

December 2018



Figure 1: Caregiver and Child – PoC 3 – November 2018

SEMI-QUANTITATIVE EVALUATION OF ACCESS AND COVERAGE

JUBA PROTECTION OF CIVILIANS CAMPS, SOUTH SUDAN

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LIST OF ACRONYMS

CMAM	Community-based Management of Acute Malnutrition
CNV	Community Nutrition Volunteer
CWW	Concern Worlwide
LQAS	Lot Quality Assurance Sampling
MAM	Moderate Acute Malnutrition
MUAC	Mid Upper Arm Circumference
OTP	Outpatient Therapeutic Programme
PoC	Protection of Civilians Camp
RUSF	Ready to Use Supplementary Food
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SMART	Standardized Monitoring & Assessment of Relief & Transitions
SQUEAC	Semi Quantitative Evaluation of Access and Coverage
TSFP	Targeted Supplementary Feeding Programme
WHO	World Health Organisation
WHZ	Weight-for-Height Z-Score
WFP	World Food Programme
UNICEF	United Nations International Children's Fund

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EXECUTIVE SUMMARY

In November 2018, a coverage assessment of the Targeted Supplementary Feeding Programme (TSFP) to treat Moderate Acute Malnutrition (MAM) and Outpatient Therapeutic Programme (OTP) to treat Severe Acute Malnutrition (SAM) was conducted in Juba Protection of Civilians Camps (PoC). The assessment used the SQUEAC (Semi-Quantitative Evaluation of Access and Coverage) methodology and covered services delivered by Concern Worldwide.

The assessment identified the following coverage estimates:

PoC	
SAM	74.3% (95% CI: 61.2%-84%)
MAM	65% (95% CI: 57.2%-72.5%)

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.

The discharge outcomes are within the Sphere standards, with the mean cure rate above 75% and defaulting below 15%. Overall, reporting is accurate, however analysis of data showed some areas for improvement in discharging cases as non-response, as they are outstaying the recommended length of stay in the programme.

There is a high awareness of malnutrition and the programme within the PoC, due to the network of CNVs, and engagement of community leaders by programme staff through regular meetings. Perception of the programme is positive, and beneficiaries believe that it is an effective way of treating children. There is good health seeking behaviour amongst caregivers, however this can sometimes result in seeking of treatment from private clinics and pharmacies outside the PoC, rather than using the health provisions available within the PoC, resulting in missed opportunities for screening.

Despite the network of CNVs, and the support provided by programme staff, the selection process is detrimental to coverage. Selection of CNVs takes place every 6 months, and this lack of continuity results in gaps in the knowledge of CNVs, gaps in screening, and lack of follow up of non-responders and defaulters.

There is a high level of population movement in and out of the camp, resulting in defaulters due to migration, and a relatively high number of abandoned children. This is also likely attributable to the psychological impacts of war and therefore demonstrates the importance of linking with other actors to improve mental health services available. It was deemed that younger mothers are more vulnerable to stigma, and accessing the programme can be more difficult for this demographic due to the impacts of stigma, and the different messaging required.

Based on the findings of the assessment, a series of recommendations were formulated (a full list can be found at the end of this report):

- Increase the selection process of CNVs
- Increase supervision and training of CNVs
- Training in mothers on MUAC measurement
- Introduce component of psychosocial support into programme
- Increase messaging around transferring to other OTPs during periods of migration
- Improve follow up and monitoring of non-responders
- Increase messaging to decrease stigma

1.0 INTRODUCTION

Following the 2013 political conflict in South Sudan, which led to massive displacement of people, Concern instigated nutrition interventions in the Protection of Civilian (POC) camps in Juba in order to treat and prevent malnutrition among the affected population.

In Jubek State, Concern is running five OTP and five TSFP sites (two are in Juba POC and three in MOH PHCUs/PHCCs outside the PoC and around the peripheries of Juba town). The total population of Juba POC (POC1 and POC3) is estimated to be above 38,000 and the total population in the three sites' catchment area is estimated at 15,604 individuals. Concern provides nutrition services (Outpatient Therapeutic programme and supplementary feeding programme) using a standalone nutrition centre in the Juba POC while the nutrition programme has been integrated in the health facilities in the three sites.

Concern usually conducts annual SMART survey to estimate the prevalence of malnutrition among the target communities, however, no SQUEAC surveys have been done before in the programme areas. However, a barrier analysis was done early 2017 in order to identify behaviour determinants. This SQUEAC aims to build on these findings and to see whether a programme is functioning optimally and reaching the maximum number of malnourished children in need.

1.1 NUTRITION SITUATION

The most recent SMART survey available was conducted by Concern in December 2017, showing a GAM rate of 12.8% inside the PoC (using weight-for-height z-scores), which is slightly below the WHO 'critical' threshold of 15%.

Table 1: Nutrition situation in the PoC

Survey		PoC	
		W/H z-score	MUAC and/or oedema
SMART - December 2017	GAM	12.8 % (CI 95%: 9.7-17.1)	6.4 % (CI 95%: 4.5 - 9.1)
	MAM	10.7 % (CI 95%: 7.9-14.4)	5.6 % (CI 95%: 3.7-7.9)
	SAM	2.1 % (CI 95%: 1.1-4.0)	0.8 % (CI 95%: 0.3 - 2.2)
SMART - November 2016	GAM	11% (CI 95%: 8.6-13.9)	9.0% (CI 95%: 6.2-13.0)
	SAM	2.3% (CI 95%: 1.3-4.2)	1.1% (CI 95% 0.3-3.31)

1.2 NUTRITION SERVICES IN JUBA POC

In total within the PoCs there are two OTP/TSFP sites, these are located to health facilities run by International Medical Corps (IMC). Concern also runs bSFP (Blanket Supplementary Feeding Programme) for all children 6-59 months (except for those who are enrolled in OTP and tSFP programmes). Additionally, there is one Stabilisation Centre (SC) run by IMC in PoC 1, for cases with medical complications who require inpatient treatment. Cases that require inpatient treatment can be referred from Concern OTP centres or from IMC health facilities, and following discharge from the SC, they are referred back across to the closest OTP site (in either PoC 1 or PoC 3).

There have been no previous coverage assessments in Juba PoCs or the surrounding area, and therefore this is the first of its type. Additionally, the attributes of both PoCs were described as similar, and therefore the coverage would reflect this, thus coverage was assessed over both the sites homogeneously.

1.3 OBJECTIVES

The principle objective of the SQUEAC evaluation was to assess the coverage of the CMAM programme, the factors affecting coverage, the barriers and boosters to access, and to develop recommendations for programme improvement. Furthermore, the

consultant will develop the skills of key nutrition staff in conducting coverage surveys using SQUEAC methodology.

1.4 SPECIFIC OBJECTIVES

1. Map out coverage of OTP and SFP programmes in Juba Protection of Civilians Camps.
2. Identify factors affecting uptake of OTP and SFP services in the PoCs
3. Develop specific recommendations, based on assessment outcomes to improve acceptance and coverage of the programme

1.5 METHODOLOGY

The SQUEAC methodology¹ was chosen and adapted in order to determine coverage across Juba PoC Camps, and to provide recommendations to improve coverage and a rich body of evidence to underpin them. The SQUEAC took place in the following stages:

Stage 1: An analysis of all quantitative data, collection and analysis of qualitative information and the identification of negative and positive factors effecting coverage from inside Juba PoCs.

Stage 2: Development and testing of hypotheses to confirm (or deny) assumptions related to areas of high or low coverage, and to ascertain whether coverage is uniform inside Juba PoCs.

Stage 3: Wide-area surveys were conducted to determine coverage estimates of SAM and MAM services across the PoCs using Bayesian techniques.

The team consisted of a mixture of 2 women and 10 men. The core team was made up of 12 people, eight of which are working with Concern programme, and four additional data collectors. For the wide area survey, six more enumerators were recruited in order to ensure all sampled areas could be reached in the given time.

The assessment took place over the course of three weeks from 17th October to 9th November 2018.

Although the assessment mostly took place without major problems, there were certain limitations that should be highlighted. Firstly, there were few women on the assessment team. Although there are no explicit limitations on men talking to women, it is likely that some of the data collected (particularly during the qualitative stage) was limited by often having an all-male team converse with female informants, as women are likely to feel intimidated by an all-male team of interviewers.

¹M. Myatt et al. 2012 Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference. Washington, DC: FHI 360/FANTA.

2.0 STAGE 1: QUANTITATIVE ANALYSIS

Quantitative data analysis of electronic data from Concern was performed and disaggregated for SAM and MAM. The period analysed was from August 2017 until July 2018, to allow the majority of cases analysed to have been discharged from the programme.

Additional data (such as length of stay, MUAC on admission, referral source) was collected additionally from registers and treatment cards. This was also used to verify electronic data. The number of treatment cards analysed is recorded in table 2.

Table 2: Quantitative Data Analysis

Programme	Site	Amount of total sample	Dates	Number of admissions analysed
TSFP	Rajaf East	All	August 2017- July 2018	167
TSFP	Khor Rumula	All	August 2017 - July 2018	572
TSFP	Gumbo	All	August 2017 - July 2018	497
TSFP	PoC 1	All	August 2017- July 2018	528
TSFP	PoC 3	All	August 2017 - July 2018	405
OTP	Rajaf East	All	August 2017 - July 2018	53
OTP	Khor Rumula	All	August 2017 - July 2018	113
OTP	Gumbo	All	August 2017 - July 2018	195
OTP	PoC 1	All	August 2017 - July 2018	215
OTP	PoC 3	All	August 2017 - July 2018	277
TOTAL ADMISSIONS ANALYSED				3022

2.1 SEASONAL CALENDAR

A seasonal calendar was developed using the knowledge of community members and programme staff.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Climatic conditions												
Rainy season				I	II	III	II	I				
Dry season	II	III	I									

Economic activities	
Planting	II III I
Harvest	II III II I
Non-agricultural labour	II I
Diseases	
Increase in GAM	II III II
Malaria	III
Diarrhoea	II III II
Coughs	III II I
Key events (religious holidays, etc.)	
Christmas	II

Figure 2: Seasonal Calendar

2.2 SEVERE ACUTE MALNUTRITION TREATMENT: PROTECTION OF CIVILIANS CAMP

2.2.1 Admissions over time

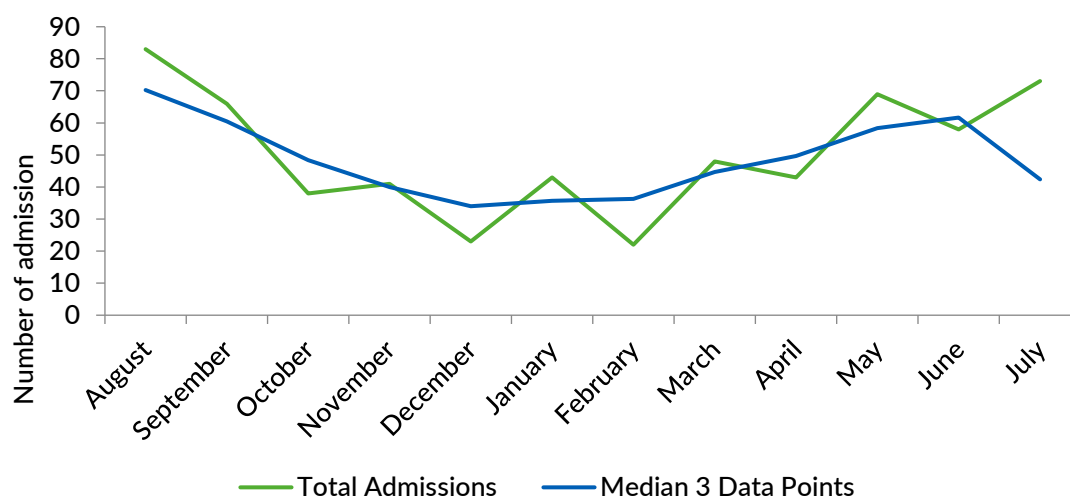


Figure 3: Admissions over time - OTP PoC

From August 2017, there is a decline in rains that sees a reduction in admissions, as food insecurity is reduced and incidences of disease (such as diarrhoea and malaria) reduce. There is a further decrease in admissions over the Christmas period, as programmatic operations slow down, however this recovers in January when there is a spike in admissions. As the dry season begins from February and the prices of food items increase resulting in more food insecurity, admissions increase. Admissions continue to increase as the rains start from April, and the incidences of disease increases. Additionally, camp activities such as token registration with IOM in August and March, and camp registration in July see small spikes in admissions as populations return to register.

²The blue line, Median 3 Data Points, is where medians of sets of three successive data points have been taken, in this case an admission in a given month. The results are then smoothed by taking the arithmetic means of sets of three successive smoothed data points. 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.

2.2.2 MUAC and Weight-for-height admissions

According to the South Sudan CMAM guidelines³, children can be admitted with MUAC or Weight-for-Height Z-score (WHZ), and screening in the community should occur with MUAC. A small analysis of admissions was conducted, and this demonstrated that approximately 81% of admissions are with MUAC. A slightly higher proportion of children in PoC 1 were admitted through WHZ, this is likely attributed to the proximity of the IMC health centre, resulting in more referrals from this source, and also through checking the WHZ of children who have a borderline MUAC measurement (115, 116, 117mm).

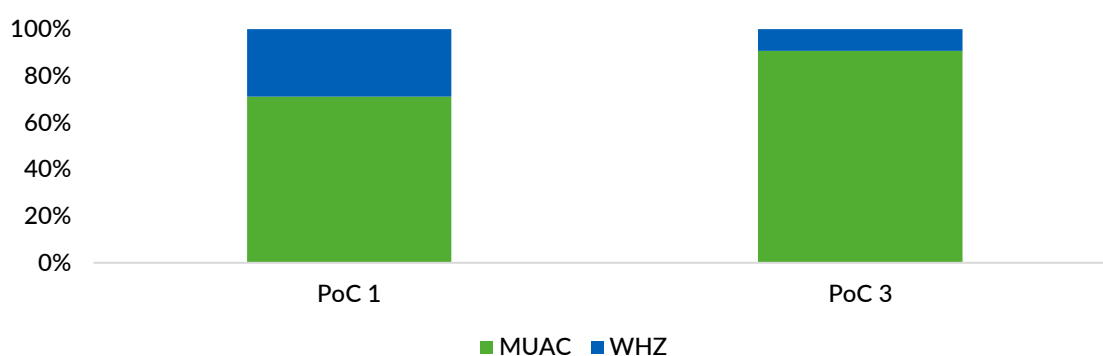


Figure 4: MUAC and WHZ admissions - OTP PoC

2.2.3 MUAC at admission

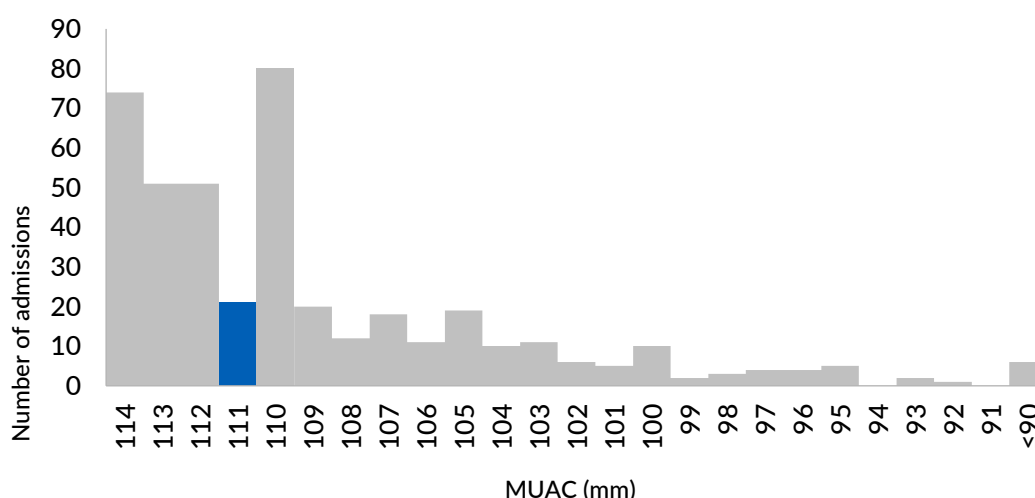


Figure 5: MUAC on admission - OTP PoC

An analysis of MUAC at admission was conducted for those who are admitted by MUAC. The majority are admitted at 110mm and the median MUAC on admission is 111mm, there are also a high proportion admitted at 114mm. It is likely that the spike in admissions at 110mm is due to digit preference, and there is in fact a more even distribution around this value. Admissions above 110mm indicate relatively early admission in to the programme, however the presence of an SFP programme highlights that many cases have not been enrolled as MAM. The high number of admissions at 114mm are reflective of the high number of cases that drop from SFP to OTP. Around

³ The Republic of South Sudan, Community Management of Acute Malnutrition, CMAM Guidelines, December 2017.

11% of cases in SFP are transferred to OTP after their MUAC measurement falls during treatment.

2.2.4 Discharge Outcomes – trend and per OTP

Discharge outcomes are an important indicator of performance that allows us to see what proportion of cases recover after treatment.

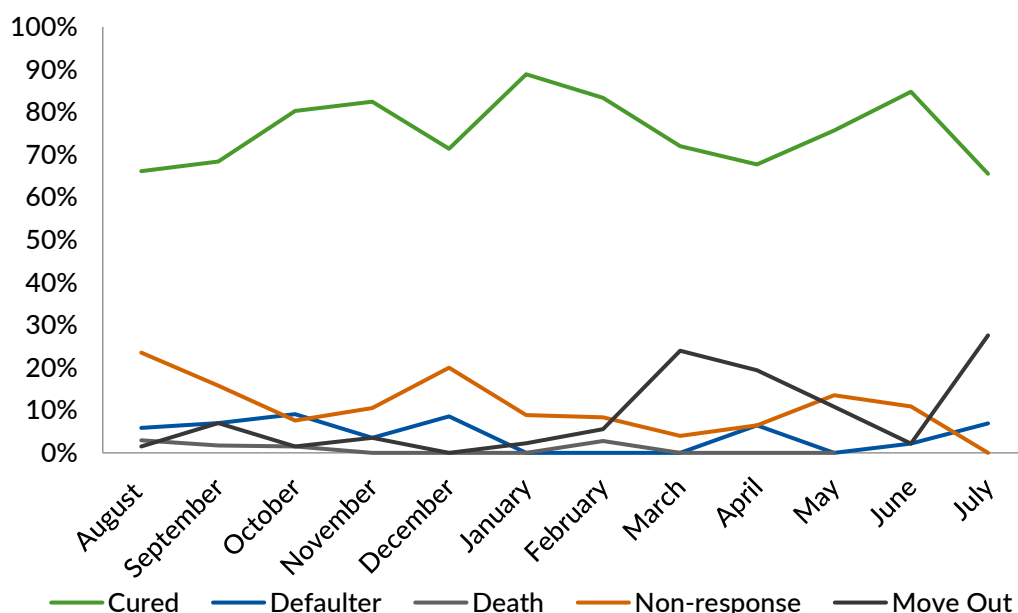


Figure 6: Discharge Outcomes over time - OTP PoC

The mean cure rate of all OTPs in the PoC is 75.4%, which is slightly above the Sphere standard of 75%⁴. Defaulting rates are at an average of 4.6%, which is acceptable (below the Sphere standard maximum of 15%). However when move-out rate (7.84%) is included, this increases to 12.4%, which is still below the Sphere standard of 15%. Move out has been included as part of this analysis as usually there is no evidence that these cases have enrolled into another programme. The death rate is very low at 0.86%, (far below the Sphere standard maximum of 10%) and the non-response rate is 11%). Referral cases have been excluded from the overall analysis, however it is important to consider these as in OTP, they are usually cases that have been referred to the SC, and are therefore important to analyse as they demonstrate deterioration in a child's condition, and can demonstrate late case finding. In the PoC, 3% were medical transfers, which is within an expected value for transfers for further medical attention.

When analysed per OTP site, there is some variation across the sites, particularly in non-response and defaulting reporting.

⁴ Sphere Association. The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response, fourth edition, Geneva, Switzerland, 2018. www.spherestandards.org/handbook

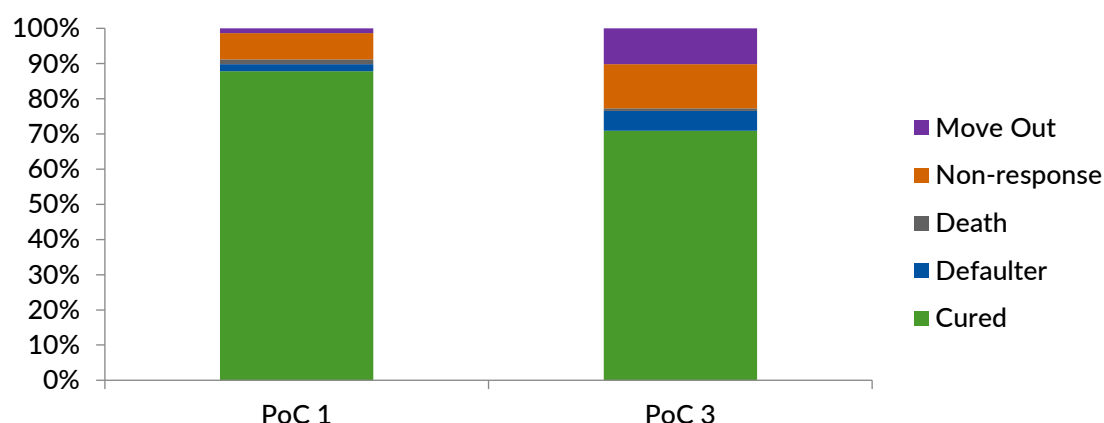


Figure 7: Discharge Outcomes by OTP site - OTP PoC

All discharge outcomes were recorded through analysis of treatment cards to check the accuracy of reporting. This hand collected data demonstrated that discharge outcomes across both sites are more homogenous than initially reported (note that referral out in the hand collected data refers to medical transfer and referral to other OTP sites). Non-response and defaulting are slightly higher in PoC 3; this can be attributed to the increased fluidity of the population living in PoC 3. Additionally, the number of move-out cases is less, and the defaulting is higher, indicating reporting that is more reflective of the reality. The proportion of cured cases, defaulting and non-response are nonetheless similar to the reported data, indicating accuracy in reporting.

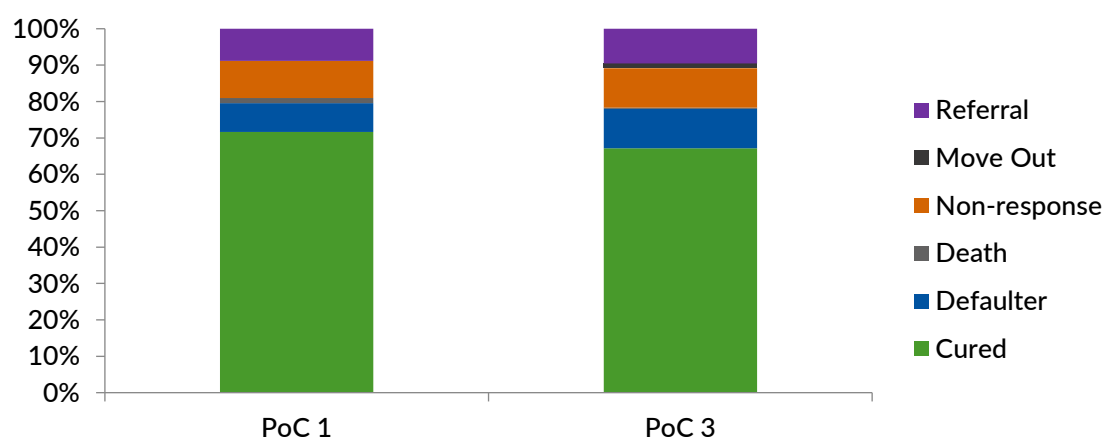


Figure 8: Register Discharge Outcomes - OTP PoC

2.2.5 Length of Stay Cured

The median length of stay for cured cases is 6 weeks, with the highest proportion requiring 7 weeks until they move into SFP. This is an average length of stay and is reflective of the median MUAC on admission (111mm). There are some cases, which have a length of stay of over 12 weeks, but this exceeds the recommendation in the CMAM guidelines, whereby children should be discharged as a non-responder and referred for further tests at a health facility.

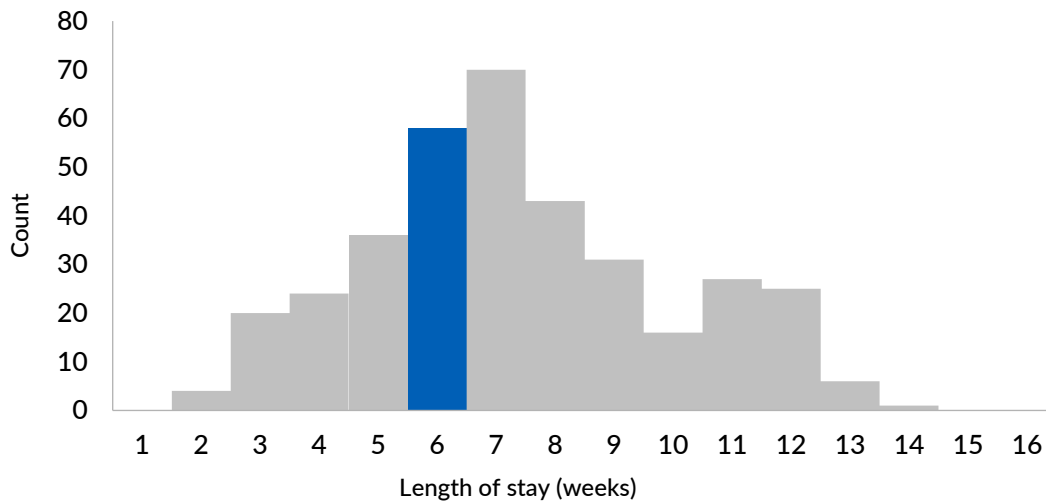


Figure 9: Length of Stay Cured - OTP PoC

2.2.6 Defaulting and move-out over time

Albeit low, a further analysis of the reported numbers (from electronic data) of defaulters and move-out cases over time was conducted.

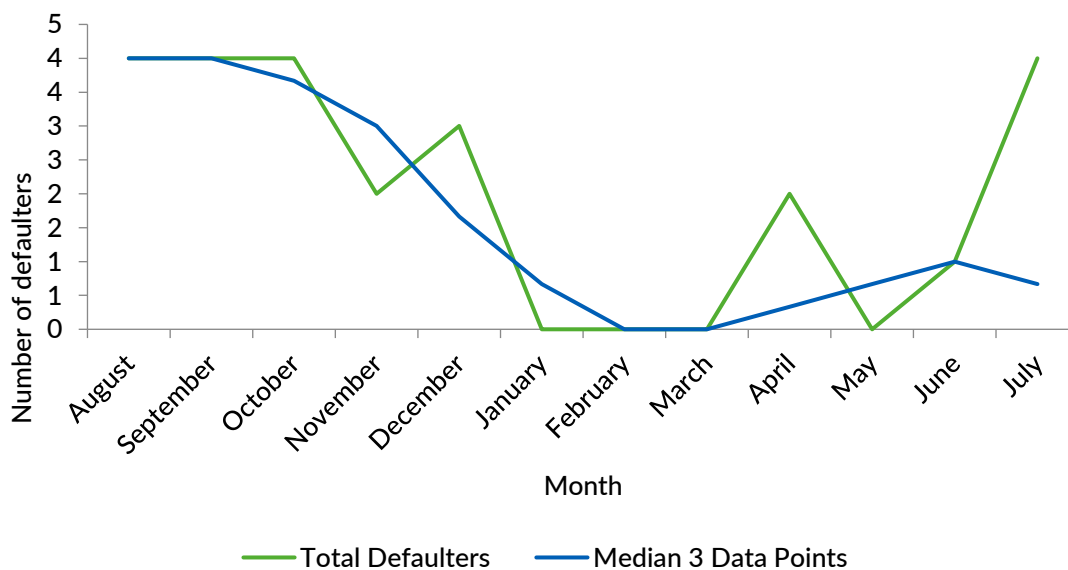


Figure 10: Defaulting Over Time - OTP PoC

There is a spike in defaulting in September 2017, this is likely caused by the population movement following on from IOM token registration, whereby beneficiaries return in order to register for tokens, and then shortly after default. The number of defaulters decrease into November, before increasing over the Christmas period, as there is population movement. The spikes in March and April are also likely to be partly attributable to token registration that took place then, it could be due to the rainy seasons causing population movement out of the camp to begin cultivating. There is a huge spike in defaulting in July, as populations returned from Uganda for registration, they were admitted into the programme, and then defaulted soon after.

2.2.7 Weeks in programme before defaulting

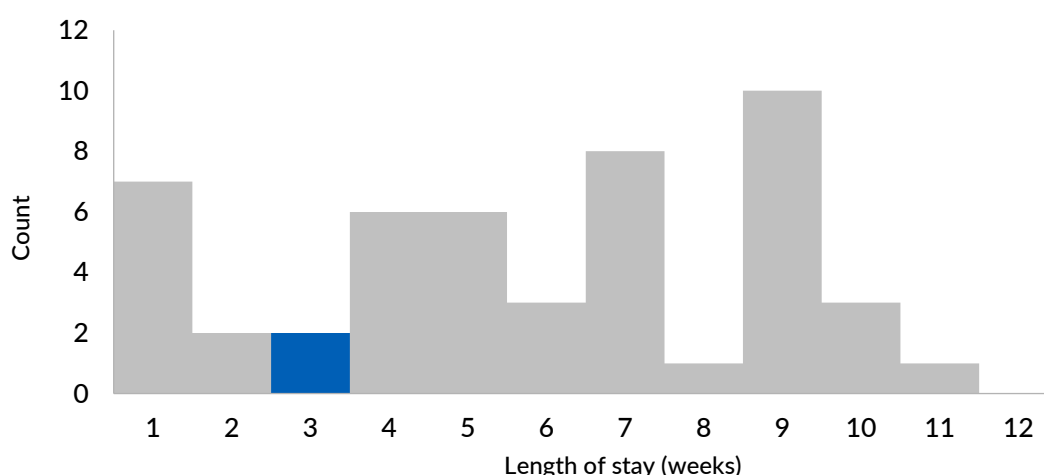


Figure 11: Weeks in programme before defaulting - OTP PoC

Figure 11 shows that the median length of stay before defaulting is 3 weeks, there are spikes in defaulting at 1 week and 9 weeks. This could indicate that mothers, after seeing an improvement in their child's condition, cease to go to the OTP. There were also reports of defaulting due to the perception of RUTF causing diarrhoea, which relates to the high number defaulting in the first week of treatment.

2.2.8 Referral Source

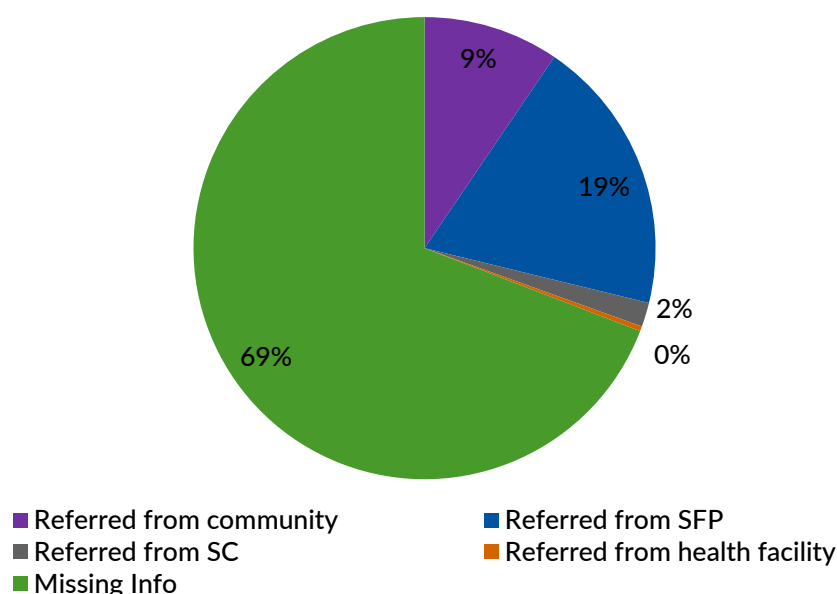


Figure 12: Referral Source - OTP PoC

Assessing the source of referral provides information on the pathway into the programme, and can tell us more about community awareness, CNV activity and screening in health facilities. Recording of this data is mixed, in the registers; the type of admission is usually recorded as new, transfer from SC/TSFP, readmission after default or relapse. In the OTP/TSFP cards, more information is given as to the source of admission. However, this is not always the case, an analysis of 295 cards demonstrated that either no source of referral, or generic 'referred from the community' is provided, this does not tell us if the case was a self-referral or CNV referral.

2.3 MODERATE ACUTE MALNUTRITION TREATMENT: INSIDE PROTECTION OF CIVILIANS CAMP

2.3.1 Admissions over time

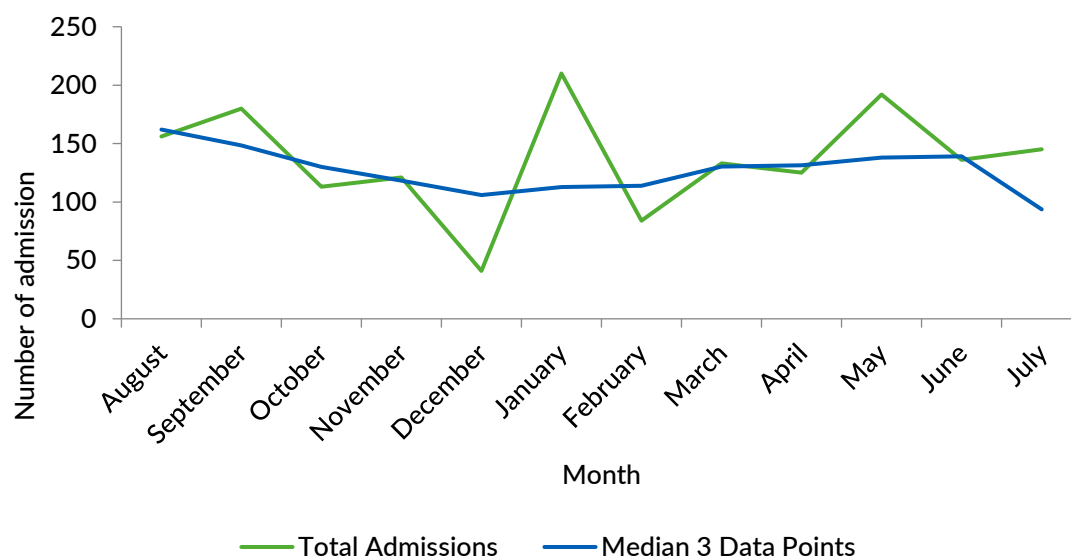


Figure 13: Admissions over time - SFP PoC

Admissions trends for SFP are similar to OTP, understandably, as they are part of the same programme. As food security increases from September to November, admissions decrease around in December with the Christmas season as programmatic activities decrease and migration increases. Admissions spike again in January, before stabilising and gradually increasing through the dry season from February. As the incidence of disease increases from the rains in April, admissions increase to reflect this. Similarly, camp activities (including registration) also see small spikes in admissions in September 2017 and March 2018.

2.3.2 MUAC and Weight-for-height admissions

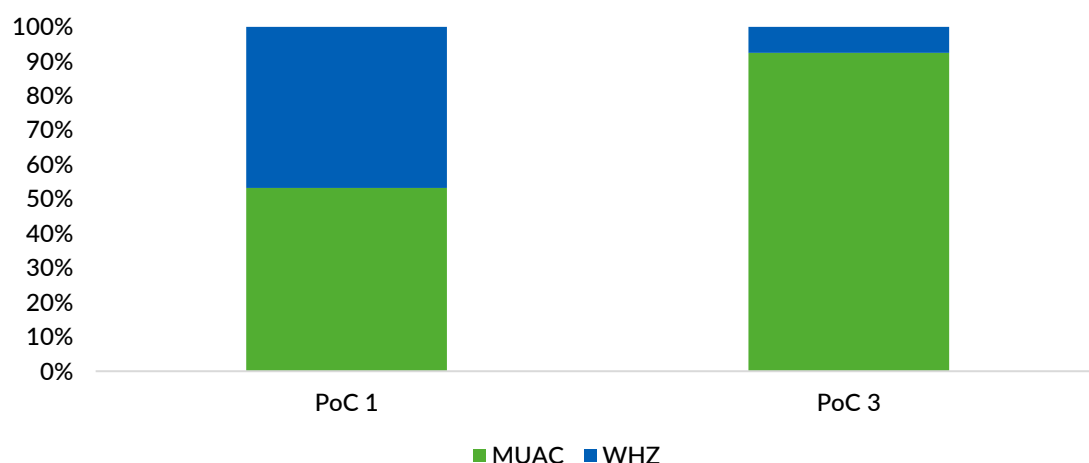


Figure 14: MUAC and WHZ admissions – SFP PoC

An analysis of the total number of MUAC admissions versus the total number of WHZ admissions was made. In PoC 1, there are an equal number of admissions made on WHZ

as there are MUAC, this is a contrast to PoC 3 where 92% of admissions are made on MUAC. This could be attributed to a number of reasons; the size of the PoC means that there are many more admissions at this site and so to MUAC is a more convenient means of admission. The proximity of the OTP in PoC 1 to the IMC hospital (where WHZ measurements are taken) to the OTP site is likely the result of many WHZ referrals. Particularly as cases that have a borderline MUAC measurement (115,116,117) are more likely to be subjected to WHZ screening.

2.3.3 MUAC at admission

An analysis of cases that were admitted on MUAC was conducted (n=798).

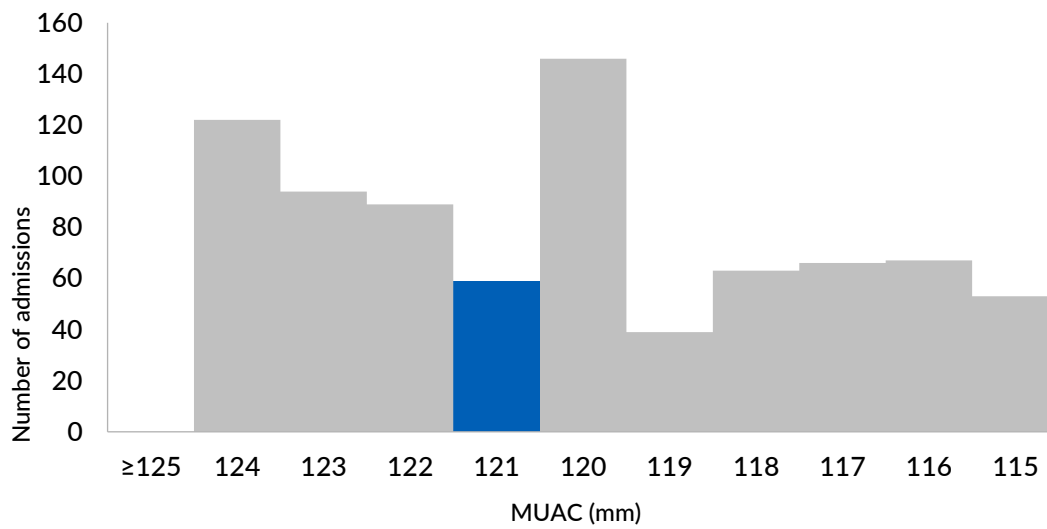


Figure 15: MUAC at admission – SFP PoC

The median MUAC on admission is 121mm, indicating relatively early admission of these cases into the programme. There is a spike at 124mm indicating some tightening of the MUAC tape to ensure admission. Additionally, at 120mm, there is a large spike in admissions indicating a digit preference.

2.3.4 Discharge Outcomes

Discharge outcomes are an important indicator of performance that allows us to see what proportion of cases recover after treatment.

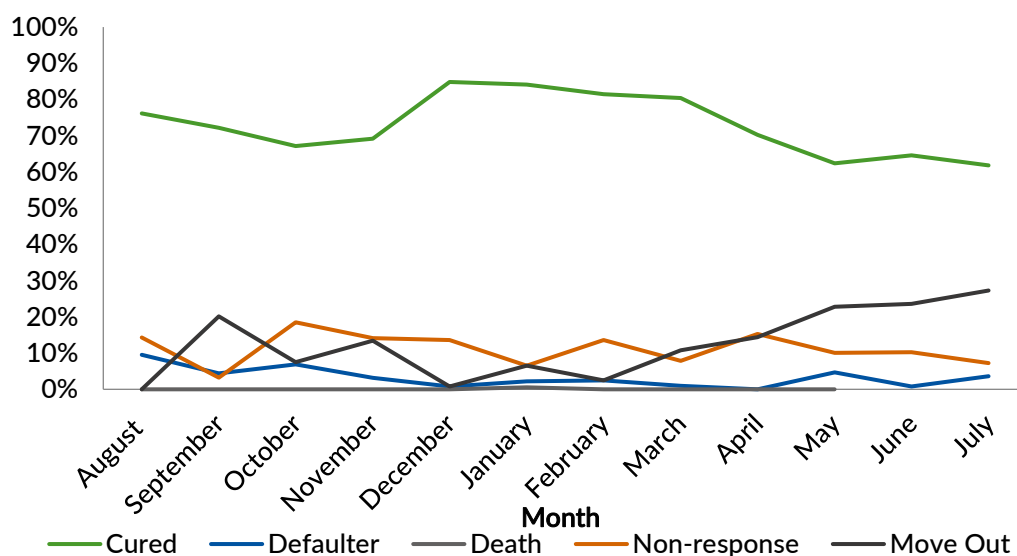


Figure 16: Discharge Outcomes over time – SFP PoC

The mean cure rate is 72.8%, which is below the Sphere standard of 75%⁵. Defaulting rates are 3.5%, which is also above the Sphere standard (below 15% threshold), however when move-out rates (13%) are included; this brings the average to 16.5%. Non-response rates are at 10.6%, which is relatively high (although there are no standards to compare this to).

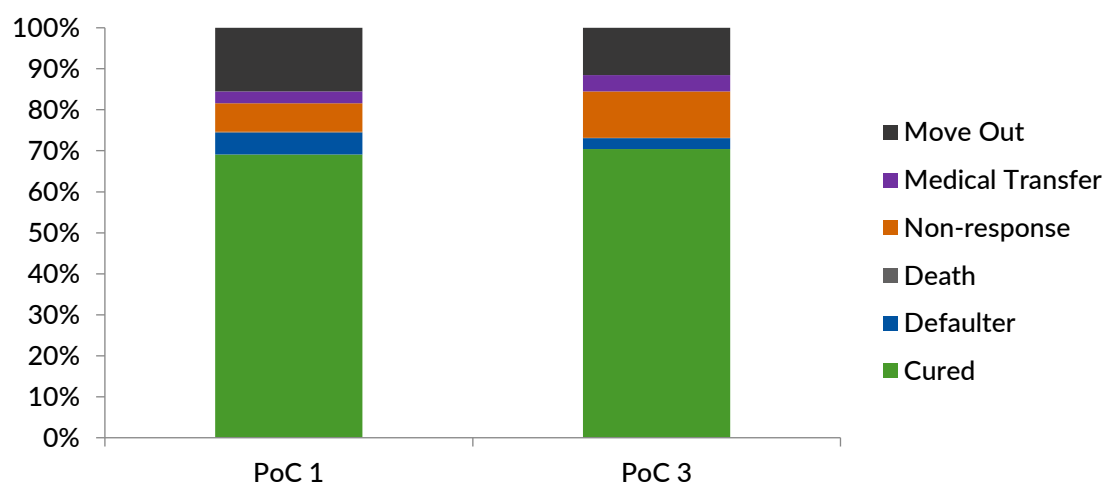


Figure 17: Discharge Outcomes by TSFP site – SFP PoC

The discharge outcomes across OTP sites are relatively similar, with the proportion of cured cases almost the same. There are more non-responders in PoC 3 (11%) than in one (7%), and the proportion of move out cases is lower.

⁵ Sphere Association. The Sphere Handbook: Humanitarian Charter and Minimum Standards in Humanitarian Response, fourth edition, Geneva, Switzerland, 2018. www.spherestandards.org/handbook

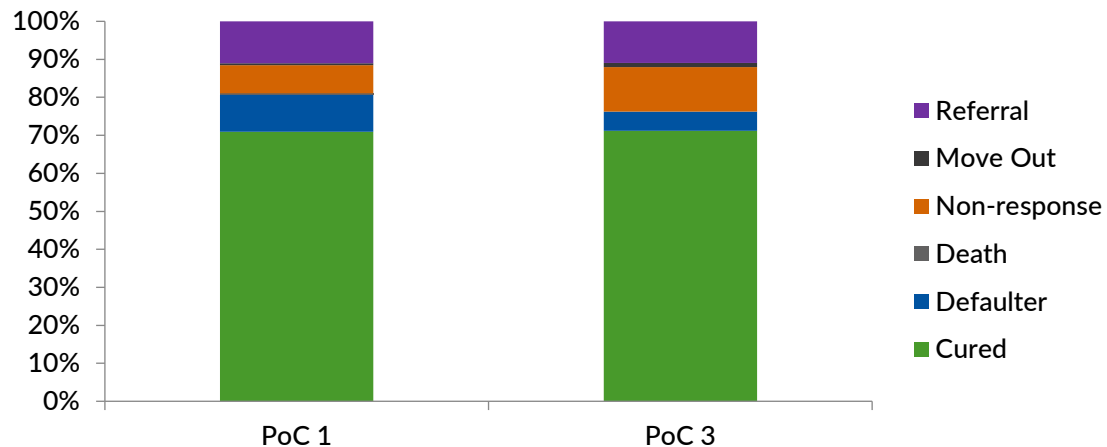


Figure 18: Register Discharge Outcomes – SFP PoC

The data collected from the registers was largely similar to the reported data, however the proportion of move out is much lower, and the number referred out is higher, this is due to differences in NIS reporting and programmatic reporting (whereby there is no way of recording referrals in NIS, and so they are recorded as move out). Referrals refer to the cases that are referred back to the OTP programme, and thus this is a proxy indicator for non-response, in both OTPs, the percentage that fall back to OTP is 11%.

2.3.5 Length of Stay Cured

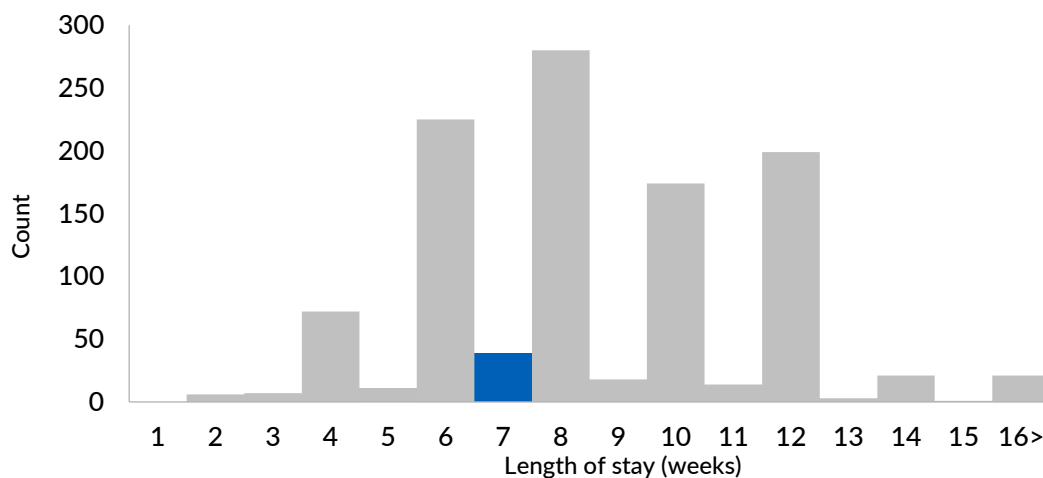


Figure 19: Length of Stay Cured – SFP PoC

The median length of stay for cured cases is 7 weeks, which is an expected and acceptable level in a TSFP. It also corresponds with the previous guidelines minimum length of stay of 6 weeks. There are a number of admissions recorded at over 13 weeks, which have been incorrectly recorded, as they are non-responders.

2.3.6 Defaulting and move-out over time

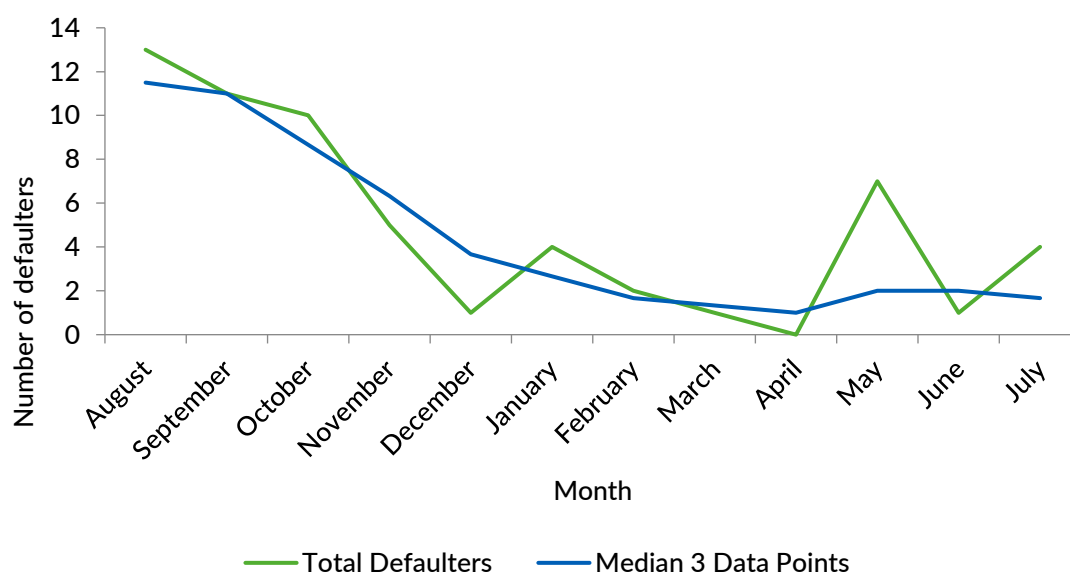


Figure 20: Defaulting Over Time – SFP PoC

SFP defaulting trends largely follow the same pattern as the OTP, however are more pronounced due to the higher numbers in the programme. Registrations for tokens took place in September and March, and so the spikes around these months are likely attributable to beneficiaries returning to the camp, enrolling in the programme and then defaulting in the weeks after. At Christmas, beneficiaries receive a double ration, and so defaulters become apparent once this period has passed, hence the small spike in January. May to June sees another increase in defaulting, which coincides with the rains, whereby it could be that populations move in order to begin cultivation.

2.3.7 Weeks in programme before defaulting

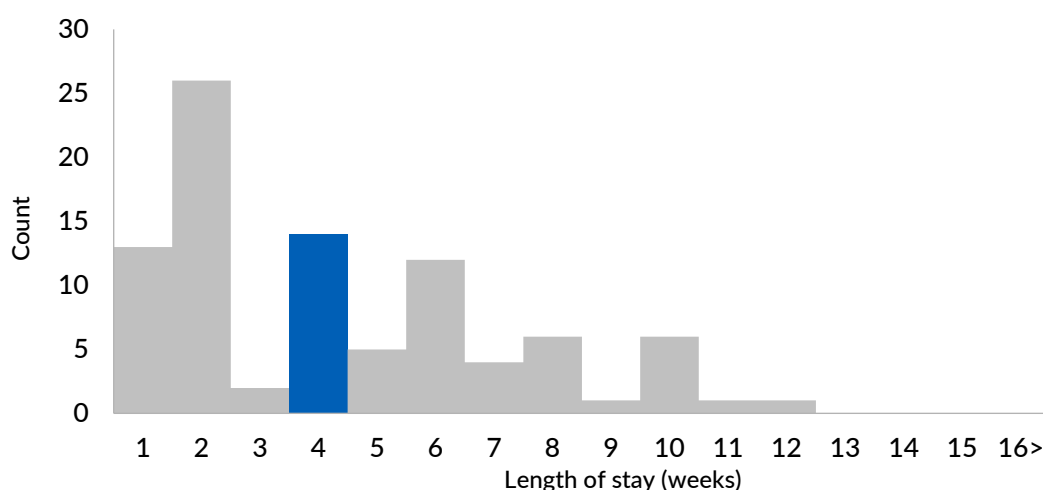


Figure 21: Weeks in programme before defaulting – SFP PoC

The median length of stay before defaulting is 4 weeks, and the highest proportion of defaulting was seen at 2 weeks. In SFP, this is indicative that the combination of routine medication and RUSF, the caregiver has seen an improvement in the child's condition and

thus decided not to continue with treatment. This also links to the low awareness of MAM as opposed to SAM, and the perception that a MAM child is normal.

2.3.8 MUAC at Discharge Default

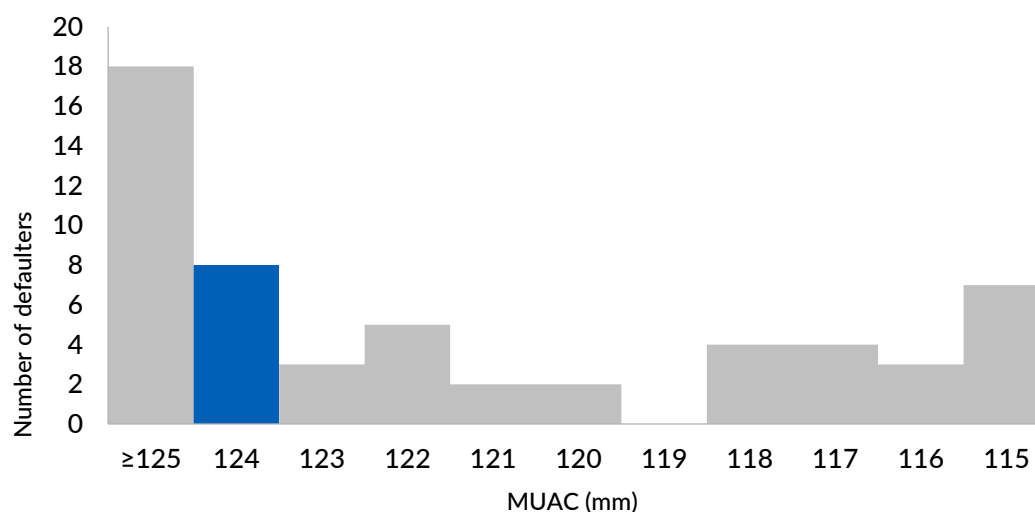


Figure 22: MUAC at discharge default – SFP PoC

An analysis of MUAC at default demonstrates that overall, cases are making at improvement, before defaulting; again suggesting that caregivers see this improvement and decide to discontinue treatment.

2.3.9 Referral Source

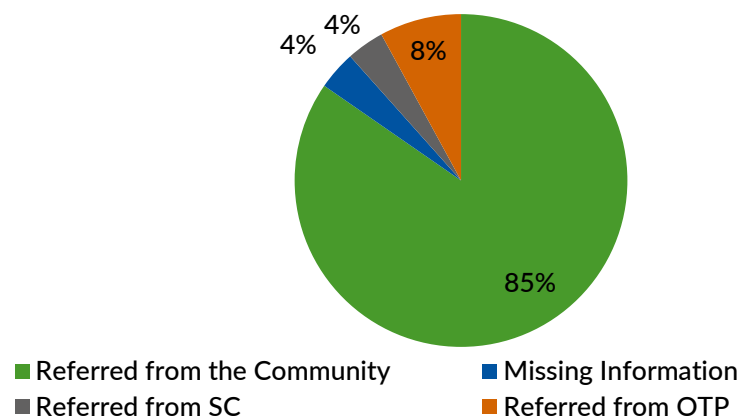


Figure 23: Referral Source – SFP PoC

The available referral data provides little information on how cases are actually referred into the programme. It would be expected that the number of cases referred by a CNV is higher, due to the screening in the community. Additionally, by indicating ‘new admission’ or ‘relapse’, there is little information on how these cases were identified.

2.4 QUANTITATIVE DATA QUALITY

Given the volume of admissions into the programmes, the data is of a high quality, with the data reported electronically similar to the original records. There are some issues with

digit preference in MUAC recording, which the team were surprised to see when the data was aggregated. In addition, to ease further analysis, it is recommended that referral source is recorded, in order to assess CNV activities and programme awareness in more detail.

3.0 QUALITATIVE DATA COLLECTION AND ANALYSIS

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

Programme stakeholders were first identified. These included programme participants (carers of SAM and MAM children), community members (village leaders, church leaders, men, and women) and programme staff (management staff, CNVs) see appendix 2 for a full list of interviews. Both OTP and residential locations were chosen for the qualitative research. Residential locations for the qualitative data collection were chosen based on the following factors; ensuring of good spatial coverage throughout the study sites and locations close and far from OTP sites.

3.1 METHODOLOGY

A day was spent training the team in qualitative research techniques, including focus group discussions and key informant interviews. The team were collectively trained to use all the interview guides and, on the first day of data collection, all the team went to the same area to allow for close supervision from the survey lead, and on-the-job training and feedback. An additional 3 days of qualitative research was conducted. The team worked in pairs, allowing for one person to conduct the interview and manage discussions, and for the other to take notes. Examples of the guides used can be found in appendix 3. As the end of each day, teams returned to discuss their findings, which were recorded and organised into positive and negative factors.

3.2 FINDINGS

In all, 35 interviews were conducted in the PoC: 17 key informant interviews, 10 focus group discussions, 5 semi-structured interviews and 3 informal group discussions. The average size of a focus group was eight people. In total, there were 67 female respondents and 27 male respondents, see appendix 2 for a full list of interviews. Data has been organised and presented in tables 4 and 5.

Table 3: Qualitative Findings - Positive Factors

Positive Factors	
Awareness of the symptoms, causes and effects of acute malnutrition	The community (men, women, caregivers of malnourished children not in the programme) demonstrated awareness of the most severe symptoms of acute malnutrition, listing oedema, marasmus, skin lesions, lethargy, hair colour changes and hair loss. Mostly, respondents described the impact of acute malnutrition as death, with few listing the impacts on development and productivity as the effects. Most informants were able to identify at least one cause of malnutrition such as lack of food, diarrhoea or poor care and hygiene practices.
High programmatic awareness and positive perception of the programme	There is high programme awareness, with all of those interviewed having knowledge of the programme and the services provided. The programme is recognised in the community as effective at curing children of malnutrition. The services and treatment by staff at OTP sites are spoken of positively, as well as the health messages that are shared with beneficiaries. This feeds into self-referral and peer-to-peer referral mechanisms, as the community is grateful for the services that Concern Worldwide provides.
Good health seeking behaviour leads to self-referral	There is high awareness of the healthcare options available, meaning that caregivers seek healthcare in health centres and hospitals. This self-referral mechanism for diseases combined with systematic screening at health facilities results in referrals across to OTP sites. As the referral source is not accurately recorded, this is difficult to quantify. However, anecdotal evidence tells us that this is commonplace. There is also some self-referral to the OTP sites, where caregivers are more aware of the programme and the symptoms to look out for, as relapse is common.
Screening by CNVs in the community	The community component of the programme, particularly in the PoC, is supported by a strong network of Community Nutrition Volunteers (CNVs). The activities of CNVs in the community has resulted in a high awareness of the programme and the NGOs implementing the programmes in the camp. There is regular screening across the blocks, and many of the caregivers interviewed have children recently screened by CNVs.
Community collaboration leads to sharing of messages within communities	Inside the PoC, community and religious leaders are regularly included in dialogue with NGO partners to ensure acceptance and encouragement of the programme. They are also involved in the selection of CNVs which although can introduce bias, does ensure that the volunteers are integrated into the community. Female camp leadership are involved in childcare, with members taking care of abandoned children and attending the OTP sites with them. Mother to mother support groups are effective in reinforcing community networks and promoting sharing of messages.

Table 4: Qualitative Findings – Negative Factors

Negative Factors	
Deficiencies in CNV network structure, resulting in weaknesses in screening and follow up.	Selection of CNVs every 6 months results in gaps in training of CNVs, which is only possible through continuous and supportive supervision over time. When interviewed, some CNVs were only aware of the process of MUAC, but were unaware of the programmes to which they were referring cases. There were also reported incidences of incorrect referrals, where cases had been rejected at the OTP, as they did not meet the criteria post referral resulting in a negative perception of the programme. When a child is not admitted, even if correct procedure has been followed, and indeed, they do not meet admission criteria, it is important that a full and justified explanation be given to the caregiver as to why their child is not being admitted into the programme.
Preference for alternative treatment (private clinics, hospital in Juba) where screening for malnutrition is not routinely conducted	There is a preference for treatment seeking in private clinics, due to stock outs of drugs in health facilities inside the PoC, and due to the preference for injectable medicines. However, in private clinics there is no screening for malnutrition, so children are provided with treatment for other diseases (diarrhoea and chest infections) yet remain undiagnosed as suffering from malnutrition.
Non-responders	Quantitative data highlighted that levels of non-response are high (above 10%). A tracing exercise of non-responders was therefore conducted, where children who had been discharged as non-responders were located in the community (n=3) and their case history was investigated. During treatment, the caregivers had not been informed that the child had not been making progress and there had been no home visits. It is uncertain why the children were not responding treatment, however according to mothers, the children remained ill during treatment with diarrhoea and infections, and so were unable to gain weight. According to OTP staff, non-response is due to sharing of RUTF and RUSF (they cited that is unlikely due to selling, as caregivers have to return the sachets). Following non-response, children are discharged, and caregivers are told to seek medical care and return to the programme after 2 weeks. The caregivers that we interviewed have returned to the programme; however, there are incidences where this takes longer than 2 weeks. The role of CNVs in the follow up of non-responders and defaulters is unclear, currently there is no follow up of these cases in the community, however in the camp setting, this is easy to facilitate. With home visits during treatment, and through working in conjunction with healthcare providers, it would be possible to identify those at risk of non-response before this happens.

Abandoned Children	A striking finding of the assessment was the number of children who had been abandoned by their mothers and are being cared for by other family members, neighbours or members of camp leadership. In the course of the assessment, in the blocks that were visited and with the respondents interviewed, 3 children were found to be abandoned; however, it is likely that there are more within the camp. Due to the impacts of trauma related to the war and fighting that has taken place, it is likely that the psychosocial impacts are great and a compounding factor for such a high number of abandoned children. Within the camp, there are limited resources available for identification of cases of post-traumatic stress and mental health issues, and there are limited resources for counselling and therapy. There is also a gap in awareness of OTP staff in how to identify vulnerable cases and refer them to appropriate services.
Female headed households	Many of the households are female headed, and additionally, culturally, men have very little involvement in childcare. This leaves the responsibilities of childcare, housework, firewood collection and income generating activities to the mother. The heavy workload results in defaulting, as the priority of visiting the OTP becomes diminished.
Stigma	Mothers of malnourished children explained of the shame they feel when their child is malnourished, and in attending the OTP. In interviews conducted in the community, respondents explained that malnutrition was often in children of 'young mothers who did not know how to look after their children properly', highlighting links between young (teenage) mothers, the stigma they face, and how this could potentially act as a barrier to accessing the programme.
Migration and movement in and out of camp resulting in defaulting	There is movement back and forth of the population between other areas in South Sudan and to Uganda. The urban environment results in less community networks making opportunities for tracing or follow up challenging.
Selling and sharing of RUTF/RUSF	There is limited anecdotal evidence of selling of RUTF and RUSF in the PoC. Programme staff informed that it is available to buy, and it is clearly visible in markets, however mothers deny selling it, and therefore the source of the stock in markets is uncertain. Non-response rates suggest that there is sharing of RUTF and RUSF amongst children in the same household, particularly in the PoC. Programme staff from all partners report that there is sharing and it is inevitable due to the Nuer culture of sharing amongst families, compounded by food insecurity. However when questioned, all mothers denied sharing, and repeated the messages that they are taught by programme staff and CNVs.
Poor perception of RUTF and RUSF	The programme is well received by the community and caregivers of malnourished children. However, there were instances where RUTF and RUSF were cited as the cause of diarrhoea and worsening of a child's condition, which has resulted in defaulting from the programme.

3.3 STAGE 1 SUMMARY

Qualitative data collected and analysed in stage 1 complemented the quantitative data, providing more insight into the positive and negative factors influencing coverage. There is high awareness of malnutrition and the programme due to community engagement in programming (through camp leadership) and because of the network of CNVs and regular screening. There is a good perception of the quality of the programme within the community, and proximity of beneficiaries to services results in self-referral to the programme. Similarly, there are good health seeking behaviours across the community, resulting in referral across to OTPs, however there is also a preference to seek treatment outside of the PoC, due to stock outs of drugs within health facilities in the PoC. Private facilities outside the PoC do not screen for malnutrition, resulting in missed opportunities for diagnosis of cases. There are some additional gaps in coverage due to the structure of the CNV network, resulting in a 6-month turnover of volunteers, which reduces the training that CNVs receive and thus opportunities for follow up of non-responders and defaulters.

4.0 STAGE 2: TESTING THE HYPOTHESIS

Stage 2 is designed to check stage 1 findings; it can be used as a 'checkpoint' to ensure that our findings from stage 1 are a true reflection of the programme. It can also be used to deep dive and inform the prior. Stage 2 is also an opportunity to collect additional information on an area of interest that may have an indirect impact on programme coverage, especially indirectly. Information collected in stage 2 can also be used during the formulation of the prior, ahead of the wide area survey in stage 3.

4.1 HYPOTHESIS – PROTECTION OF CIVILIANS CAMP

Malnourished children with a mother of more than 20 years of age have high coverage (>90%), malnourished children with a mother of less than 20 years or of age have low coverage (<90%).

4.1.2 Justification

During stage 1, it was reported by programme staff that they believe that coverage is lower in children who have younger mothers. This is due to a number of factors, including the reduced social networks for younger mothers, meaning that health messages are less tailored to this age group. The stigma associated with young mothers and thus reduced support that these mothers receive.

4.1.3 Sampling

Sampling was done in two stages: section/zone sampling and then sampling of SAM and MAM children in each block.

A block from each sector was chosen that was neither too close or too far from the OTP (although the maximum walk for beneficiaries is 15 minutes).

The case definitions in table 5 were used:

Table 5: Case Definitions

SAM child	Bilateral pitting oedema or MUAC <115mm
SAM recovering case	MUAC >115mm but still under-going OTP treatment (RUTF)
MAM child	MUAC ≥115mm and <125mm
MAM recovering case	MUAC ≥125mm but still undergoing TSFP treatment (RUSF)

Since the discharge criteria, for OTP is two consecutive measurements of MUAC ≥115mm some non-SAM cases may still be receiving OTP treatment. This is referred to as a recovering case. This also applies for MAM cases, since the discharge criteria is MUAC ≥125mm for two consecutive weeks.

All children under five were screened in the block using MUAC. When a case was found, the team would issue a questionnaire, using Digital Data Gathering (DDG) according to whether the child was in or out of the programme.

4.1.4 Findings - PoC

The results from the PoC are presented below in tables 6 and 7.

Table 6: Stage 2 Findings - SAM PoC

Catchment	Block	SAM covered	SAM uncovered	SAM recovering	Total
PoC 1	Block A	2	1	1	4
PoC 1	Block J	0	0	0	0
PoC 3	Zone A (blocks 3 and 4)	1	1	0	2
PoC 3	Zone F (blocks 1 and 3)	1	0	1	2
TOTALS		4	2	2	8

Table 7: Stage 2 Findings - MAM PoC

Catchment	Block	MAM covered	MAM uncovered	MAM recovering	Total
PoC 1	Block A	4	1	1	6
PoC 1	Block P	5	2	1	8
PoC 3	Zone A (blocks 3 and 4)	3	0	1	4
PoC 3	Zone F (blocks 1 and 3)	5	1	0	6
TOTALS		17	4	3	24

4.1.5 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. Inside the PoC, the SPHERE standard for coverage of CMAM programmes in camp locations was used, and therefore was set at 90%.

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

$$d = \left\lfloor n \times \frac{p}{100} \right\rfloor$$

$$d = \lfloor n * p / 100 \rfloor$$

d = decision rule

n= number of cases found

p= coverage standard defined.

Table 8: Stage 2 Analysis - PoC

SAM			
Younger mothers	Conclusion	Older mothers	Conclusion
n=0 d= 0 covered cases=0 Exceeds d? No	No cases found and therefore inconclusive	n= 8 d=7 covered cases= 7 Exceeds d? No	Decision rule not met therefore coverage classified as being below the standard.
MAM			
Younger mothers	Conclusion	Older mothers	Conclusion
n= 3 d= 1 covered cases= 2 Exceeds d? Yes	Decision rule met therefore coverage classified as being above the standard	n= 19 d= 17 covered cases= 16 Exceeds d? No	Decision rule not met therefore coverage classified as being below the standard

4.1.5 Analysis of SAM cases

In order to gain a better understanding of the reasons to not being in the programme, and explore the hypothesis further, additional questions were asked to carers of malnourished children enrolled and not enrolled. Carers were asked their age, in order to ascertain if this influences coverage.

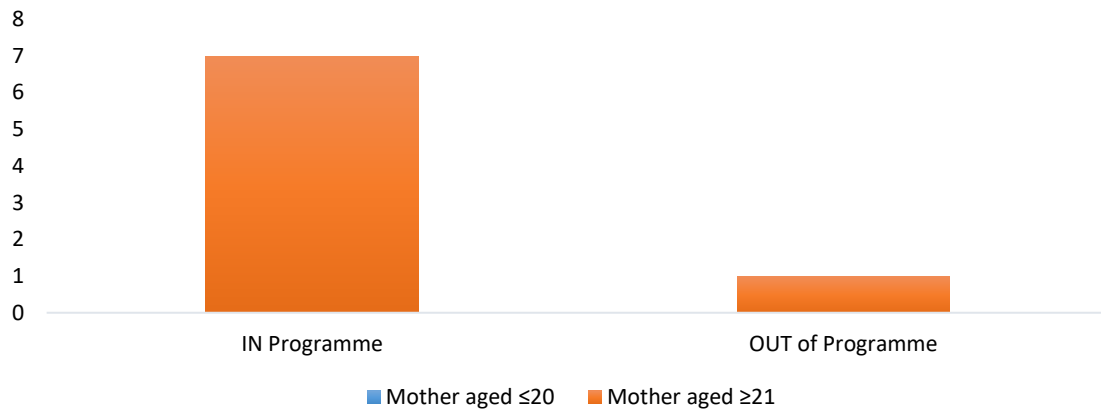


Figure 24: SAM children according to age of the mother

Of all SAM cases found, all had mothers aged 21 or above, therefore it is difficult to categorise coverage according to age groups.

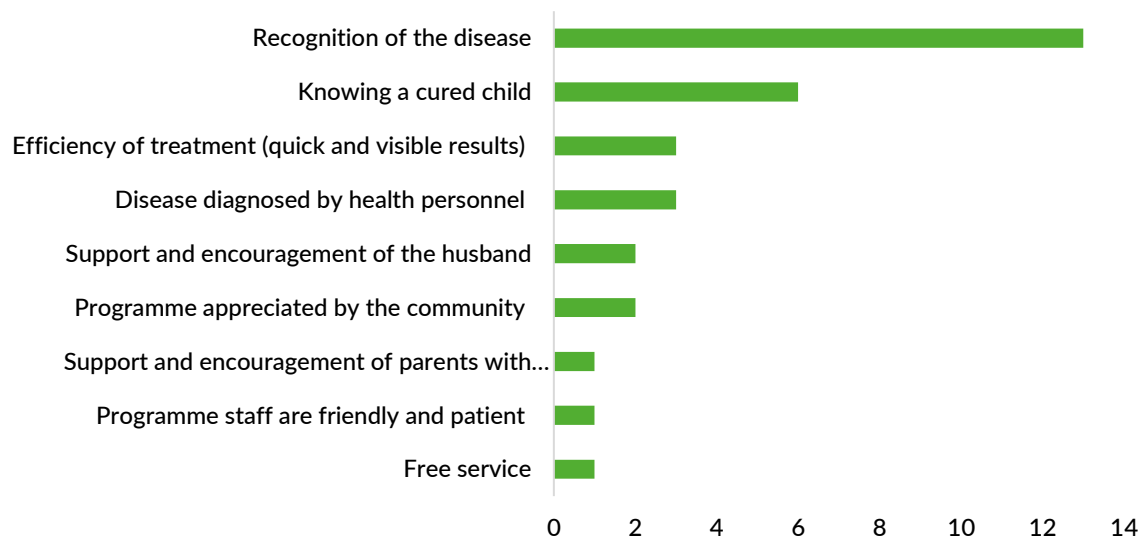


Figure 25: Reason for enrolment of SAM children

The main reason given for enrolment of SAM children is recognition of the disease; the caregiver realised the child is sick and has sought treatment. Staff in health facilities are also crucial to the enrolment of children into the programme, and this is strongly linked to recognition of the disease. Knowing a child that has been cured leads to the community having a positive perception of the programme, and so supporting parents in the programme.

The reason provided for the uncovered case was a 'lack of belief that the programme can help the child', this child had previously been in SFP and had defaulted at the end of September. The child had also been screened by a CNV within the last 2 weeks, and therefore this highlights a negative perception of the programme and a need for further counselling.

4.1.6 Analysis of MAM cases

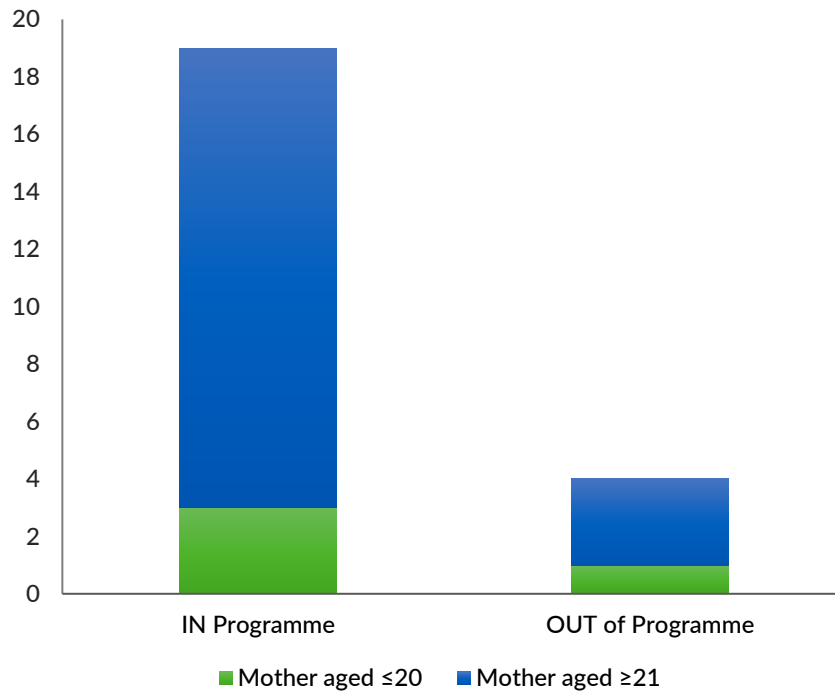


Figure 26: MAM children according to age of the mother

In total, four MAM children of mothers 20 years or less were found, three of which are in the programme. Out of a total of 19 children found with mothers of 21 years or more, 16 were in the programme. Therefore, according to LQAS, coverage is in fact lower in children with mothers who are above 20 years. However, due to the sample size obtained, the weighting across the age categories means that this is difficult to categorise.

The main reason for enrolment is overwhelmingly that caregivers recognise the child is sick and requires treatment (n=13). Knowing another child that has been cured and believing in the efficacy of the treatment demonstrates a positive perception of the programme (note that all provided responses have been aggregated).

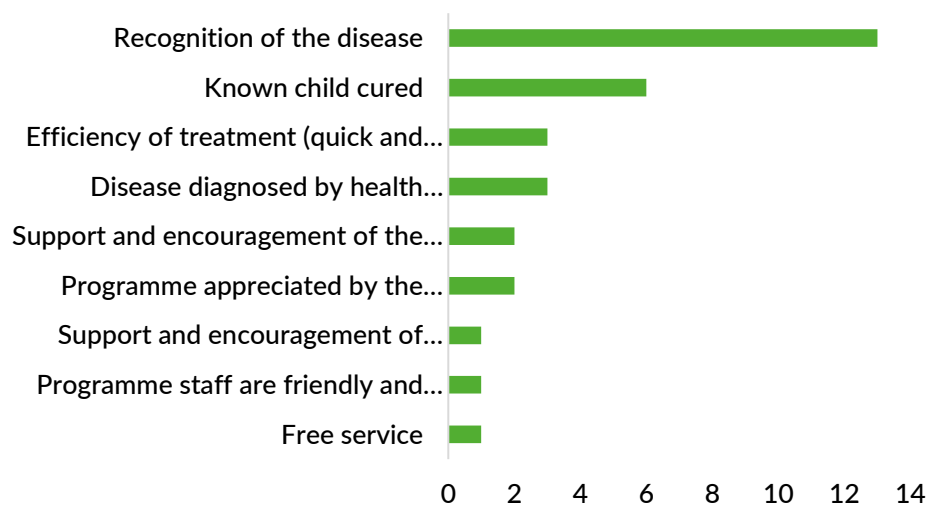


Figure 27: Reason for enrolment of MAM children

Busy with other activities, such as collecting firewood and going to the market, was cited as the main reason for non-enrolment for MAM cases.

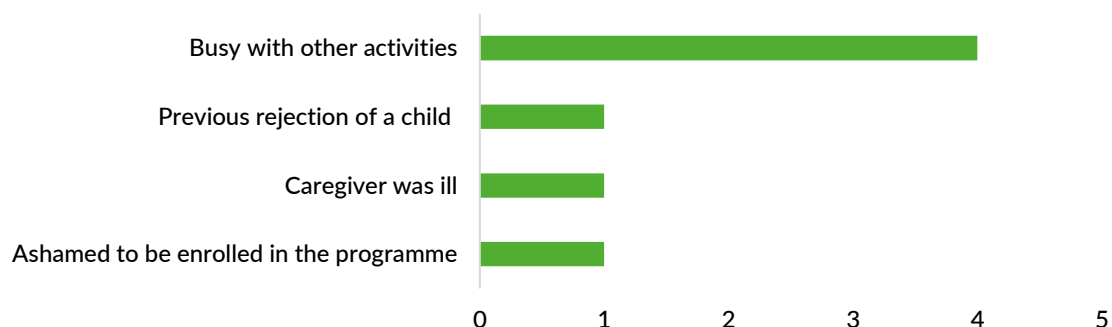


Figure 28: Reason for not being in the programme (MAM)

4.2 CONCLUSION

A comparison between the two population groups, of mothers less than 20 and mothers over 20 provided little clarity on the impact of this on coverage. Due to the relatively small numbers of young mothers, it is likely that the impact on overall coverage is low. Nonetheless, the concerns raised by the team and the data collected in the community highlighted this a factor that can impact access to the programme, and therefore consideration when these specific cases arise is important.

5.0 BUILDING THE PRIOR

A prior belief of coverage for the PoC sites was developed using all the information collected during Stages 1 and 2. SAM and MAM priors were developed separately, using four different methods for each: unweighted boosters and barriers, weighted boosters and barriers, scored concept maps and histogram of belief.

5.1 CONCEPT MAPS

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. 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.

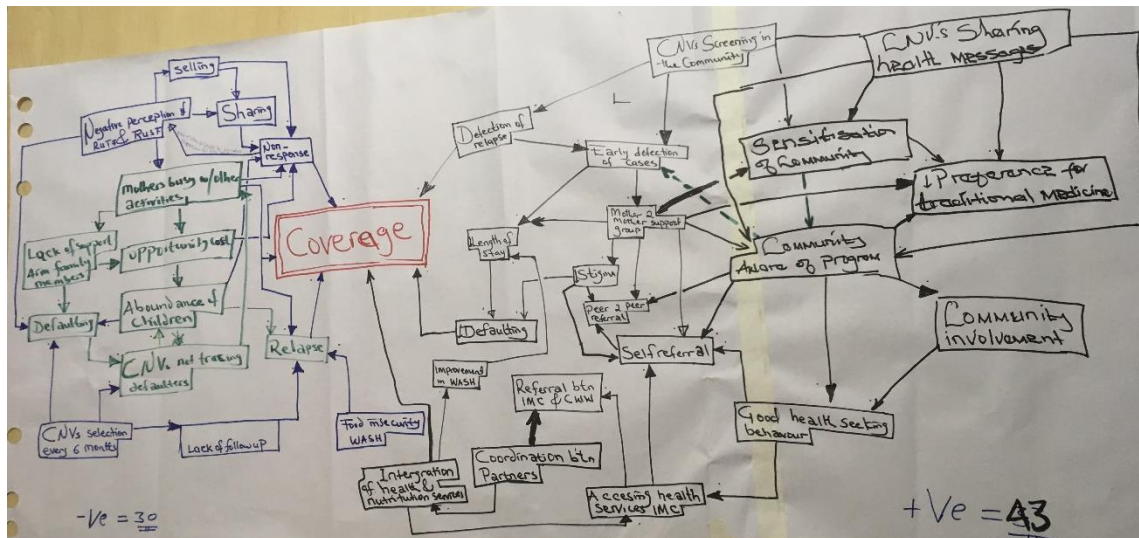


Figure 29: Concept Map of OTP - PoC

5.2 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 five 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.

5.3 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 of the assessment that had been placed on the walls of the training room. A list of all of the coded, scored and unweighted boosters and barriers can be found in appendix 4.

5.4 HISTOGRAM OF BELIEF

Histogram priors for all programmatic arms were 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).

The following equation was used to calculate the prior:

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

5.5 SAM PRIOR

Method	Prior Score
Scoring of Concept Map	82%
Weighted bbq	78%
Unweighted bbq	65%
Histogram of belief	95%
Mean	80%

5.6 MAM PRIOR

Method	Prior Score
Scoring of Concept Map	72.5%
Weighted bbq	68.5%
Unweighted bbq	65%
Histogram of belief	85%
Mean	72.8%

6.0 STAGE 3

The principal objective of Stage 3 is to provide an estimate for coverage. This firstly requires the development of a likelihood by way of a wide area survey, and then, using a Bayesian conjugate analysis, combine the prior and the likelihood to produce the posterior coverage estimate. Using the prior calculated at the beginning of Stage 3, the Bayesian SQUEAC calculator established a suggested sample size of 27 for the large area survey.

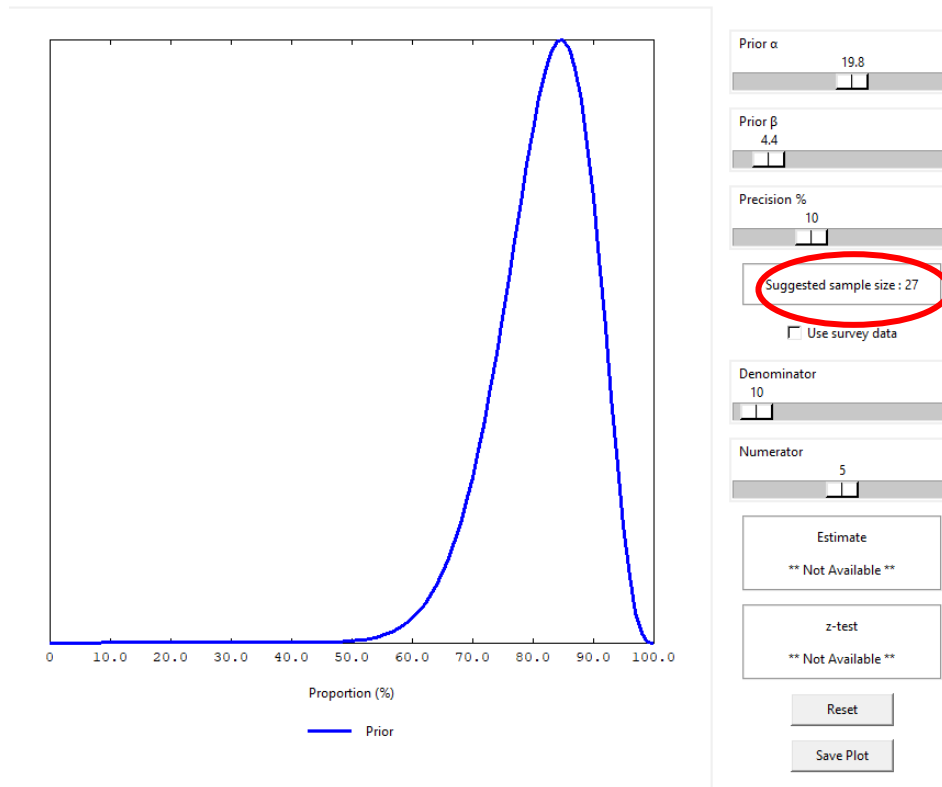


Figure 30: Bayesian Curve – OTP Coverage PoC

6.1 SAMPLING IN POC

The number of blocks to sample in each given area (control and intervention) to reach the target sample size of $n = 27$, was calculated using estimated population size, population structure and prevalence of SAM using the following formula:

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

The specific calculation for Juba PoC was as follows:

- $n = 27$
- % population 6-59 months = 26%⁶
- Prevalence of SAM = 0.5%⁷
- Average population of each block = 1600⁸

⁶SMART Survey December 2017

⁷Given the time of year and the results from stage 2, it was decided to use the lower estimate of SAM prevalence

⁸ based on information provided by Concern programme staff

$$n = \left\lceil \frac{27}{1600 \times \frac{26}{100} \times \frac{0.5}{100}} \right\rceil = 13$$

6.2 SAMPLING FRAMEWORK

A two stage sampling method was used; the first stage ensured the selection of a spatially representative sample of blocks/zones. The second stage used door-to-door sampling to find all SAM and MAM children in selected blocks/zones.

- First Stage: A detailed map of Juba PoCs was not available; therefore, a spatially stratified sampling method (list method) was employed, using lists provided by programme staff.
- 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.

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](#)). During stage 3, DDG (Digital Data Gathering) was utilised, and so each team of two had a tablet to input data.

The wide area survey was then completed over a period of 5 days by 10 teams of two. An additional six data collectors were recruited for the Wide Area Survey in order to cover more ground; these were all trained in MUAC. The team was able to cover between two and three blocks/zones in the PoC each day.

6.3 RESULTS OF WIDE AREA SURVEY

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. Recovering cases out of the programme are those cases who recover from SAM without receiving programmatic treatment⁹.

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 although R_{out} must be estimated. The number of recovering cases not in the programme (R_{out}) is calculated using

⁹ A single coverage estimator for use in SQUEAC, SLEAC, and other CMAM coverage assessments, <https://www.ennonline.net/fex/49/singlecoverage>

the formula below. A critical element of this is a correction factor 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 13 below shows the total number of cases found in the PoC wide area survey and the final calculation of R_{out} .

Table 9: Total number of cases found in PoC wide area survey

SAM PoC	
SAM covered	13
SAM recovering in	9
SAM uncovered	7
SAM recovering out	1
MAM PoC	
MAM covered	57
MAM recovering in	41
MAM uncovered	16
MAM recovering out	3

6.4 COVERAGE ESTIMATIONS

Table 10: Coverage Estimations

PoC	
SAM	74.3% (61.2%-84%
MAM	65% (57.2%-72.5%)

These coverage estimates were calculated using the single coverage estimator. The Bayes SQUEAC calculator presents a posterior curve (red), based on the conjugate analysis of the prior (blue) and the likelihood (green). The analysis displays if there is conflict between the prior and the likelihood, or if the prior is in accordance with the likelihood and we can accept the results. Reasons given by covered cases are displayed in figures 33 and 34.

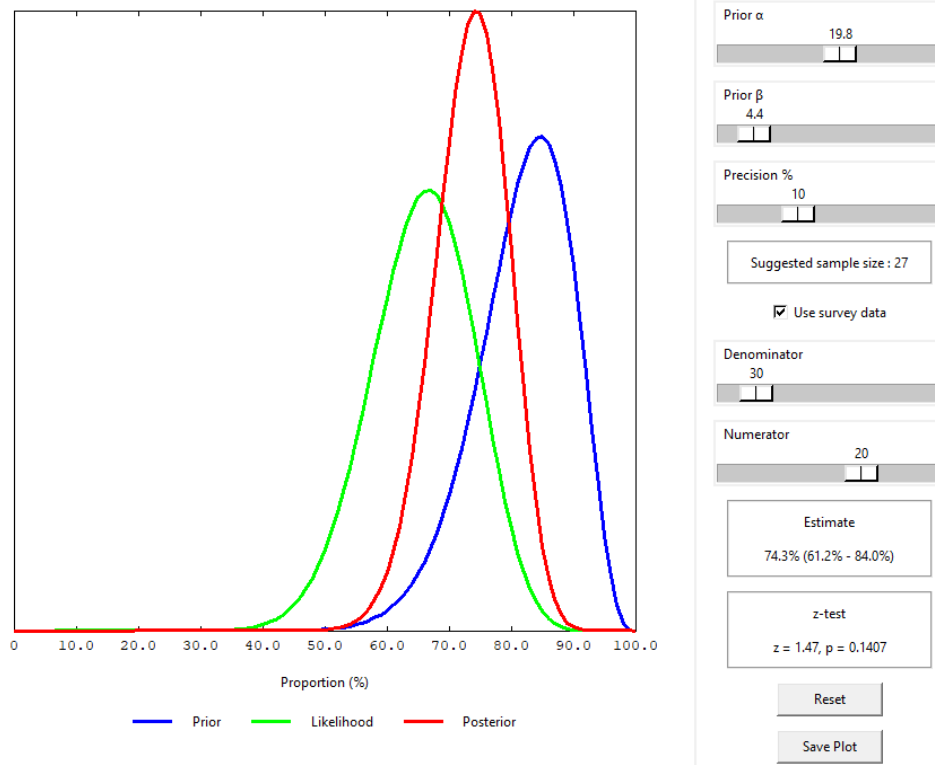


Figure 31: Bayesian Conjugate Analysis - SAM

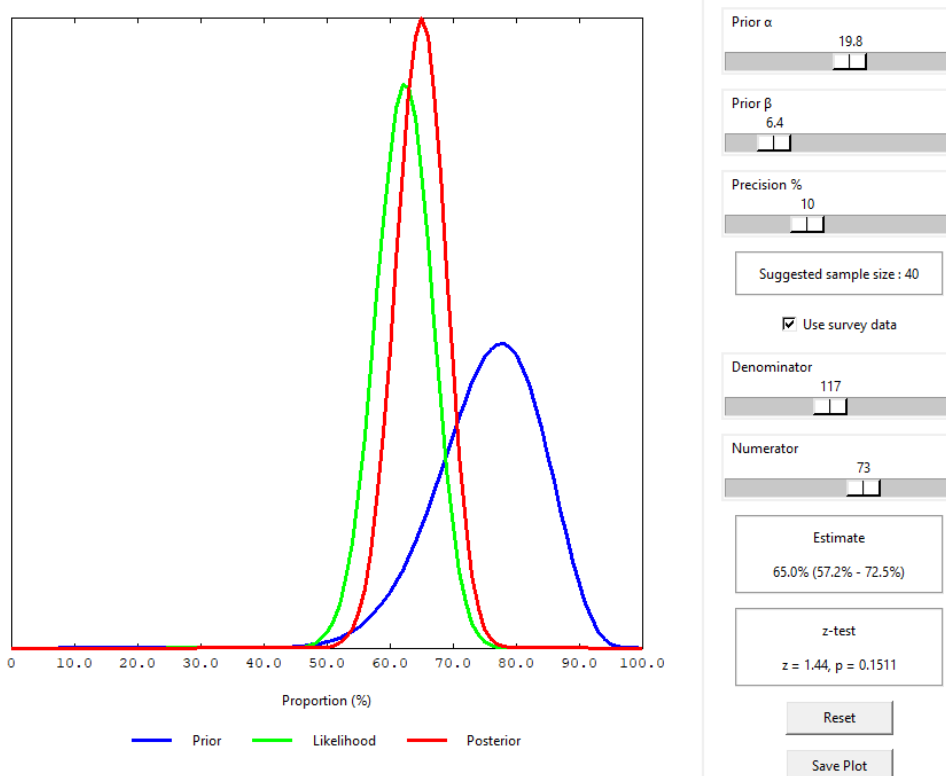


Figure 32: Bayesian Conjugate Analysis - MAM

There are no conflicts between prior and the likelihood and the coverage estimations can be accepted.

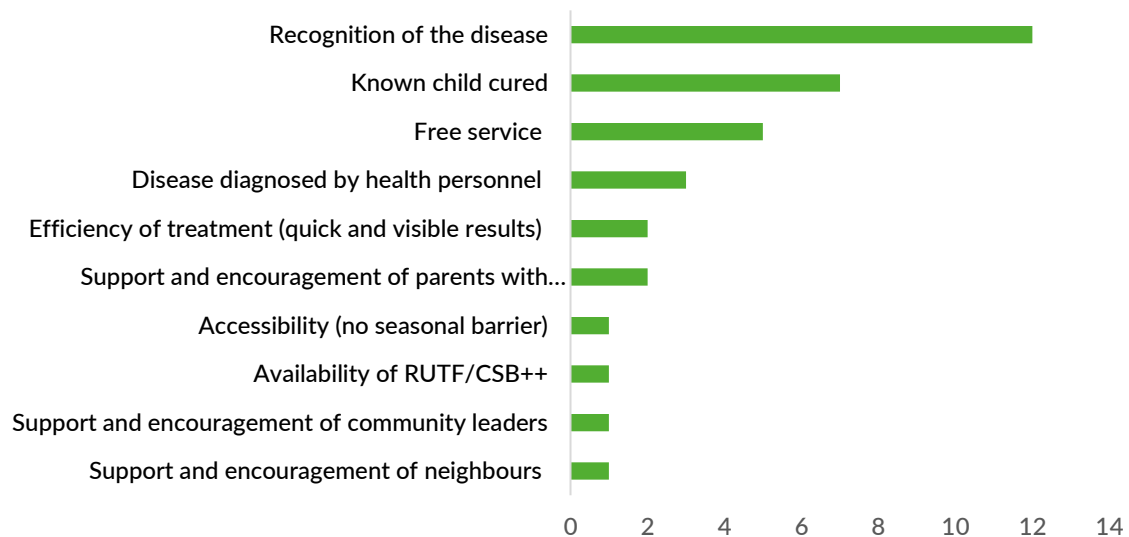


Figure 33: Reasons for enrolment PoC Stage 3 OTP

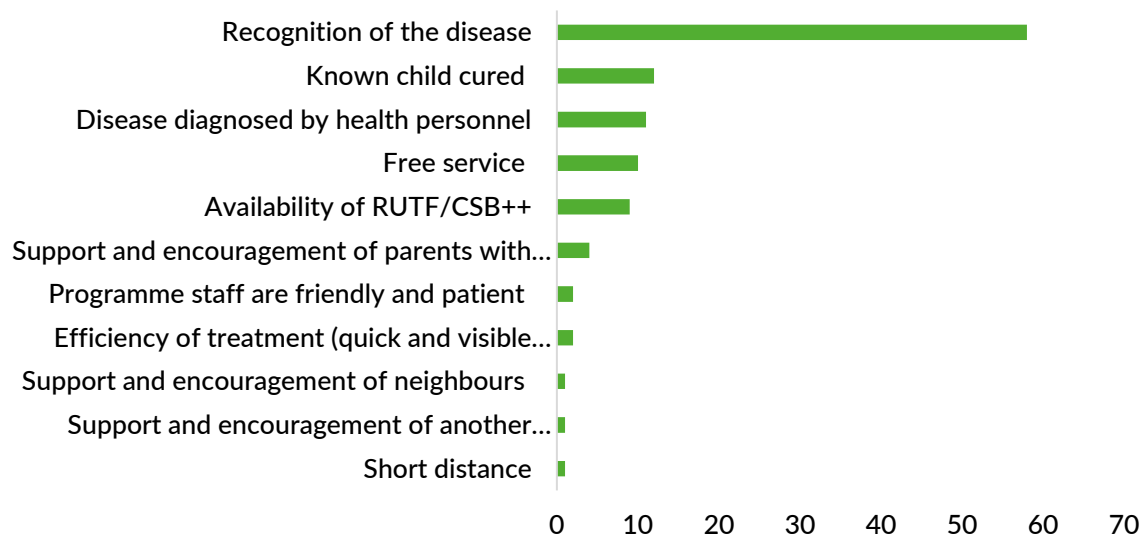


Figure 34: Reasons for enrolment PoC Stage 3 SFP

The reasons given for enrolment in the programme in the PoC are similar for both OTP and SFP, and are similar to stage 2. Recognising that the child requires treatment was the most common response provided and knowing a child that has been cured also helps to increase awareness of the programme and reinforces the positive perception.

Reasons for non-attendance were also analysed for SAM and MAM children found to be not enrolled in the programme. 'Busy with other activities' was the most commonly cited reason for non-attendance, and there is also belief that the programme is unable to help the child. Illness of a family member or the caregiver is another barrier to treatment, highlighting the gaps in community cohesion whereby this burden can be shared amongst neighbours.

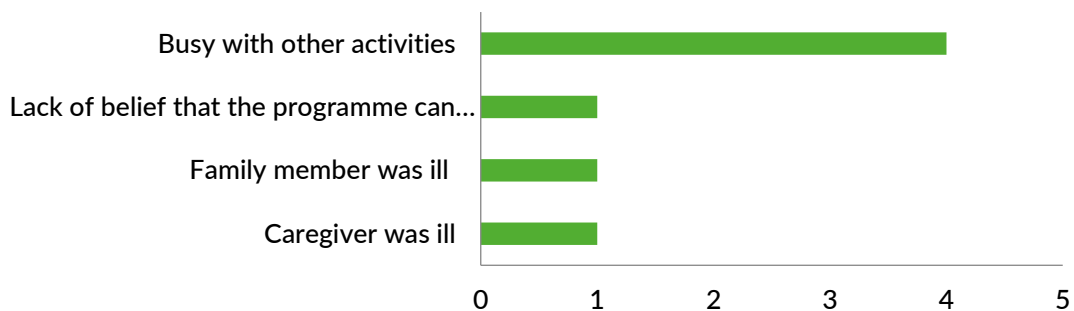


Figure 35: Reason for non-enrolment - SAM

Interestingly for MAM cases, previous rejection is also a reason for non-attendance. This is likely due to the child recently falling into MAM, highlighting the importance of monitoring cases that are falling close to the MAM criteria. 'Non-availability of financial resources for treatment' is somewhat of an anomaly, considering treatment is free, but further analysis of these cases highlights that the previous treatment they have sought has been from a pharmacy, thus highlighting a lack of understanding of the treatment that is available for free at the OTP sites. Fear of hospital stay is in reference to attending the nutrition centre, and being referred to the SC for treatment, which has further implications on childcare and transport costs.

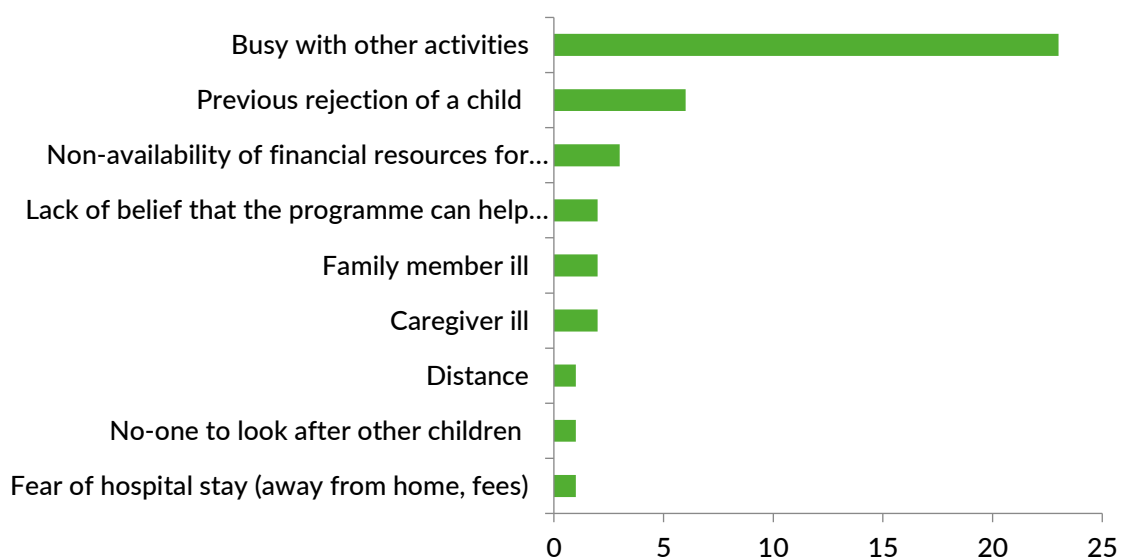


Figure 36: Reason for non-enrolment - MAM

In addition, information regarding the presence of CNVs was collected, to assess the impact of their presence on enrolment. Presence of CNVs was disaggregated according to if the case was found to be in the programme or out of the programme and according to SAM or MAM. The majority of cases in the programme have a CNV present, and out of those who responded 'yes', all had been screened within the last month.

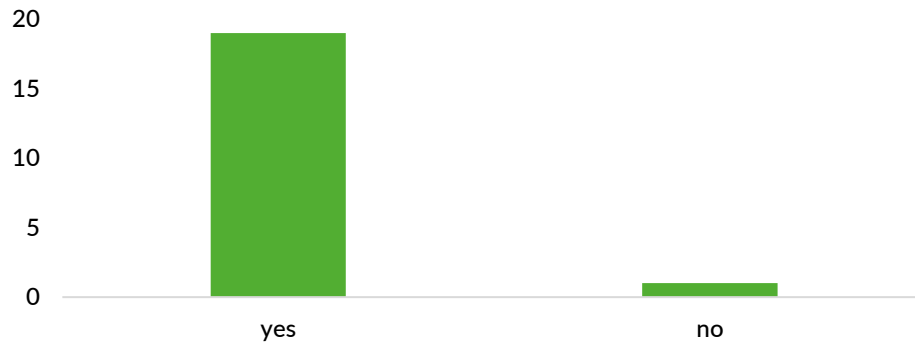


Figure 37: Presence of CNVs PoC OTP

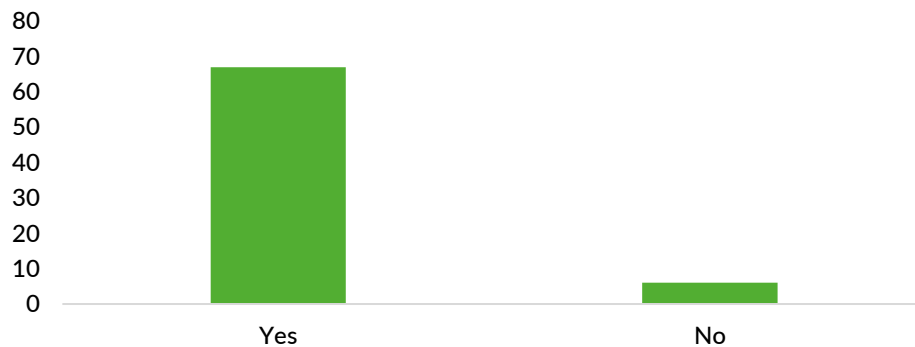


Figure 38: Presence of CNVs PoC SFP

Of those who were not enrolled in the programme, a much higher proportion did not have a CNV screening in their block or zone. Out of the nine uncovered SAM cases found, five did not have a CNV present and so had not been screened. Of the four who did have a CNV present, three had been screened within the last 2 weeks, one within the last month. Three cited being 'busy with other activities' as the reason for non-attendance, and one had been sick and so was unable to attend the OTP.

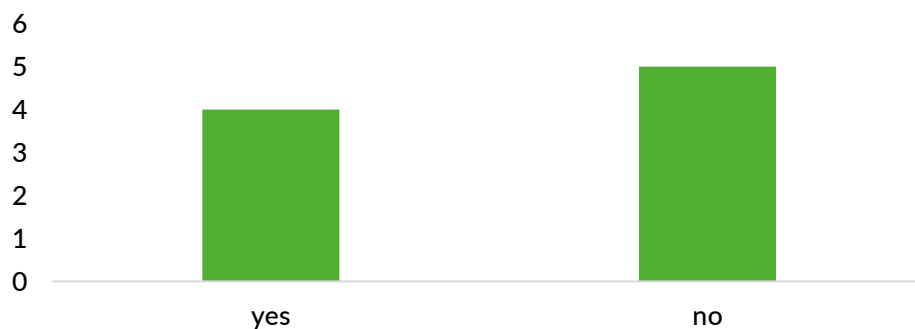


Figure 39: Presence of CNVs in non-enrolled SAM cases

Of the SFP cases out of the programme, 24 have a CNV working in the block/zone, although four of the cases had not been screened, 17 do not have a CNV working in their block/zone.

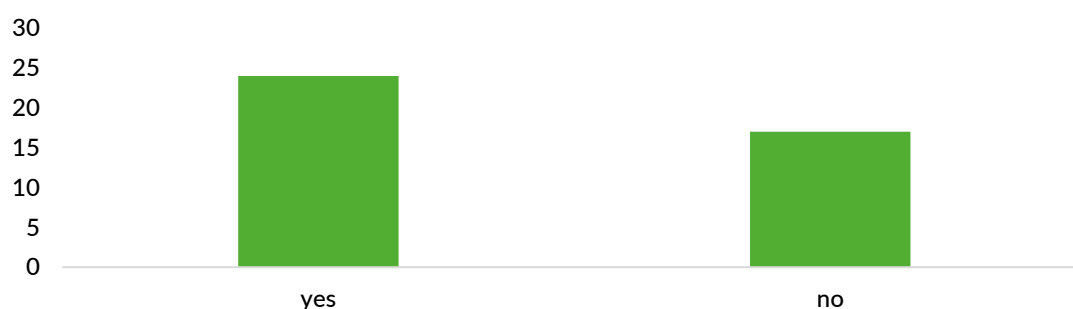


Figure 40: Presence of CNVs in non-enrolled MAM cases

6.5 DISAGGREGATION ACCORDING TO AGE

In order to provide more information in regards to the stage 2 hypothesis, a further analysis of the impact of age of mothers on coverage was conducted. Figure 41 shows the results of SAM children, disaggregated by programme enrolment and age of their mother, and figure 42 shows the results of MAM children.

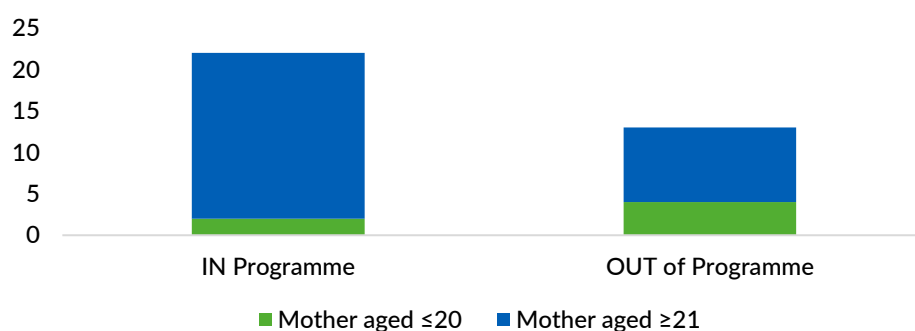


Figure 41: Disaggregation according to age - SAM cases

From figure 41 we can see that proportionally, more children with mothers aged 20 or less are out of the programme, however when LQAS is applied, both age groups have coverage that is below the Sphere standard.

Table 11: LQAS analysis of SAM cases

SAM			
Younger mothers	Conclusion	Older mothers	Conclusion
n=6 d= 5 covered cases=2 Exceeds d? No	Decision rule not met therefore coverage classified as being below the standard.	n= 29 d=26 covered cases= 20 Exceeds d? No	Decision rule not met therefore coverage classified as being below the standard.

The MAM results again display that coverage is uniformly below the standard across both population groups, and that age of the caregiver is unlikely to affect coverage.

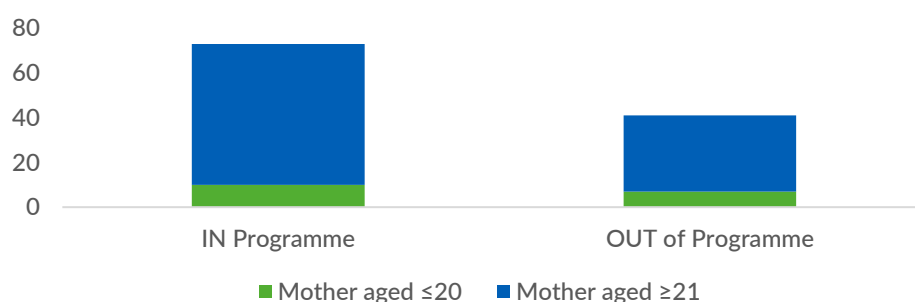


Figure 42: Disaggregation according to age - MAM cases

Table 12: LQAS analysis of MAM cases

MAM			
Younger mothers	Conclusion	Older mothers	Conclusion
n= 17 d= 15 covered cases= 10 Exceeds d? No	Decision rule not met therefore coverage classified as being below the standard	n= 97 d= 87 covered cases= 63 Exceeds d? No	Decision rule not met therefore coverage classified as being below the standard

7.0 CONCLUSION

Quantitative data collected in stage 1 provided insight into the strengths and shortcomings of the programme. Within the PoC, the discharge outcomes are just above the Sphere standards, with the mean cure rate of just above 75%, and defaulting at approximately 5%. The quality of the data is generally high, with reporting accurate, however care should be taken to ensure anthropometric measurements are recorded carefully to avoid digit preference.

Qualitative data collected and analysed in stage 1 complemented the quantitative data, providing more insight into the positive and negative factors influencing coverage. There is high awareness of malnutrition and the programme due to regular community meetings and the network of CNVs that conduct regular screening.

Selling of RUTF and RUSF is taking place within the camp, however communities are aware that the practice is not allowed and therefore it was difficult to obtain information on this. It is however likely that due to Nuer culture, sharing is common, and this is reflected in the non-response rates seen across the PoCs. Additionally, high levels of disease (such as diarrhoea) in the camps are probable contributors to non-response, highlighting the continued needs for hygiene promotion.

There are good health seeking behaviours across the communities, and screening by staff at health facilities results in referral across to OTP sites. However, stock outs of drugs at health facilities and preference for injectable medicines results in the use of private clinics, where screening for malnutrition is not conducted. This results in missed opportunities for diagnosis of cases of malnutrition (particularly in MAM when the symptoms are less severe).

A barrier to access OTP and TSFP within the PoC is the gaps that exist in screening, despite the active networks of CNVs. The six monthly turnover of CNVs, in line with camp management results in lack of training opportunities for CNVs, as this is a process that requires gradual and sustained training to ensure quality and continual motivation. Stage 3 confounded this perception, whereby pockets of cases were found in areas of the camp that were lacking CNV activity.

Mothers living in the PoC are participating in activities such as firewood collection and going to market to generate income. There is also movement in and out of the PoC, especially during periods of registration for tokens. It is difficult to ascertain whether cases that have moved out of the PoC have indeed registered at another OTP site, however clear instructions can be given to mothers to inform them of their options if they do decide to move out.

Stage 2 was used to further investigate areas of interest and to demonstrate gaps in coverage. It was hypothesised that the age of mothers could impact programme attendance. This is due to differences in social structures and the way that health messages are communicated to a younger age group. It was also thought that stigma impacts this age group more than older mothers, as being a young mother brings more judgement from other community members. The results from stage 2 proved largely inconclusive; as the sample size of younger mothers was small, (no young mothers were found with SAM children). For MAM cases, older mothers were more likely to not be in the programme; however, the sample size still mean that linkages are difficult to form. LQAS analysis was also conducted for stage 3 results as this provided a larger sample size, it showed coverage that was uniformly below the Sphere standard in all age groups. Nonetheless, qualitative evidence collected in stage 1 did highlight that young mothers are treated differently in the community and do respond differently to health messaging, and so when programming, it is still important to tailor messages to this demographic group.

The wide area survey in stage 3 provided coverage estimates for OTP and SFP coverage in the PoC.

Table 13: Coverage estimates for PoC

PoC	
SAM	74.3% (CI 95%: 61.2%-84%)
MAM	65% (CI 95%: 57.2%-72.5%)

Coverage of OTP and SFP inside the PoC is below the Sphere standard for a camp of 90%. This is in line with the information found in stage 1 and 2, where the barriers to coverage, including case finding, movement in and out of the PoC and busy workload of mothers impact the ability of the programme to reach each child. Coverage of MAM children is lower due to the reduced awareness of MAM cases.

8.0 RECOMMENDATIONS

A series of recommendations were formulated in conjunction with members of the SQUEAC team and nutrition cluster in response to the findings from the PoC.

Table 14: Recommendations

Finding	Recommendation	Action	Persons Responsible
Gaps in screening	Advocate to increase the 6 month CNV cycle Increase supervision and training of CNVs Training in mothers on MUAC measurement	• Advocate to camp leadership to increase the amount of time that CNVs serve for • Separate community gatherings and screening – use staff to do community gatherings through focus group discussion, and utilise additional time gained by CNVs to do screening • Increase motivation by ensuring incentives are on time • Provide frequent refresher training and capacity building to CNVs, including on the job training and shadowing to increase motivation and quality of CNV work • Community mobilizers/facilitators to reduce their attendance in nutrition centres and increase their outreach work and supervising CNVs • Utilise staff to conduct mass camp screenings 4-6 times annually • Nutrition staff to assess the WHZ score of children with MUAC<130mm in order to increase the WHZ score admissions • Monitor location of admissions to identify any gaps in referrals	

		• Utilise mother-to-mother support groups inside the PoC to train lead mothers in MUAC • Ensuring that the geographical spread of mothers able to measure MUAC is evenly distributed	
Abandoned Children and Vulnerable Cases	Increase awareness and knowledge in identification and referral of these cases Introduce component of psychosocial support into programme	• Conduct additional training sessions to Concern staff on identifying vulnerable cases, and referral to Terre des Hommes and partners • Organise an orientation/joint-training day for CWW staff and other partners to share information on activities, ways of working, availability of support and lessons learnt • Increase awareness of community leaders of identification and referral of vulnerable cases – linking to female leadership groups who are already involved in the care of these children, and utilising weekly community focus group discussions • Remind all staff to consult with Juba office if unsure when there are cases that do not fulfil the programme proposal, yet are acutely malnourished (for example children less than 6 months, adolescents) • Increase funding available for psychosocial support to address the effects of war and trauma through onsite counselling services	
Movement in and out of PoC leads to defaulting	Increase messaging around transferring	• Tune messages given to mothers, during times of registration for vouchers • Increase messaging around the consequences of malnutrition (including hindrance on cognitive	

		development and future health, not just the short term consequences) and the importance of remaining in the programme, continual growth monitoring and prevention of malnutrition	
Sharing and selling of RUTF	Give an unpopular name to RUTF, which is locally called 'nyalop' (which means something soft) – to ensure RUTF is treated as a medicine not a food	• Work with camp leadership to prevent the selling of RUTF, RUSF and CSB++ • Use highlighted communication channels to 'rebrand' RUTF so it is treated as a drug and not a food commodity (in a similar way paracetamol is respected as a drug and usually not taken unnecessarily)	
Data Quality	Provide additional training to all OTP/TSFP staff	• Provide refresher training to OTP/TSFP staff on quality data recording, including reporting anthropometric measurements correctly • Conduct monthly data reviews that include all staff, to demonstrate the impact of data quality on figures	
Follow up of cases between health facilities and OTPs	Strengthen links between health facilities and OTP sites	• CWW send follow ups to IMC – e.g. checking a child has reached the SC and send follow up on children who have been received from the SC, to ensure that there are no cases lost through the referral process • Provision of transport from PoC 3 for SC cases • Advocate at Jubek State Nutrition Sub-cluster level and engage state MoH to introduce malnutrition screening in all private and public hospitals. • Provide information to other private health clinics on the provision of nutrition services (and in screening these cases)	

Non-responders	Improve follow up and monitoring of non-responders	• Inform those at risk of non-response earlier during treatment and monitor these cases more carefully • Community mobiliser to conduct home visits of non-responders with CNVs (for on the job training) to investigate reasons behind non-response and provide support to caregivers	
Stigma	Increase messaging to decrease stigma	• Include messaging as part of community dialogues (focus group discussions) • From mother to mother support groups for younger mothers (suggest <24) to adapt messaging to a younger audience, and provide support networks for carers who are potentially more vulnerable	
Busy workload of mothers	Create business opportunities/income generating opportunities that have a higher yield with less input (time) Cash transfers	• Coordinate with FSL counterparts to identify opportunities to collaborate on initiatives such as cash transfers and income generating activities	

APPENDIX 1: PARTICIPANT LIST

Name	Position
Luka Mathiang	Assistant project officer
Lony Gatwech Hoth	Assistant project officer
Bena Juru	Project officer
Jankok Moses Milla	Assistant project officer
Gattuor Biel	Community facilitator
Wani Richard Mathew	Community facilitator
Silvio Onen	Nutrition assistant
Lodu Ahemed Festo	General food distribution assistant
Mai Puot Gatluak	Nutrition nurse
William Bol	CMAM nurse
Lomono Innocent Marle	Driver
Yawa Betty Stanley	Enumerator
Wori Daniel Lou	Enumerator
Hadia Emmanuel Kenyi	Enumerator

APPENDIX 2: COMPLETE LIST OF INTERVIEWS

JUBA PROTECTION OF CIVILIANS CAMP

Date	Informant Type	Interview Method	Location	Number of participants
22 nd October 2018	CNVs	Focus Group Discussion	PoC 1	4 (3 male, 1 female)
	Community member	Key Informant Interview	PoC 1	1 (female)
	Mother of a child in the programme (OTP)	Key Informant Interview	PoC 1	1 (female)
	OTP Staff	Key Informant Interview	PoC 1	1 (male)
	OTP Staff	Key Informant Interview	PoC 1	3 (2 male, 1 female)

	Hospital Staff	Semi-structured Interview	PoC 1 (Stabilisation Centre)	1 (male)
	Caregiver of child in programme (SC)	Semi-structured Interview	PoC 1 (Stabilisation Centre)	1 (female)
	Caregiver of child in programme (SC)	Semi-structured Interview	PoC 1 (Stabilisation Centre)	1 (female)
	Community members	Key Informant Interview	PoC 1	1 (female)
	Lead mother	Key Informant Interview	PoC 1	1 (female)
	Mother of malnourished child not in the programme	Key Informant Interview	PoC 1	1 (female)
	Caregivers of children in the programme	Focus Group Discussion	PoC 1	15 (women)
23 rd October	Caregivers of children in the programme	Focus Group Discussion	PoC 3	10 (women)
	OTP staff	Key Informant Interview	PoC 3	1 (woman)
	Community member	Key Informant Interview	PoC 3	1 (woman)
	Community member	Focus Group Discussion	PoC 3	6 (women)
	Community members	Key Informant Interview	PoC 3	1 (woman)
	Community members	Focus Group Discussion	PoC 3	9 (women)
	Community members	Focus Group Discussion	PoC 3	7 (men)
	Mother of malnourished child not in the programme	Key Informant Interview	PoC 3	1 (woman)
	Community members	Informal Group Discussion	PoC 3	3 (women)

	Community members	Informal Group Discussion	PoC 3	3 (women)
	Mother of malnourished child not in the programme	Key Informant Interview	PoC 3	1 (woman)
	Community members	Focus Group Discussion	PoC 3	5 (women)
	Caregiver of children in the programme	Key Informant Interview	PoC 3	1 (woman)
	Mother of malnourished child not in the programme	Key Informant Interview	PoC 3	1 (woman)
	Community members	Informal Group Discussion	PoC 3	2 (men)
	Caregivers of children in the programme	Informal Group Discussion	PoC 3	2 (women)
25 th October 2018	Camp Leader	Key Informant Interview	PoC 3	1 (woman)
	Camp Leaders	Focus Group Discussion	PoC 1	6 (men)
	School Teacher	Key Informant Interview	PoC 1	1 (man)
	Adolescents	Informal Group Discussion	PoC 3	4 (3 males, 1 female)
	CNVs	Focus Group Discussion	PoC 3	4 (2 women, 2 men)
	NGO Partners	Key Informant Interview	PoC 3	1 (male)
	Teachers	Focus Group Discussion	PoC 3	5 (men)

APPENDIX 3: INTERVIEW GUIDES

GUIDE1: OTP/TSFP staff

CMAM SERVICES

1. How do you identify SAM and MAM cases?
2. Can you describe the treatment protocol for children with acute malnutrition available in this health facility or in health facilities in this community? (Probe: SAM/MAM admission and discharge criteria? Is there a protocol? Do the staff use the protocol?)
3. How are the SAM/MAM programme integrated with other programmes in the facility?
4. How do you get SAM cases admitted to the programme? Probe for referrals/self-referrals/screening at the facility
5. How do you get MAM cases admitted to the programme? Probe for referrals/self-referrals/screening at the facility
6. What are the main factors affecting the proper running of IMAM services in the OTP?
7. Do you think there is a difference between access to SAM and MAM services? Can you explain them?
8. Is defaulting a challenge in your program?
 - When does defaulting occur most and what are the probable reasons for defaulting?
 - Is there a mechanism to bring defaulters back to the program? Explain it
9. Can you describe any CMAM training you have attended?
10. Can you describe technical support and feedback you receive from your supervisor (s)? (probe for who/how often on the job training)
11. If SUPERVISOR at OTP: Describe supervision visits to Health posts to support health workers? When was the last time you visited?
12. In your opinion, what are your recommendations to improve the IMAM services?

COMMUNITY MOBILIZATION ACTIVITIES

1. What existing community mobilization activities are already underway to promote IMAM Service use?
2. Is screening conducted at community level? (When and how often?)
3. Who is responsible for community mobilisation?
4. What works best?
5. What are the main factors affecting access to IMAM services in the community?

(Probe: team structure, reporting, how you work with community-based volunteers?)

6. In your opinion, who are the most appropriate community figures and groups to carry out community mobilization activities for CMAM?
(Probe: religious leaders, traditional healers, mother groups, father groups, youth groups, paid volunteers, CHWs)
7. Does the programme face any challenges to carry their community mobilisation and screening activities effectively?

GUIDE 2: COMMUNITY MEMBERS(Community Elders, Religious leaders, Teachers, Village Health Groups, Men & Women (caregivers of children not in the programme)

1. Do you have any knowledge on identification of malnutrition, the signs and symptoms (local words to describe malnourished children)?
2. What are the impacts of malnutrition on a child and the community?
3. When a child is sick, where do you first seek a solution?
4. If you attend the PHCU, do they screen children for malnutrition using MUAC?
5. Have staff at the PHCU ever given you information on malnutrition treatment services?
6. Do you know where malnutrition can be treated/ are you aware of a program which treats malnutrition?
7. Do you know of children who are in the program?

If yes, ask their perceptions of the programme? (Probe!! Why do they have a good or bad perception?)

8. Do you know of children who are in the program, but left or have stopped coming?

What are the reasons?

What can encourage the family to return of these children to program?

9. Do you know any malnourished children NOT in the program?

What are the reasons?

10. How far is the OTP from the block/village?

Name of OTP or health centre	Distance (in kms)	Distance (hrs)	Perception of the distance (near, far, very far)

What impact does the distance have on accessing treatment for malnutrition?

11. Do you know where you can buy RUTF, RUSF or CSB++?

If yes:

Where?

How much?

Do you know anyone who buys it?

COMMUNITY MOBILIZATION ACTIVITIES

1. Show the MUAC tape and ask if they have seen it?

Where did you see it and with who?

When last did you see it (MUAC) and what was it being used for?

Are there people in this village who use this (MUAC) on your children?

If yes, how often do visit the houses and screen the children?

2. Do you know how a malnourished child is referred or can be admitted into a malnutrition programme?

(if they don't explain that this is the role of the CHVs)

Do the CHVs visit a family with a malnourished child?

GUIDE 3: Community Volunteers

1. How long you worked as a CNV? What are your primary activities and frequency? (Probe : working hrs/week or month , unpaid volunteer commitment, motivation, challenges, reporting,)
2. What are your Nutrition roles as a CNV?
3. What support do you get from the health assistant? (Probe: training, materials and use, workload etc.)

MALNUTRITION AND OTP/TSFP SERVICES

1. Where do the communities first seek treatment for a sick child? Why?
2. Where do the communities first seek treatment for a malnourished child? Why?
3. How does the community perceive children with malnutrition? Why? Do you think that this condition is stigmatised? Why?
4. Can you describe the differences between MAM and SAM? (Probe on symptoms, cut-offs)
5. Can you describe the programme that treats SAM and MAM cases?

SCREENING

1. Can you describe the referral procedure?
2. How often do screenings take place?
3. Do you face any challenges in implementing screenings?
4. Have you encountered caregivers who refused to take a child to the health facility after referral? If yes, what were their reasons? What have you done with those cases?
5. What is the procedure you use to follow-up children who are not attending the program?

RECOMMENDATIONS

1. In your opinion, what would make the CMAM service easier, more comfortable and familiar to use by your community?
(Probe: existing challenges and positive factors, recommendations)
2. What are the recommendations to improve the community mobilization for CMAM program? (Probe: case finding, defaulter tracing, sensitization, increase service use by the community?)

GUIDE 4: caregivers of children in the programme

1. What do you think caused malnutrition to your child? Are there any other possible causes?

What are other possible causes of malnutrition for other children in the community? (use the local term for malnutrition)
2. What does the community think of a malnourished child?

Do you think that this condition is stigmatised? Why?
3. How long was your child malnourished for before they joined the programme?
4. Have you used any other means of treatment for your child's illness before coming to the health facility?

If yes, what and where you used? Why did you choose to come to health facility? If a woman, what was your husband's reaction?

5. How did your child get enrolled in the nutrition program?
(Describe the process, who diagnosed them, where they were diagnosed)
6. Did you visit the PHCU when your child was sick?

If yes:

- What treatment was provided?
 - Were they screened for malnutrition there?
7. How long has your child been in the program? How has this program made an impact on your child?
 8. Has your child been admitted before in the SFP/OTP/ITC? Have any of your other children been admitted in the SFP/OTP/ITC before? (Find out approximate dates and ask for treatment cards)

If yes, can you describe the treatment received before?

9. What is your family or community's reaction to your child being in the programme?
10. How do you respond to pressure to share your supplies of RUTF or RUSF with other family or community members?

COMMUNITY MOBILIZATION ACTIVITIES

1. Do the CNVs or health workers visit your home? If yes, what are the services offered in the visit?
When was the last time a CHV visited your home?

2. When was the last time your child was screened for malnutrition?
 - a. Where did the screening take place?
 - b. How did they screen your child?
 - c. Who else is involved in screening in your community?
3. Do you know of any other children in the neighbourhood who are malnourished?
4. Have you in the past, referred any other children for treatment?
5. Will you refer another child to this program if you think they are sick of malnutrition (use local term)?

CHALLENGES TO TREATMENT

1. What would make you not to attend the programme when required to?
2. Do you know any children who are malnourished but are not in the programme? What are the reasons?
3. Do you know of any children who were left the programme in the middle of the treatment (defaulting children)? What are the reasons?
4. What do you think can be done to prevent children from leaving the program before they finish treatment (defaulting)?
5. Is there a health worker always available at the health facility when you attend?
6. How long do you usually wait from the time you get to the facility to the time your child receives treatment?
7. How far is the health facility from the village or block? (for a caregiver with a child)

Name of Health Centre	Distance (in kms)	Distance (hrs)	Perception of the distance (near, far, very far)

What impact does the distance have on accessing treatment for malnutrition?

8. What are your recommendations to make the CMAM service easier and more comfortable to use for you and other caregivers?

GUIDE 5: Mothers and caregivers of defaulting children

1. How long was your child malnourished for before they joined the programme?
2. How was your child enrolled in the nutrition program?
 - a. (Describe the process, who diagnosed them, where they were diagnosed)
3. Can you describe the treatment that was given to your child?
4. How long has your child been in the program? Did you feel that the program made an impact on your child?
5. Had your child been admitted before in the SFP/OTP/ITC?
6. Have any of your other children been admitted in the SFP/OTP/ITC before? (Find out approximate dates and ask for treatment cards)
7. Did they complete their treatment?

8. What was your reason for not continuing with treatment?

9. What changes can be made to the program to ensure your child and other children continue treatment?

NUTRITION UNIT/HEALTH FACILITY OBSERVATION CHECKLIST

1	Staffing and infrastructure	Yes	No	DK		
	Are all scheduled nutrition staff present today?					
	Is there a toilet or latrine that is available for clients to use?					
	Does the health facility have clean water available today?					
	Does the health facility have Waiting area /shaded for caregivers and children?					
	Observed waiting time	Time of client in:	Time of client out:			
2	Supplies and Medicines	Observed	Reported (not seen)	DK	Functional	No Functional
	Infant weighing scale that is Accessible to health workers					
	Height board					
	MUAC tape					
	Plumpynut /RUSF					
	Basic antibiotics for childhood illness treatment					
	ORS					
3	supplementary feeding program/SFP	Yes	No	DK		
	Do you have an SFP/MAM treatment program? If No, skip to Section 4					
	Does a protocol exist?					
	Are there clear criteria for referral to SFP?					

	Are there clear referral mechanism between SFP to OTP /SC and OTP/SC to SFP?					
	Is there a mechanism in place to search for defaulters and to encourage them to resume treatment?					
4	Therapeutic Feeding Programme/OTP/SC	Yes	No	DK		
	Do you have an OTP? If No, skip to section 5					
	Does a protocol exist?					
	Are there clear criteria for referral to OTP					
	Are there clear referral mechanism between SFP to OTP /SC, OTP/SC to SFP, OTP to SC, and SC to OTP?					
	Is there a mechanism in place to search for defaulters and to encourage them to resume treatment?					
5	Triage	Yes	No	DK		
	Is pre-screening used to screen child for acute malnutrition using MUAC tape?					
	Does an entrance to registration and consultation occur in a controlled manner?					
6	Communications and Documentation					
	Beneficiary registers					
	Beneficiary Cards					
	IEC materials (e.g. educational posters)					

APPENDIX 4: CODED BOOSTERS AND BARRIERS

Positive Factor	Coding	SAM unweighte d	SAM weighted	MAM unweight ed	MAM weighted
Awareness of the most severe symptoms of malnutrition	2c, 2a, 3c, 2c, 8a, 8a, 1c, 1a, 2c, 4a, 4a, 4c, 10a, 9c	5	5	5	4
Awareness of causes of malnutrition	9a, 1c, 1a, 2c, 8a, 3d, 1a	5	5	5	4
Awareness of the programme	9a, 2a, 8a, 1a, 1c, 2c, 3c, 2c, 9a, 8a, 8a, 6c, 4a, 11c, 4a, 4c, 4c, 10a, 9c, 8a	5	5	5	4
Positive Perception of the programme	8a, 1c, 9a, 2a, 6a, 1c, 9a, 2c, 3c, 2c, 8a, 8a, 3d, 1a, 4a, 4a, 4c, 11c, 9c, 12a, 12a	5	5	5	5
Presence of mother to mother support groups	5c, 9a	5	4	5	3
Peer referral and self referral	2c, 8a	5	4	5	3
CNVs screening and referring cases of malnutrition	8a, 1c, 0a, 2a, 2c, 4a, 4a, 4c, 10a, 11c, 9c, 6c	5	5	5	5
CNVs sharing health messages in the community	1c, 11c, 9a, 2c, 6c	5	5	5	5
Good health seeking behaviour	2c, 2c, 2c, 8a, 1c	5	5	5	5

Awareness of impacts of malnutrition	2c, 2c, 2a, 4c, 10a, 11c, 10c	5	5	5	4
Coordination between partners	5c, 7b	5	4	5	4
Integration of health services	1c, 2a, 13c, 2c, 2c, 1c, 2a	5	5	5	4
Engagement and participation of community in programming (check this)	8c, 4c	5	5	5	4
TOTAL		65	62	65	
Negative Factor	Coding	SAM unweighted	SAM weighted	MAM unweighted	MAM weighted
Lack of follow up in the community, Incomplete messages/information CNV network lacks structure, resulting in weaknesses in screening and follow up, with some CNVs unaware of some anthropometric measurements (oedema) (inc Incorrect MUAC screening by CNVs resulting in rejection)	1c, 8a, 9a, 2a, 1c, 8a, 6a 1c, 2c, 6c, 1a, 8a, 8a	5	1	5	2
Preference for alternative treatment (private clinics, hospital in Juba) where screening for malnutrition is not routinely conducted Late treatment seeking behaviour Stock Out of drugs at health facilities and poor quality services	8a, 1c, 4c, 8a, 8a, 2c 1c, 1c, 8a, 1c, 8a, 1a, 6c 8a, 1c, 1a, 8a, 4c, 10c, 8a, 2c, 2c	5	1	5	2
Stigma	1a, 2a, 1c, 1c, 1a, 1c,	5	1	5	0

	2c, 2a, 3c, 9c, 6c				
Female headed households results in heavy workload for women (mothers busy with other activities)	8a, 1c, 1a, 1c, 1c, 2c, 2a	5	1	5	1
Sharing and selling of RUSF/RUTF	1c, 9a, 1c, 9c, 9a, 2a, 3c, 3d, 9c, 12a, e	5	2	5	2
Non-response leading to defaulting, rejection and poor perception of the programme	2a, 6c, 2a	5	0	5	1
Defaulting due to busy workload of mothers, perceiving the child to be cured, poor perception of RUTF/RUSF and migration	2a, 5c, 1c, 1c, 9a, 2c	5	0	5	1
		35	6	35	9

COMMUNITY ASSESSMENT

Food insecurity	1c, 1a, 1a, 2c, 4a, 12a, 10c
Poor WASH	8a, 1a, 1a