we can proceed with the wide area survey knowing that coverage is uniform across the survey area.

4.7 REASONS FOR NON-ATTENDANCE

A simple questionnaire was also administered to all SAM and MAM cases found. The cases currently undergoing treatment were given the 'covered' questionnaire and the cases not under-going treatment were given the 'uncovered' questionnaire.

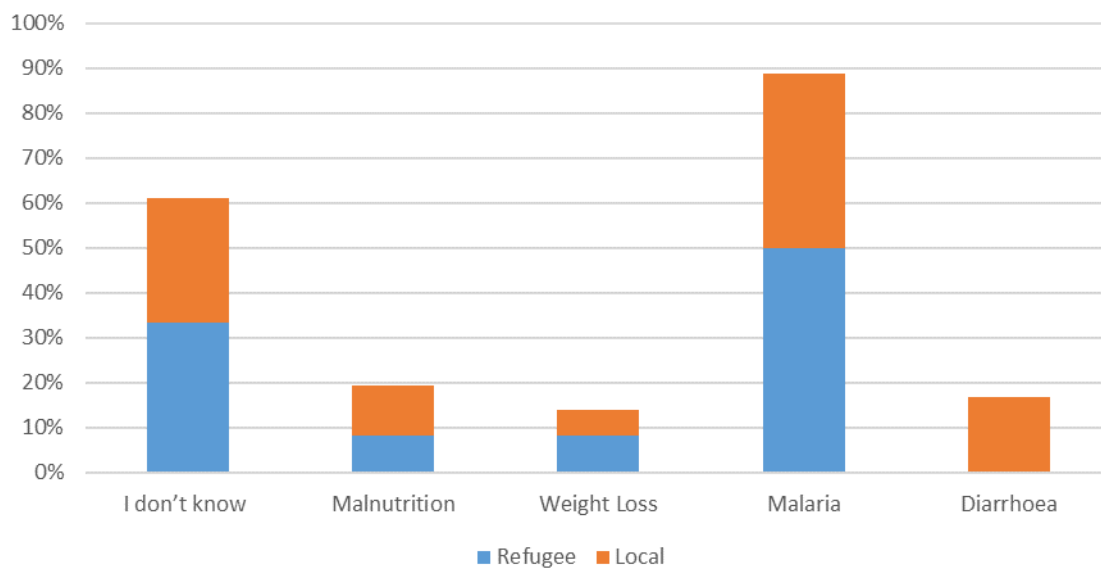
Due to the small sample size, and the similarity in results, SAM and MAM responses were grouped.

Table 12 Barriers to Access (SFP and OTC) for Stage 2



The majority of cases (n=8) were unaware that the child was malnourished. This relates also to a lack of understanding about recognising when a child is malnourished. This was more significant for MAM cases, which are less easy to recognise. In many cases, children had been to the health centre for treatment for other illnesses, such as malaria, however been screened for malnutrition using MUAC, and not WHZ, indicating that health centres are not systematically screening at all contact points.

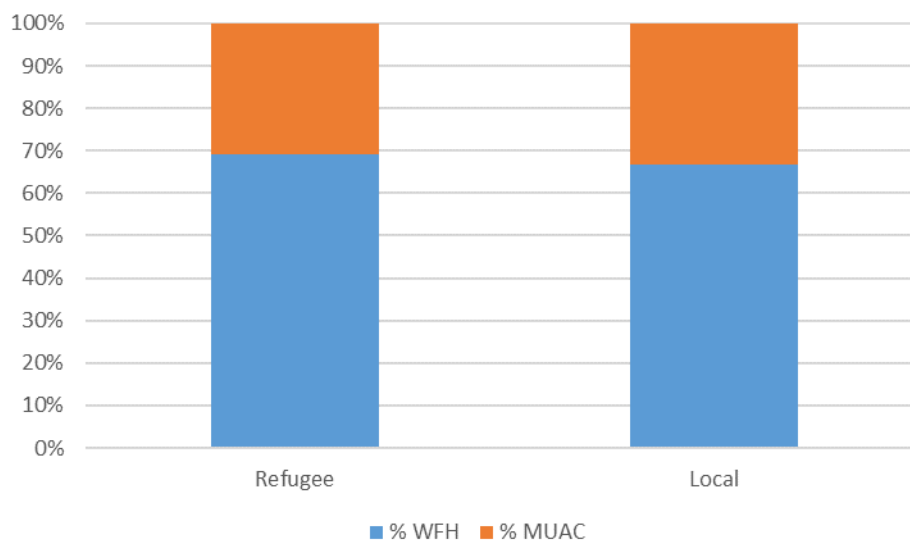
Figure 21 Reason for sickness



A high proportion of respondents attributed the reasons of illness to malaria, only 20% of respondents linked illness and malnutrition. 60% of respondents were unsure as to why their child is sick, correlating with the barrier of 'lack of awareness of malnutrition'.

From analysis of the anthropometric data collected, the majority (70%) of cases are identified through WHZ measurements. This indicates that there is a gap in screening protocol, where MUAC is predominantly used and therefore there are many cases that are identified on WHZ remaining in the community.

Figure 22 Percentage of Weight for Height vs MUAC admissions



4.8 VHT ACTIVITY

To build a further understanding of VHT activity in the community, additional questions were added into the questionnaire of covered and uncovered cases. They were designed to

provide a greater understanding of the awareness of VHTs and VHT activity levels, particularly screening.

Figure 23 VHT presence

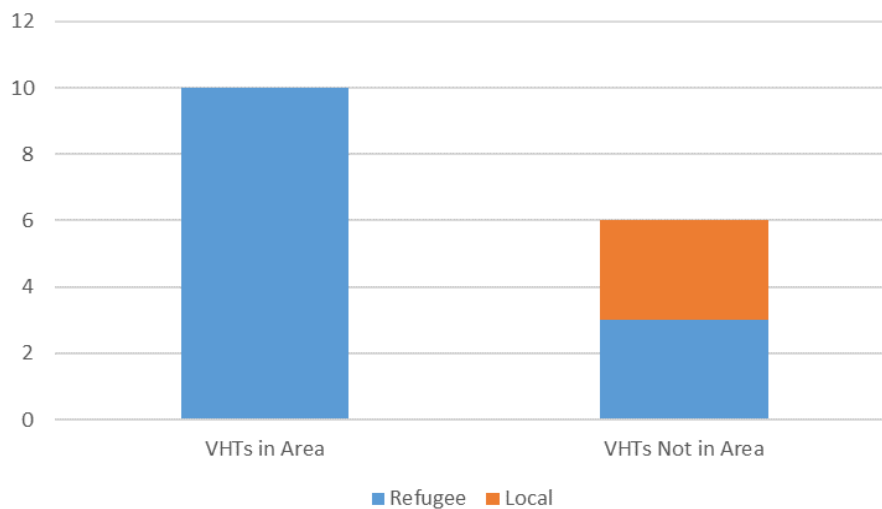
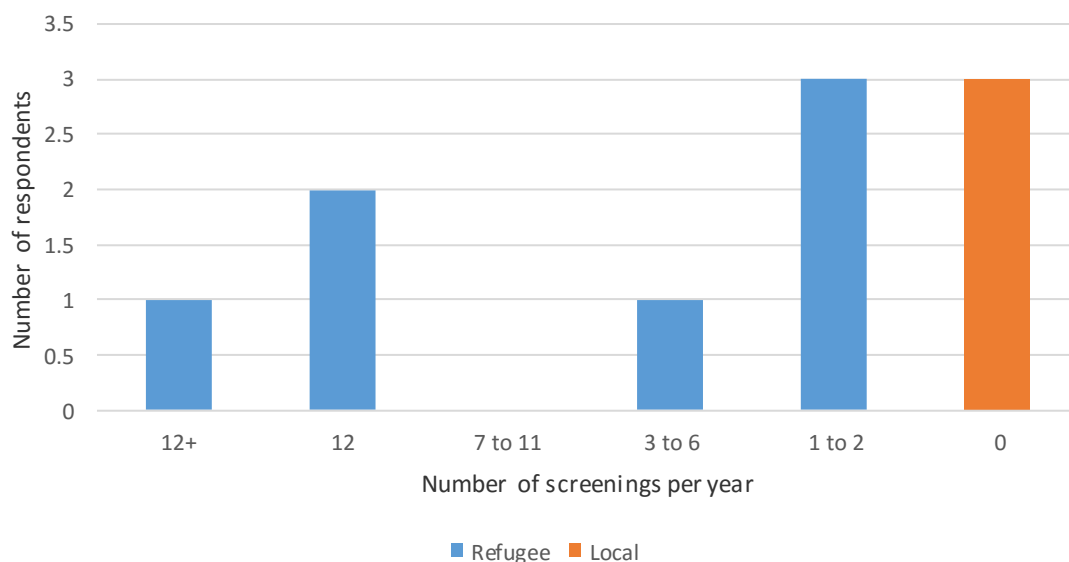


Figure 23 demonstrates that only refugee respondents were aware of VHTs in the community, the host community respondents were unaware of any VHTs.

Figure 24 VHT Screening Activity



Screening is more common in refugee settlements. All 3 respondents in the host community had not previously been screened for malnutrition, whereas 7 respondents had been screened at least once in the last year. However only one respondent had been screened monthly.

5.0 BUILDING THE PRIOR

A prior belief of coverage was developed using all of the information collected during Stages 1 and 2. Due to the integration of the SFP and OTC programmes, and that the information collected for these aspects of the nutrition services was similar, it was decided by the team to develop the same prior. Three methods were used; unweighted boosters and barriers, weighted boosters and barriers and a histogram of belief.

The following formula was used to calculate the prior:

$$\text{prior mode} = \frac{\text{sum of boosters} + (100 - \text{sum of barriers})}{2}$$

Simple Scoring of Boosters and Barriers

A prior was calculated through simple scoring of boosters and barriers. The boosters and barriers were listed and a score of 5 was given to each one. The sum of the scores of the boosters and barriers was then taken to calculate a prior mode. This method accounts for the quantity of boosters and barriers to influence the prior, not the relative importance of each. Table 13 lists the boosters which make a total score of 40 and the barriers which make a score of 115.

$$\text{Unweighted score} = \frac{40 + (100 - 115)}{2} = 12.5$$

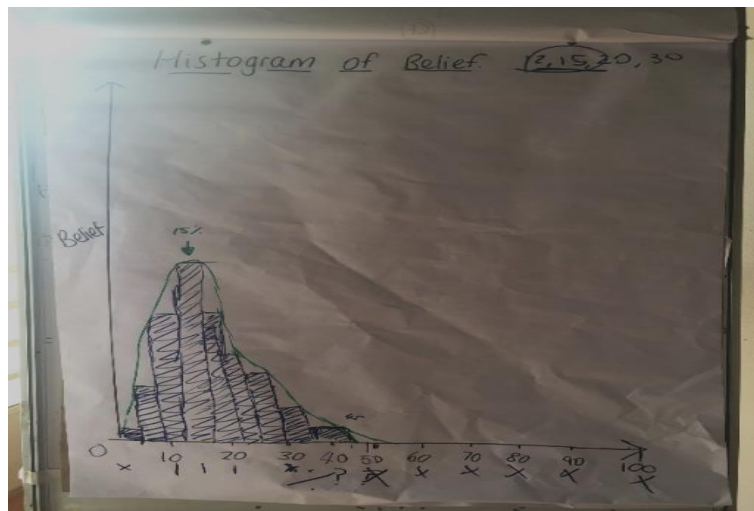
Weighted Scoring of Boosters and Barriers

Another method used to calculate the prior was to take the same list of boosters and barriers and give them a weighted score (between one and five) depending on their relative importance. The team worked together, having analysed all of the evidence from Stages 1 and 2, to allocate a score that represented the relative effect each factor has on coverage. For each factor, the following were considered; the prevalence of the factor, how much of the survey area it relates to, the strength of the evidence and how much impact it has on coverage. The team reflected on the evidence from the first two stages that was surrounding them on the walls. Using the total scores of the boosters (20) and the barriers (94), the same formula was used to calculate a prior mode for weighted boosters and barriers:

$$\text{Weighted score} = \frac{20 + (100 - 94)}{2} = 13$$

Histogram of Belief

A histogram prior was developed collectively in the classroom, each coverage value (x axis) was discussed, and a belief of whether coverage is likely to be that value determined (y axis). A prior mode, the most likely value for coverage, was determined at 15%.



Histogram of Belief

$$\text{Prior} = \frac{12.5 + 13 + 15}{3} = 13.5$$

Concept Mapping

Concept mapping is a graphical data-analysis technique that is useful for representing relationships between findings. Concept maps show findings and the connections (relationships) between findings in terms of boosters and barriers affecting coverage and are used to organise and analyse data. Terms such as 'increases/decreases, leads to, results in' are used to show positive and negative connections between factors that influence coverage. The team was divided into three groups to construct concept maps, each team fed back their findings and then each connection was counted. A positive connection is given a +1 value, and each negative connection is given a -1 value. These values are then added together to a total number of positive factors and a total number of negative factors. Following this exercise, it was decided that the concept maps introduced bias to the prior value, as they included boosters which were not overly triangulated (there were few sources and methods to substantiate the points). The scores that emanated from this exercise were deemed by the team to not be reflective of the programme, and therefore they were not included in the prior building. The maps however were useful in identifying areas that can be strengthened and built upon, and so were useful for building recommendations.

Table 13 Weighted and Unweighted Scoring of Boosters and Barriers

Boosters	Coding	Weighted	Unweighted	Barriers	Coding	Weighted	Unweighted
Good knowledge and awareness about nutrition assessment and awareness of differences between SAM and MAM	3b 2d 6b 6b 6b 6b 3b 2a 7b 4b 3b 5a 13a 2a 5a 2c 3d 4b 9b 1b 5a	3	5	Malnutrition not prioritised (and lack of clear instruction leading to mothers forgetting or not understanding when to revisit)	6b 3a 1a 2a 3b 13b 6b 2a 1a 5d 5a 3b 13b 1a 12a 5c 7b 3b 5a 9b 1a 1a 3b 6a 9b	3	5
Good knowledge on symptoms of malnutrition	9b 1b 1b 5b 2a 1b 1a 2a 8d 9a 3b 5a 5d 3b 9b 4b e 2a 4b 2a 2c 5a 13b 3b 2d 5d 6b 4b 1c 2a 1a 5a	3	5	No awareness of IMAM programme	6b 6b 5a 9b 1a e 4b 2a 2c 3d 3b 2c 2d 2b 5d 6b 13a 5a	1	5
Awareness of IMAM programme	6b 6b 5a 9b 1a e 4b 2a 2c 3d 3b 2c 2b 2b 5d 6b 13a 5a	3	5	Lack of awareness of treatment protocol, lack of awareness of malnutrition assessment means (MUAC) and a lack of awareness of the difference between SAM and MAM	2a 4b 6b 5a 7b 9b 1b 2b5a, 13b, 1c, 5d 8c 3b 1c 8e	2	5
Screening at all contact points at the HF	6b 6b 1a e 6b e 1a 8d 3b 2d e 5c 6b e 6b	2	5	Poor environment at the healthy facilities (no shelter so open to elements).	6b e e e 6b 6b 6b 1a	1	5
Community screening by VHTs and HW weekly, and mass quarterly house to house screening in the community	3a 5d 6b 1b 6b 6b 1a 2a 3b 5c 3b 8d 2a 2c 3d 5a 3b 2d 8d 5c 6b 3b 1a 4b 4b	4	5	Long screening process results in a long waiting time	4b , 6b , 6b , 3b 1a	1	5

Good sensitisation by VHTs including health talks	5a, 6b, 6b, 1a , 5c 3b	3	5	Stock outs of CSB and RUTF	6b 3b 5a 6b 2a 6b 3b 4b 12b 5a 2a 5a 6b 12b	3	5
Follow up of clients In community outreach	6b 6a 3b 6b 3b 15d 6b		5	Movement of refugees (and to a lesser extent, the host community) making tracking hard and causing defaulters	1a 2a 6b 6b 4b 6b	1	5
There is follow up in community by motivated VHTs	6b 2a 6b 3a 6a 2a 2c 5a	2	5	Opportunity cost	1a 6b 6b 5a 1a 6b 6b 3a 1a 6b	3	5
				Preference of refugees over nationals at HF (and poor attitude of HWs)	2a 13a 5a 6d 2a 5a	2	5
				Stigma	4b 9b 1b 13a 3b 5a 2a 1b 5a 2b 5a 6b 6b 5c 6b	2	5
				Poor sensitisation and information given on why the children are being screened regularly, partly due to difficulties in translation	3a 7b 1a 4b 6b 4b 3a 13a 1a 5a e	3	5
				Lack of male involvement in childcare	5a 5b 7b 5c 6b 2a 5a 13b 13a 5a	1	5
				No outreach into communities by HWs	2a 13a 3b	1	5
				Selling of nutrition commodities	3a 6b 6b 2a 4b 2c 12b e	3	5

				Sharing of therapeutic feeds	8d 6b 3b 5d 3b	3	5
				Mass Screening missing people out	1a 4b 4b	1	5
				Distance	6b 3a 1a 2a 3b 3b 1b 2a 1b 3b 5a 9b 1a 2a 2c 3b 13b 3b 1c 6b 4b	3	5
				No Transport for HWs to reach the community, no transport for community members to HF	6b 3b 3b 6b 7b 3b	2	5
				Wrong referral from VHT through incorrect measurement. The next time a child is screened after VHT they are found to be fine. No referral	6b 7b 3b 2a	1	5
				Lack of awareness of Malnutrition	2a 9b 1b 1b 9b 2a 5a 7b 9b 3b, Stage 2 data	4	5
				Lack of awareness about VHT presence in the community (mostly host)	2a 9a 2a 4b	1	5
				VHTs inactive and no follow up by VHTs in community	5a 2a 5b 7b 5a 13a 2b 3a 2c 5a 13a 3a 2b 3c 1a 2a	2	5
				Lack of routine WHZ screening at HF	Stage 1 quant data, Stage 2 data	5	5
TOTAL		20	40			94	115

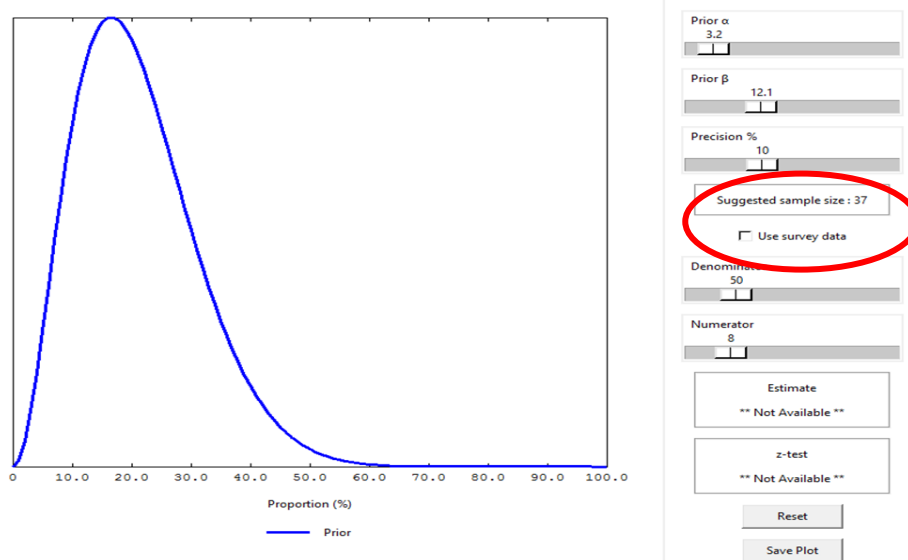
Table 14 Sources and Methods

Sources	Methods
1. Mothers (in programme)	a. Focus Group Discussion
2. Women in the community	b. Key Informant Interviews
3. VHTs	c. Informal Group Discussion
4. Refugee Welfare Council (RWC)	d. Semi-structured Interview
5. Men in the community	e. Observation
6. Health Workers	
7. Religious Leaders	
8. Children	
9. Teachers	
10. Traditional healers	
11. Traditional Birth Attendant	
12. NGO partners	
13. Local leaders	

6.0 STAGE 3

The principle of Stage 3 was to provide a coverage estimate for the assessment area. This requires the development of a coverage likelihood through conducting a wide area survey, and then combining the prior belief and likelihood to produce a final posterior coverage estimate through using a Bayesian conjugate analysis. Using the prior calculated at the beginning of Stage 3, the Bayesian SQUEAC calculator established a suggested sample size of 37 for the large areas survey. The prior estimate was established at 15%, and as the priors for SFP and OTP services were combined, a wide prior was set with minimum values of 0%, and a maximum of 60% (alpha 3.2, beta 12.1)¹⁴.

Figure 25 Prior Curve



¹⁴ Myatt.M et al, Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/ Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference (<http://www.fantaproject.org/publications/squeac-sleac.shtml>). p .83

6.1 SAMPLE SIZE CALCULATION

The number of villages or blocks to sample in the given area to reach the target sample size of $n = 37$, was calculated using estimated population size, population structure and prevalence of SAM using the following formula:

$$n_{\text{villages}} = \left\lceil \frac{n}{\text{average village population}_{\text{all ages}} \times \frac{\text{percentage of population}_{6-59 \text{ months}}}{100} \times \frac{\text{SAM prevalence}}{100}} \right\rceil$$

- There was no access to under 5 population data, and so consultation with the team deemed that a value of 18% was appropriate
- The average population of villages/blocks was calculated using the most recent census data and data from the Office of the Prime Minister (OPM) calculated using the number of blocks from UNHCR or Action Against Hunger data.

The specific calculation for Adjumani was as follows:

- $n = 37$
- % population 6-59 months = 18%
- Prevalence of SAM = 0.8%
- Average population of each village = 1212

$$n = \left\lceil \frac{37}{1212 \times \frac{0.008}{100} \times \frac{0.18}{100}} \right\rceil = 22$$

Although theoretically possible to sample 22 villages in the time available it was felt that the area was too vast and may have caused difficulties in reaching the sample size. It was therefore decided to increase the capacity of the team by recruiting and training 8 more enumerators to ensure that all villages and settlements could be sampled in the time frame.

6.2 SAMPLING FRAMEWORK

A two stage sampling method was used, the first stage ensured the selection of a spatially representative sample of villages and blocks in the assessment area of Adjumani. The second stage used door to door sampling to find all SAM and MAM children in selected villages and blocks.

- **First Stage:** A map of Adjumani district was not available so a spatially stratified sampling method (list method) was employed, using both census data for village names and populations, and OPM data for settlement blocks and populations.
- **Second Stage:** This method was further strengthened by using door to door sampling to ensure all SAM and MAM cases were found. Similarly to Stage 2, every child under 5 years of age in the sampled area was screened using MUAC, and any child with a

MUAC of less than 15cm was then measured using WHZ. Data checks were made and data of all MAM and SAM cases were verified using ENA software.

A questionnaire for caregivers of covered and uncovered MAM/SAM cases was also used in order to understand the boosters and barriers for each case ([see the CMN website for similar](#)). The results of which can be found below in Figure 27.

The wide area survey was then completed over a period of 4 days by 5 teams of 4, in which each team completed 2 villages/blocks per day. If and when one team was to finish early they would then go and support another team covering a larger area in order to reach the sample size in the allocated time.

6.3 RESULTS OF THE WIDE AREA SURVEY

The wide area survey found a total of 5 SAM cases and 63 MAM cases. The specific breakdown of cases by type can be found in the table below:

Table 15 Results of the Wide Area Survey

Type of case		Host	Refugee	Total Cases
In Programme	SAM	1	1	2
	MAM	5	4	9
	MAM Recovering	1	7	8
Uncovered	SAM	3	0	3
	MAM	31	15	46

6.4 COVERAGE ESTIMATIONS

The single coverage estimator was used to estimate coverage for the assessment. This method is effective in by accounting for both SAM/MAM cases and recovering cases in and out of the programme.

The following formula is used where C_{in} = covered SAM/MAM cases, C_{out} = uncovered SAM/MAM cases, R_{in} = recovering cases in the program and R_{out} = recovering cases not in the programme:

$$Coverage = \frac{C_{in} + R_{in}}{C_{in} + R_{in} + C_{out} + R_{out}}$$

The C_{in} , C_{out} and R_{in} are all collected during the wide-area survey however R_{out} must be estimated. The number of recovering cases not in the programme (R_{out}) is calculated using the formula below. A critical element of this is a correction factor (3) that has been with knowledge of the length of time an untreated case of SAM or MAM takes to recover.

$$R_{out} \approx \frac{1}{k} \times \left(R_{in} \times \frac{C_{in} + C_{out} + 1}{C_{in} + 1} - R_{in} \right)$$

Table 16 below shows the total number of cases found in the wide area survey and the final calculation of R_{out} .

Table 16 Single Coverage Calculations

Type of Case	Number Found
MAM cases not in the programme (C_{out})	46
MAM cases in the programme (C_{in})	9
Recovering cases in the programme (R_{in})	8
Recovering cases not in the programme (R_{out})	12
Total Cases	75

The above figures were then fed into the Bayes SQUEAC calculator which employs a conjugate analysis to combine the prior and the likelihood and produces a final posterior coverage estimate.

The single coverage estimation for SFP coverage was calculated as:

21.7% (14.4% - 31.5%)

This estimation is below the SPHERE standard for rural IMAM programmes (50%) and therefore represents justification for programme reform. The Bayes SQUEAC calculator presents the following posterior curve (red), based on both the prior (blue) and the likelihood (green) information (through a Bayesian conjugate analysis).

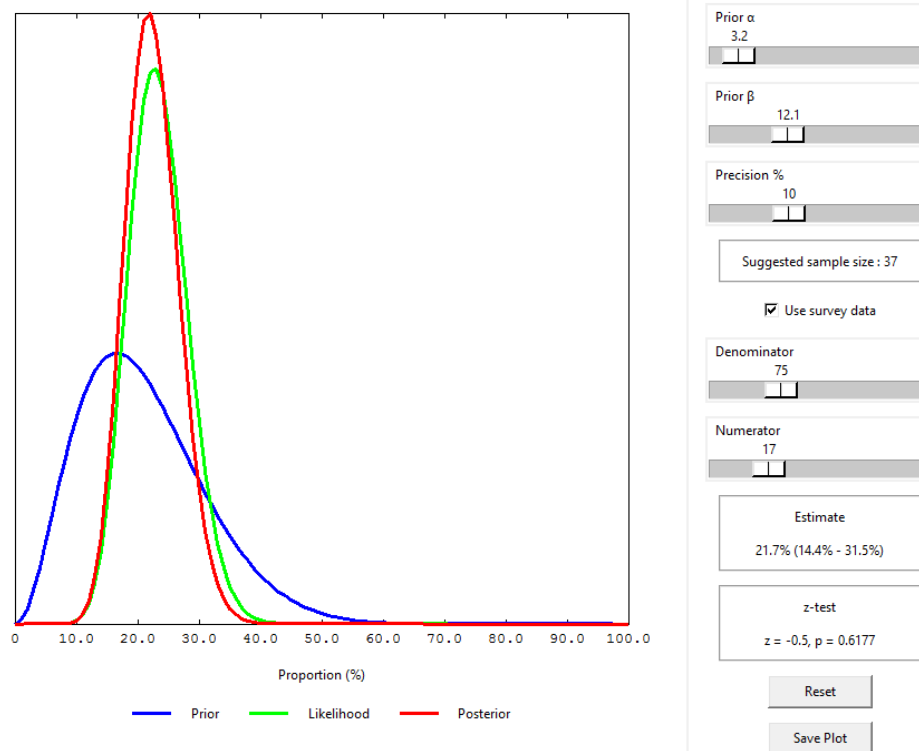


Figure 26 Bayesian Conjugate Analysis

The conjugate analysis does not present any conflict between the prior and the likelihood, meaning they both provide a similar estimation. Therefore, the prior is in accordance with the likelihood and we can accept these results with a large amount of confidence (P value = 0.6177). The green curve is taller than the blue curve, and so the likelihood evidence is stronger than the prior. The posterior curve (red) is narrower than the prior, indicating that the conjugate analysis has increased the reliability of the estimate, the overlap of the curves indicates that the estimates are in accordance.

6.5 COVERAGE OF SAM

The sample size for SAM was not achieved due to the low prevalence in the area and the sample size of 5 cases is too insignificant to make inferences about coverage. However, due to the high level of integration, the same prior was used for both SAM and MAM, and the boosters and barriers from SAM and MAM cases were merged for stage 1 and 2. Therefore we can use this information to increase the SAM coverage for the existing case load.

6.6 REASONS FOR NON-ATTENDANCE

A questionnaire was given to the mother of each uncovered case that was identified by the team in order to further understand the reasons in which they did not seek treatment for their child. Both SAM and MAM responses have been merged, as the sample size for SAM is small, and the responses given were similar.

Figure 27 Stage 3 Barriers to Coverage

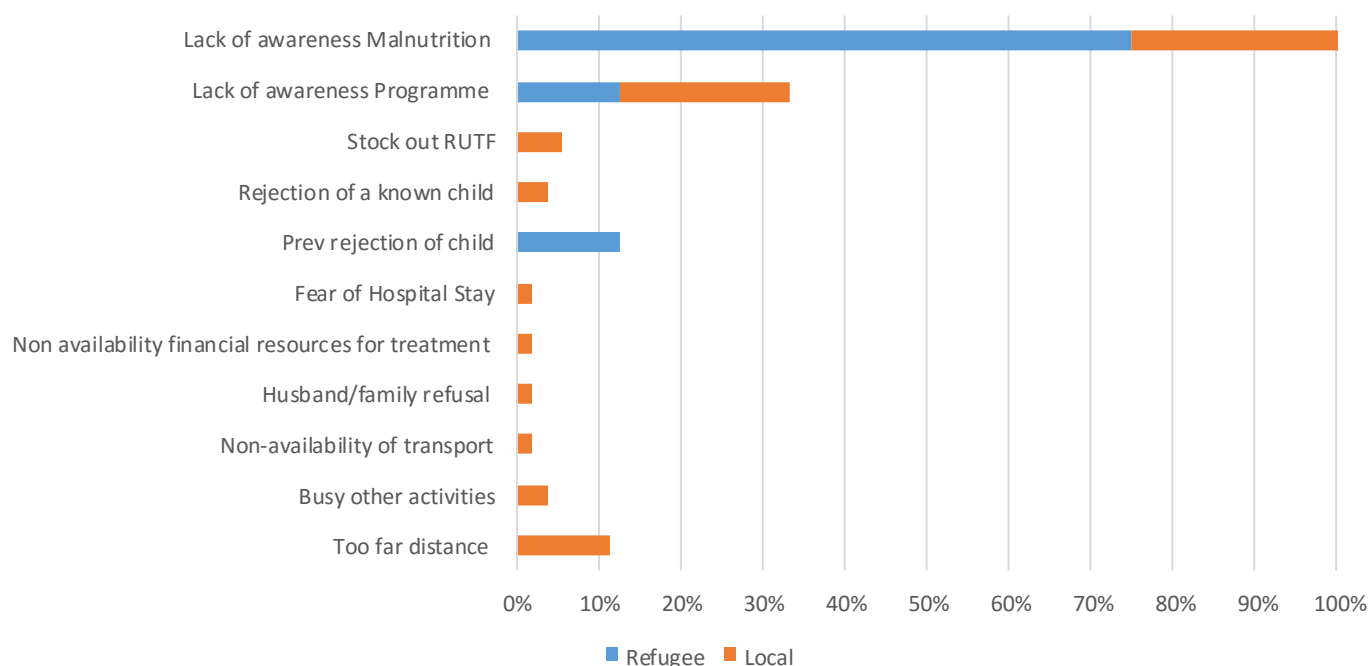


Figure 27 demonstrates that the main reason for lack of treatment for both refugees and host community members was a lack of awareness of malnutrition. This was due to two reasons; the caregiver did not recognise that their child was suffering from malnutrition, and/or the child was taken to the health centre for treatment for other illnesses, and not screened for malnutrition using WHZ. Proportionally, the refugee community are less aware that their

child is malnourished, however this needs to be interpreted carefully and alongside the results of the other questions.

The second biggest reasons for lack of treatment were lack of awareness of the programme for refugees and host community members. Proportionally, more respondents from the refugee community are unaware. This is indicative of a lack of sensitisation and mobilisation activities, and corresponds with information collected in Stage 1.

Most of the uncovered cases had not been screened previously for malnutrition and 75% of those who had been screened were in the refugee communities, where they were screened using MUAC. This collates with the identification of uncovered cases on MUAC and WHZ, whereby in the refugee community 93% of uncovered cases found identified using WHZ. In the host community, there was a 50/50 split, indicating that there is little screening in the community conducted using MUAC.

Figure 28 Identified WHZ vs MUAC (Refugee Community)

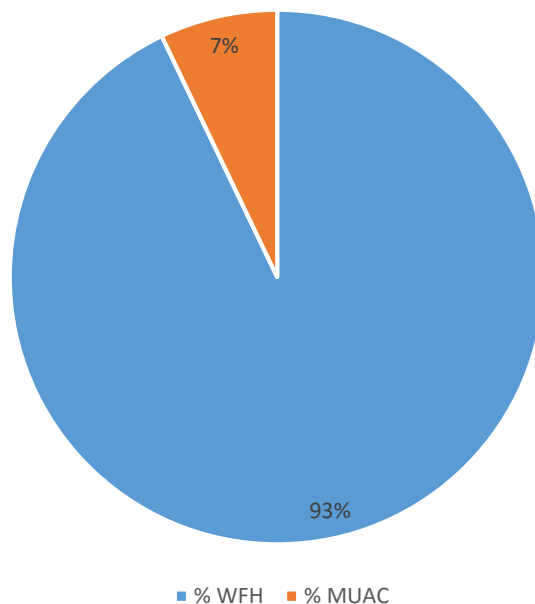
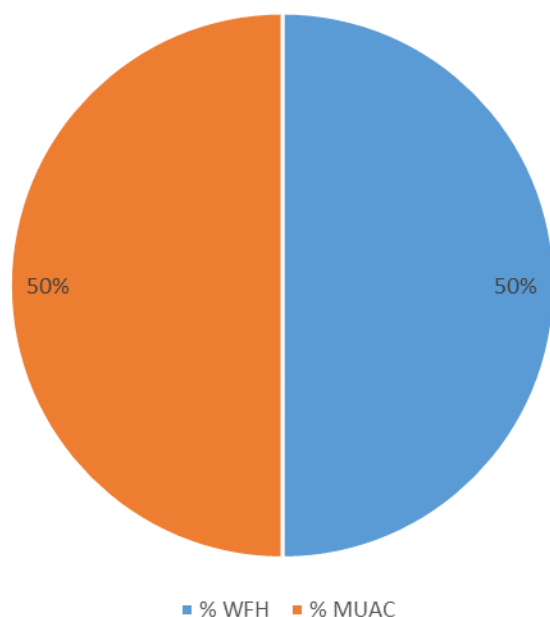


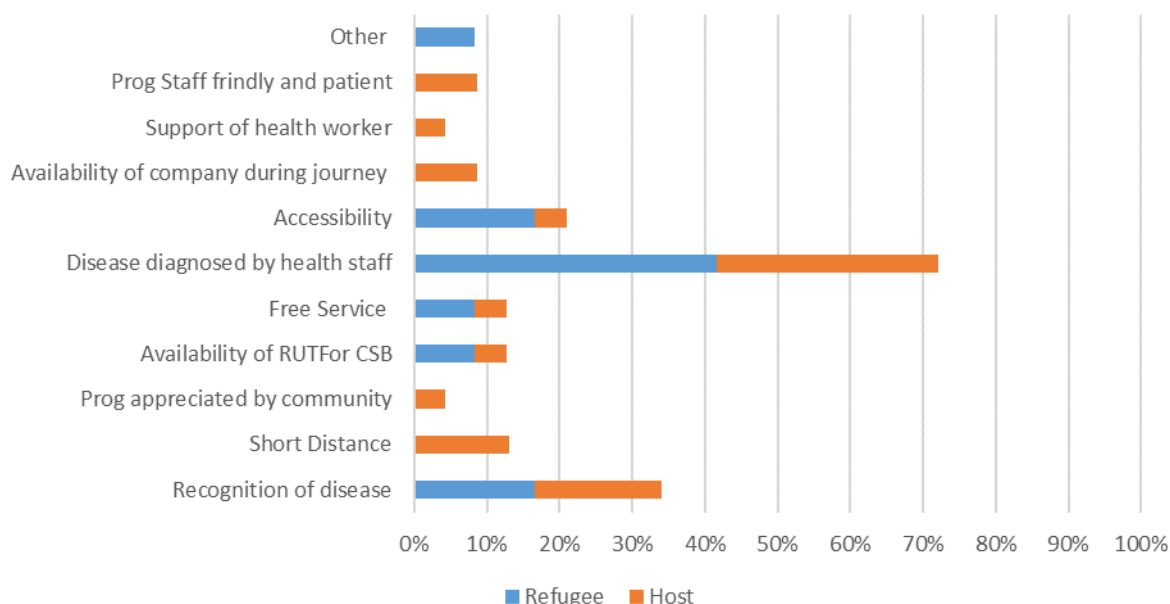
Figure 29 Identified WHZ vs MUAC (Host Community)



Further analysis of questionnaires from Stage 3, alongside the analysis of MUAC and WHZ distribution, demonstrates that the gap between the policy of WHZ screening both in the community and at the health facility and what is taking place in reality, are severely impacting coverage.

6.7 ANALYSIS OF COVERED CASES

Figure 30 Positive Factors to Coverage (stage 3)



A common occurrence in covered cases is the child being identified as malnourished by staff at the health facility. This is demonstrative of the effectiveness of screening at all contact points. A third of cases recognised the disease and brought their child to the health centre, indicating good treatment seeking behaviour and an awareness of malnutrition. The 'other'

case listed was told to bring the child back at 6 months, due to recognition that the child was malnourished before it turned 6 months old.

7.0 CONCLUSION

The assessment estimates that coverage for MAM treatment (SFP) is 21.7% (CI 95% 14.4%-31.5%). Therefore, coverage of the programme is below the SPHERE standard of 50% for rural programmes, indicating a need to reform programmes in the area. We were unable to classify SAM treatment (OTC) coverage as the sample size was not met due to a low prevalence of SAM in the area.

The assessment was able to not only identify the main barriers to access but also to investigate these in more depth, allowing for the development of recommendations and actions to overcome the barriers and to build on the boosters.

During the assessment, the same team conducted the investigation for both SFP and OTC services, due to the strong integration of the programmes, the boosters and barriers found were very similar. Therefore where necessary differentiation in the analysis and recommendations has been made between programmes but when not mentioned the findings refer to the community or to both programmes.

Stages 1, 2 and 3 consistently demonstrated that lack of awareness of malnutrition is an issue. In many cases, there was a basic awareness of malnutrition and of the existence of the IMAM programme (particularly amongst caregivers), however more in depth knowledge of malnutrition and the programme was lacking. This indicates the need for a communication and sensitisation strategy that responds to the specific misunderstandings and builds on nuances in understanding. The effects of malnutrition (potential death and growth inhibition) should be more strongly promoted to increase prioritisation of treatment. Malnutrition needs to be explained as an illness, with consequences that needs to be correctly treated. This should all be done with the aim of facilitating early identification and referral and increasing the priority for treatment amongst caregivers.

Admission and screening criteria in the community and at all contact points in the health facility are WHZ. Quarterly screenings in refugee settlements have a clear impact on admissions, however cases are still missed during these screenings due to a lack of sensitisation of mothers, and additionally quarterly screening can result in cases occurring between screenings. Not all health facilities are systematically screening using WHZ, therefore many cases that present through the Out-Patient Department are missed.

There are clear differences between the refugee and host communities. In refugee communities, VHTs are more active and the communities are more aware of their existence, in most part, this is down to the training and facilitation that VHTs from refugee communities receive. In refugee communities, MUAC screening is common, and therefore few cases were found on MUAC, and the majority on WHZ. In the host community however, there are less VHTs and therefore less screening on MUAC, and therefore children are left undiscovered in villages for longer and we found more cases that were malnourished on MUAC. As the prevalence of malnutrition is similar in both communities, it is suggested that resource allocation should be more equal amongst the communities.

Stock Outs have been a significant problem throughout 2016 and continuing into 2017, impacting the perception of the programme in the community and causing defaulters. In

some cases it is unavoidable at a district level, however in others, particularly with RUTF, it is due to reporting errors. Due to lack of availability of key informants, we were unable to triangulate and clarify the initial reports for the reasons of stock outs. Therefore, it is suggested that further investigation into this is conducted, with reporting particularly analysed, and if necessary, all staff retrained on reporting.

The availability of RUTF and CSB++ on the market through caregivers selling is a serious problem, deeply rooted by poverty and a lack of income generating activities. Sensitisation and collaboration with influential community leaders needs to be followed to persuade caregivers to not sell.

Defaulting is particularly high in some health facilities, in particular in Adjumani hospital. It is assumed that these defaulters are returning to their homes after admission to the ITC, and have failed to inform health workers at either facility. However, to confirm this, further investigation and tracing of defaulters is required. A component whereby caregivers are sensitised on the importance of informing health workers is also necessary to avoid these unaccounted for cases.

As the situation in Adjumani stabilises, with less refugee movement, this presents an opportunity for Action Against Hunger Uganda and partners to implement the suggested recommendations to increase coverage in the district. The following section makes a series of recommendations relating to the whole assessment, with accompanying activities.

8.0 RECOMMENDATIONS

Recommendations	Findings	Actions	Responsible People	Level of Priority
Reduce selling of RUTF and CSB++ at markets	Selling of RUTF/CSB++ at markets	Beneficiaries return used sachets. Engage with relevant authorities to confiscate all nutritional commodities in the market	Nut officers HWs/ACF/MTI OPM/DHO/ACF/MT I RWCs/ CWW/ LCs	Medium
Reduce sharing of therapeutic feeds at the household level	Sharing of therapeutic feeds	Health Education at HF Follow up by VHTs	HW/VHT/ACF/MTI	Medium
Increase the number of distribution outposts	Distance is a barrier to coverage	Map out existing posts and set up of new distribution outposts, based on distance, admissions and defaulter data	DHO	Low
Assess efficacy of bimonthly WHZ screenings in both refugee and host communities through learning documents	VHTs screening by MUAC only in community regularly	Conduct review and pull out learnings from WHZ screening activities that have taken place	CF Staff, VHTs, CHWs	High

Ensure that WHZ screening is systematic at all contact points with health facilities	WHZ screening occurs quarterly in refugee settlements only	Re-training of all VHT's delivered to ensure WHZ screening is conducted as standard practise. Dissemination of SQUEAC findings at health facility and meetings conducted with all in charge.	ACF Staff, VHTs, CHWs	High
Deliver regular focussed awareness raising activities within communities and settlements on malnutrition causes, symptoms and treatment	Lack of awareness of malnutrition	Consider a community champion approach including educating local leaders (religious leaders) on presence of IMAM programme in the different HFs	ACF staff, VHT	High
Introduce a focussed community dialogue in host and refugee communities to understand and overcome opportunity costs	Opportunity costs	Oversee VHTs to conduct the following in host and refugee communities: Community Mapping Seasonal calendar Boosters and barriers review	ACF staff, VHT	Medium
Change in policy to a 50-50 resource allocation for host and refugee communities	Lack of awareness about VHTs presence in the community	Devise a lobbying and advocacy plan, including the dissemination of SQUEAC findings, to key stakeholders including the district health authorities	ACF staff	Medium
Devise/strengthen performance indicators for VHTs including monthly monitoring Integrate VHTs more, and have	Inactive VHTs (especially in host communities)	Devise a set of performance indicators to ensure appropriate VHT activity and sensitise VHT's in this practice Support and supervise some monthly	ACF Staff, VHTs	Medium

one VHT structure (lesson from Yombe).		outreach activity for quality control		
Ensure improved shelter for IMAM at the health facilities	Poor environment at the health facility	Procure and provide shelter in form of tents or constructing shades for clients to wait in.	Health assistants, VHTs, local leaders, IPs	High
Ensure proper forecasting practice for therapeutic feed is conducted and the person responsible is identified Improve on report writing and record keeping, capacity building, quality improvement programme of the ministry Distribute resources over and regulate different health facilities	Stock out	Identify the person responsible for forecasting of therapeutic feed and oversight of requests. Introduce a quality control measure for reporting and requests for therapeutic feeds including: Meeting (face to face or verbal) to check and sign off final request for therapeutic feed between the responsible members at the district and HF. Conduct training session for staff in report writing and record keeping	NGO partners, Health Workers, District	High
Ensure outreaches are planned and conducted regularly	No outreaches in the community	Devise a set of performance indicators to ensure appropriate VHT activity and sensitise VHT's in this practice Support and supervise some monthly outreach activity for quality control Procure and provide shelter in form of tents or constructing shades for clients to wait in	NGO partners, Health workers, District	High

Appendix: 1 Workplan

	Travel		Stage 1							Stage 2			Prior		Stage 3							Action Plan							
	15-Feb	16-Feb	17-Feb	18-Feb	19-Feb	20-Feb	21-Feb	22-Feb	23-Feb	24-Feb	25-Feb	26-Feb	27-Feb	28-Feb	01-Mar	02-Mar	03-Mar	04-Mar	05-Mar	06-Mar	07-Mar	08-Mar	09-Mar	10-Mar				31-Mar	
	Wed	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	Sat	Sun	Mon	Tues	Wed	Thu	Fri	3 weeks			Fri	
Activity	1	2	3	4	5	6	7	8	9	10	11		12	13	14	15	16	17		18	19	20	21						
ADJUMANI ASSESSMENT																													
Arrival in Uganda and travel to Adjumani																													
SQUEAC overview, quantitative data analysis training																													
Quantitative Data Analysis + getting to know the programme																													
Qualitative Research Training, role playing, translate and develop interview guides																													
Qualitative Data Collection and Analysis																													
Formulation of Hypothesis and planning for Stage 2 + training of enumerators																													
Stage 2- small area survey																													
Hypothesis analysis and Concept Mapping																													
Scoring BBQ and concept maps, formulation of Prior																													
Preparation for Wide Area Survey (Sample, Log etc.) + training enumerators																													
Stage 3: Wide area survey																													
Development of Posterior, Recommendations and Action Plan																													
Travel back to Kampala																													
Travel back to UK																													
Report Writing																													

Appendix 1: Participant List

Name	Organisation	Role	Contact
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