

COVERAGE MONITORING NETWORK

2015

# COVERAGE ASSESSMENT

» SEMI-QUANTITATIVE EVALUATION OF ACCESS & COVERAGE



**Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)  
International Rescue Committee (IRC) Panyijiar County,  
Unity State South Sudan  
Comprehensive Emergency Response in South Sudan**



**DATE: January 14<sup>th</sup> to 28<sup>th</sup> 2014**



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# ACKNOWLEDGEMENTS & ABBREVIATION

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## ACKNOWLEDGEMENTS

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Lastly, but not the least we would like to thank Coverage Monitoring Network's (CMN's) funders, ECHO and USAID for funding the CMN project. The CMN project made it possible to conduct this coverage assessment and to train some health and nutrition professionals of IRC in South Sudan on SQUEAC methodology.

## ABBREVIATIONS

CI	Credible Interval
CMAM	Community based Management of Acute Malnutrition
CMN	Coverage Monitoring Network
ECHO	European Commission Humanitarian Aid and Civil Protection
FGD	Focus Group Discussion
iCCM	Integrated Community Case Management
IRC	International Rescue Committee
KII	Key Informant Interview
LoS	Length of Stay
MAM	Moderate Acute Malnutrition
MUAC	Mid-Upper Arm Circumference
OTP	Outpatient Therapeutic Programme
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SSRRA	South Sudan Relief and Recovery Agency
SSI	Semi Structure Interview
SQUEAC	Semi Quantitative Evaluation of Access and Coverage
TBA	Traditional Birth Attendant
TSFP	Targeted Supplementary Feeding Programme
UNICEF	United Nations Children's Fund

# EXECUTIVE SUMMARY

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The Republic of South Sudan is an independent country since 2011. The country is divided into three regions and ten states. Unity is one of the ten states in South Sudan and Panyijiar County is one of the ten counties in Unity state spanning an area of 38,837 km<sup>2</sup> and inhabited primarily by the Nuer ethnic group.

International Rescue Committee (IRC) has been providing health services in Panyijiar County for the last 20 years. The health services include integrated community case management (iCCM) and community based management of acute malnutrition (CMAM). IRC invited the Coverage Monitoring Network (CMN), to conduct assessment to their CMAM programme and to train and build the capacity of their nutrition team on the Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)<sup>1</sup> methodology. The assessment used a three stage SQUEAC methodology i) collecting and analysing the qualitative and quantitative data; ii) develop and test the hypothesis by a Small Area Survey; and iii) conduct a 'Wide Area Survey' to estimate the programme coverage rates of Out-patient Therapeutic Programme (OTP) and Targeted Supplementary Feeding Programme (TSFP).

## Main Results

### Stage -1

#### ❖ The CMAM programme performance (quantitative):

The routine OTP data showed that from April to December 2014, severely acute malnourished (SAM) children that were admitted in 9 OTPs of them 67% were successfully treated and cured. The data that was used during the assessment to investigate the OTP service qualities were consistent and helped for comprehensive analysis of the programme.

#### ❖ Communities' participations and access to CMAM services (qualitative):

In greater Ganyiel the provision of CMAM services helped the community greatly accessing the services for their malnourished children where the GAM and SAM prevalence surpassed the critical threshold of 15% and 1% respectively according to WHO classification. The assessment found that the programme involved the chief of the village from the inception of the CMAM programme which helped to gain full access to the target community and to get their support to community mobilization for CMAM activities. IRC also established few committees in i.e. Water Management, Community Protection Committees, Teacher-Parents association, and Village Health Committee (VHC). The VHC supports health service delivery and function as a bridge between health facilities and communities. However, the assessment identified some barriers that need to be addressed to ensure both access and better coverage, among them a very limited involvement/participation of key community figures, such as Sub-chief, headman, women representative, religious leaders during planning and implementation of the |CAMAM programme

### Stage - 2

#### ❖ Hypothesis testing and results

After collecting and analysing the qualitative and quantitative data in stage one, the following hypotheses were generated and tested in stage two. "Villages with high admission numbers in OTPs have high coverage rate while villages with low admission numbers in OTPs have low coverage rate." To test this hypothesis, a small survey was conducted in four villages selected from Thoarnhom payam (area with high admission numbers), and villages selected in Pachak payams (area with lowest admission cases) and compared with the 50% coverage rate that is set for rural areas as minimum acceptable coverage rate <sup>2</sup>.

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<sup>1</sup> Mark Myatt, Daniel Jones, Ephrem Emru, Saul Guerrero, Lionella Fieschi. SQUEAC & SLEAC: Low resource methods for evaluating access and coverage in Selective feeding programmes.

<sup>2</sup> The Sphere Project Humanitarian Charter and Minimum Standards in Disaster Response, 2004

The survey data revealed that the villages with 'high admission numbers in OTP' had 'low coverage rate', hence this part of the hypothesis was 'not confirmed' while, villages with 'low admission numbers' were found to have also 'low coverage rate'. Therefore, this part of the hypothesis was 'confirmed'.

### Stage - 3

#### ❖ Coverage Estimation (results from wide area survey)

In stage three survey data allowed to perform the final coverage estimation, after the 'Wide Area Survey'. The 'point' coverage rate for OTP is estimated at 56.3% with Credible Interval (CI- 50.2%- 62.1%), P value= 0.9111, for TSFP the point coverage rate at 63.9% (CI - 54.0%-72.6%), P value = 0.2297, using Bayesian SQUEAC. The programme coverage meets the SPHERE standard, the coverage rate for rural area, ≥50%. However, this result is expected, as the community/caregivers are eager to attend OTP and TSFP with their malnourished children as RUTF and RUSF is seen additional food source for the family. Below are the main barriers and booster that were found in this survey.

#### Main Barriers & Boosters of the Outpatient Therapeutic Programme (OTP)

Barrier	Booster
Long distance to service delivery point (no access in remote area too)	Community appreciation of the outcome of the CMAM treatment ( save life of children)
Inaccessibility ( flooding, swamps, difficult to get transport, lack of money to pay for transport and insecurity)	The availability of comprehensive CMAM services (OTP, TSFP and SC)
High opportunity cost of caretakers (mother busy, sick , workload, competing task and lack of support)	Good referral system between OTP, SC and TSFP services (good CNV's skills on MUAC measurement)
Shortage of staff (CNW,CNV and outreach supervisor, many villages per CNV, long waiting hrs, crowding, no security guard)	Provision of free CMAM service
Storage of supply (frequent stock out of RUTF/RUSF, logistic constrain)	Community awareness about the availability of services

#### ❖ Key Recommendations (for detail please see JAP in section 5)

- 1) Strengthen community mobilization activities by capitalizing on the extensive network of trained community health and nutrition volunteers and existing community-based committees.
- 2) Promote participation and engagement of key community figures (xxx) including men to ensure that they are part of long term solutions addressing the main barriers for accessing IMAM services in their respective community
- 3) Integrate community mobilization for CMAM programme with existing community based initiatives, such as iCCM, National Immunization Day in order to have community-level screening and referral to reach maximum number of cases in target community.
- 4) Prioritize health facility level screening for children who identified and referred by CBDs and CNVs at community level in order to reduce the CNWs' work load and minimize frequency of caretakers visit to CMAM points for screening of children.
- 5) Provide appropriate health and nutrition education materials, referral and reporting forms and make them available to staff conducting community mobilization work. CNVs should conduct sensitization about CMAM and malnutrition at community gathering places.
- 6) CNWs and Outreach Supervisors should keep records of community mobilization activity to help with supervision and monitoring of the CMAM programme.
- 7) Strengthen supervision of community mobilization work through supportive supervision to CNVs activities from technical officers, and provide all staff responsible for CMAM-related activities with community mobilization training in line with their duties.
- 8) Improve CMAM service quality, both regular RUTF/RUSF supply, and on-job training and supportive supervision of day-to-day CNWs' activities i.e. case management and proper recording.

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# 1. INTRODUCTION

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## 1.1 SOUTH SUDAN

The Republic of South Sudan gained its independence on July 9th, 2011. The country currently is in a post-conflict transition phase following more than 20 years of civil war between the Government of Sudan (GoS) and the Sudan Peoples' Liberation Army/Movement (SPLA/M).

The civil war in South Sudan caused erosion of physical and social infrastructure and death and displacement of millions of people in the country. This war also has made South Sudan one of the weakest economies in the world<sup>3</sup>. Most South Sudanese live in rural areas (92.5%) and more than half (51%) of the 8.3 million South Sudanese population live below the national consumption poverty line<sup>4</sup>.

The country has the highest female illiteracy rate (88%) in the world as of 2011. The average life expectancy at birth for both sexes is only 42 years<sup>5</sup>. While there has been improvement since the last Sudan Household Health Survey (SHHS) in 2006, South Sudan still has one of the highest childhood mortality rates in the world, with an infant mortality rate of 75 per 1,000 live births and an under five-mortality rate of 105 per 1,000 live births<sup>6</sup>. Approximately, 75% of those deaths are due to malaria, pneumonia and diarrhoea.

## 1.2 UNITY STATE IN SOUTH SUDAN

South Sudan is divided into three regions and ten states. Unity state is one of the ten states of South Sudan; it is also an oil producing region of the country. Within South Sudan Unity state borders Warrap to the west, Lakes state to the south and Jonglei and Upper Nile states to the east. Unity state also borders Abyei region, a region claimed by both Sudan and South Sudan. The state is spanning an area of 38,837 km<sup>2</sup> with approximate population of 585,801, predominantly inhabited by two ethnic groups, the Nuer (majority) and the Dinka (minority)<sup>7</sup>.

Unity state has nine counties: Mayom, Rubkona, Panrieng, Leer, Guit, Koch, Abiemnom, Mayiendit, and Payinjiar, the capital of Unity state is Bentiu. The people are nomadic agro-pastoralists who engage in both agriculture and rearing of livestock, especially cattle. Farming is conducted during the rainy season although some cultivation also occurs during summer. Vegetables are not widely cultivated as most farmers are rural rather than urban, and therefore lack access to markets for their produce. On addition, South Suddennese cuisine lack dietary diversity which is also contributed by cultivation practice. However, some NGOs are introducing farmers to the practice of cultivation for market.

## 1.3 PANYIJAR COUNTY

Panyijiar County is located in the southern tip of Unity State and has an estimated population of 58,375 people<sup>8</sup>. The county predominantly inhabited by the Nuer people. It has ten (10) official payams which include; Ganyliel, Thornom, Tiap, Pachar, Pachak, Pachienjok, Chuk/Panyijiar, Kol, Nyal and Mayom. The county capital is Panyijiar

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<sup>3</sup> Key Indicators for South Sudan, South Sudan Centre for Census, Statistics and Evaluation, December 2010

<sup>4</sup> 5th Sudan Population and Housing Census in 2008 by the SSCCE

<sup>5</sup> Health Sector Development Plan 2012-2016, MoH, RSS.

<sup>6</sup> Ministry of Health of South Sudan and South Sudan Commission for Census, Statistics and Evaluation. (2010).

<sup>7</sup> <http://www.sudantribune.com/spip.php?mot396>

<sup>8</sup> General population in catchment areas (2008 census with 2.85% annual growth)

town, located in Chuk payam. Panyijiar is administratively divided into two units; Greater Ganyliel and Greater Nyal. Greater Ganyliel consists of 6 main Payams; Ganyliel, Thornom, Tiap, Pachar, Pachak and Pachienjok.

Both Greater Ganyliel and Greater Nyal have suffered severely as a result of the current conflict and annual flooding that has occurred over the last couple of years. This very hard to access area is very isolated almost to the point of being an island- on the three sides of the border is ongoing conflict while on the other side is the Nile river. This has created significant challenges for the population in terms of access to basic services and goods. The only reliable access into the region is by air and within the county access is only by foot- this often requires hours of walking through swamps and mud. Resulting in the county facing multiple health, nutrition and food security challenges. During the lean season, the communities depend mainly on wild food collection, fishing, selling grass, fire wood and local poles as well as support from relatives and friends.

The Standardized Monitoring of Relief and Transitions (SMART) survey conducted in Panyijiar county in April 2014 showed that the prevalence of Global Acute Malnutrition (GAM) (WHZ<-2 and/or oedema) for the county was 32.8% (95% CI: 27.7-38.3), and the severe acute malnutrition (SAM) prevalence (WHZ<-3 and/or oedema) was 10.8% (95% CI: 7.7-14.9), WHO 2006.. The GAM and SAM prevalence surpassed the critical threshold of 15% and 1% respectively according to WHO classification. Using Mid Upper Arm Circumference (MUAC), the GAM rate was 10.4% (10.4-18.1) and SAM rate was 3.5% (2.0-6.2)<sup>9</sup>.

## 1.4 THE CMAM PROGRAMME IN PANYIJAR

The IRC has been providing health care services in greater Ganyliel in Panyijiar county for the last 20 years. The organisation has been implementing health programs and the integrated community case management in Panyijiar County since 1995. The health programme activities include monthly outreaches and weekly mobile clinics providing both curative and preventive health services. IRC also implements the integrated community case management (iCCM) through a dense penetration of community health workers (covering approximately 50 HH per community volunteer) to provide home-based treatment of diarrhoea, malaria and pneumonia in children under five. Since November 2013, IRC has been treating severe acute malnutrition (SAM) as part of the iCCM program.

Following the recent conflict in Unity states which resulted internal displacement into Ganyliel and Nyal, to cater for the need of displacement population, IRC began additional response interventions in the sectors of health which includes nutrition, WASH and protection. Currently, the IRC's nutrition programme in Panyijiar county include OTP,, TSFP, Stabilisation Centre to treat SAM cases with medical complications and community outreach utilising the Government of South Sudan Integrated Management of Acute Malnutrition guidelines.

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<sup>9</sup> Integrated Nutritional Anthropometry and Mortality SMART survey report, Panyijiar County Unity state, South Sudan, April 2014

## 2 OBJECTIVES OF TRAINING & ASSESSMENT

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To understand the coverage of CMAM programme and to train and build capacity of some nutrition professionals IRC requested CMN to support them with SQUEAC assessment in greater Ganyiel in Panyijiar county. Furthermore, it is hoped to enable the IRC South Sudan team in developing skills to conduct SQUEAC assessments in their programme independently or with minimum remote support. The training and assessment were carried out in greater Ganyiel of Panyijiar County in Unity state. Greater Ganyiel includes six payams and SQUEAC assessment included all payams despite of its difficult geographic nature and almost all payams are hard to reach.

The SQUEAC training included various issues such as how to improve collection and utilisation of the routine programme's monitoring data hence to improve the service quality; information gathered from various key stakeholders of the targeted community to ascertain their participation and perception on the CMAM programme; the data collected to estimate of overall TFP and OTP programme coverage for greater Ganyiel in Panyijiar County. Finally, the SQUEAC team developed a Joint Action Plan (JAP) on community mobilisation activities to improve the access and coverage of this CMAM programme for Panyijiar county.

### 2.1 SPECIFIC OBJECTIVE

1. Enhance capacity of nutrition/health staff of IRC, SSRRRA and SMOH in in IRC operation in SQUEAC methodology.
2. Enhance capacity of nutrition/health staff of IRC, SSRRRA and SMOH in South Sudan in SQUEAC methodology.
3. To estimate point coverage of TFP and OTP in the target areas of greater Ganyiel in Panyijiar County.
4. Identify factors affecting access to and uptake of the CMAM services in greater Ganyiel in Panyijiar County
5. To understand the context and communities targeted by the CMAM programme in order to design a comprehensive community mobilization strategy to improve access to CMAM services.
6. Develop specific recommendations and Joint Action Plan in collaboration with assessment team and programme implementing agencies to improve acceptance and coverage of the programme.

### 2.2 EXPECTED OUTPUT

1. Train selected health/nutrition staff on SQUEAC methodology
2. Develop a Joint Action Plan and strategy on how to implement the plan
3. Produce a final coverage survey report for Panyijiar SQUEAC assessment and community mobilisation.

### 2.3 DURATION OF THE TRAINING AND THE ASSESSMENT

January 13<sup>th</sup> to 28<sup>th</sup> 2015, (Annex 1).

### 2.4 PARTICIPANTS

A total of 18 participants attended the training on SQUEAC methodology of which 13 were from IRC South Sudan, 3 from SMOH and 2 from SSRRRA from Panyijiar, however from IRC two participants did not complete the full assessment due to their other commitment (Annex, 2).



# 3 INVESTIGATION PROCESS

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The IRC, SSRRRA & SMOH health and nutrition team in Panyijiar County of South Sudan was trained on Semi-Quantitative Evaluation of Access and Coverage (SQUEAC) methodology in order to build their skills as well as to conduct the coverage assessment in CMAM programme in greater Ganyiel. The SQUEAC investigation methodology includes:

**Stage 1:** Analysis of qualitative (contextual data) and quantitative (routine programme monitoring data) data, compared with SPHERE minimum standard<sup>10</sup> and identification of programme *boosters and barriers*.

**Stage 2:** Conducted a ‘Small area survey’ and testing of the hypothesis; if areas with the highest OTP admissions have high coverage and areas with the lowest OTP admissions have low coverage.

**Stage 3:** Conduct a ‘Wide area survey’ to estimate programme coverage rate and compare it with SPHERE minimum standard. Formulate recommendations and develop a JAP to improve access to IMAM services and increase program coverage.

## 3.1 STAGE 1

### 3.1.1 ROUTINE PROGRAMME MONITORING DATA & CONTEXTUAL DATA

#### ***Data collection:***

In stage 1, quantitative and qualitative data was collected and analysed from all the nine outpatient treatment sites. For the quantitative part, routine programme monitoring data was collected from patient registers, admission cards and reports from the nine (9) treatment sites. Data from the supplementary feeding programme was not collected for analysis in stage one because implementation of TSFP in Panyijiar County has not been long enough to give a picture of coverage and access to nutrition services.

#### **Routine programme monitoring data**

SQUEAC utilises routine programme monitoring data that are accessible and directly related to quality of service in the programme. The data can be used to assess three things: i) the accuracy and appropriateness of the data related to the coverage and programme performance, ii) whether or not a programme is responding well to the demands of its context, and iii) whether there are specific areas within the programme’s target area expected to have either relatively low or high coverage. The data was further analysed in relation to seasonality, disease pattern and changes in the target area that have an effect on the programme. The programme performance indicators were compared to international minimum standard (SPHERE) related to the context of the implementation area. The aim was to assess the programme’s capacity to respond to changes in demand for its services. The following data was collected and analysed:

#### **Admission data**

- Admissions trend and seasonal calendar (disease and hunger gap etc.)
- MUAC status at admission
- Age at admission

#### **Programme performance indicators**

- Cured, Defaulters, Death, Non responders and Transferred cases
- Defaulters’ trend and seasonal calendar (labour period and migration etc.)
- Defaulter’s nutritional status at the time of defaulting

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<sup>10</sup> The Sphere Project Humanitarian Charter and Minimum Standards in Disaster Response, 2004

- Number of weeks spent in OTP before defaulting
- Length of Stay

## Admissions data

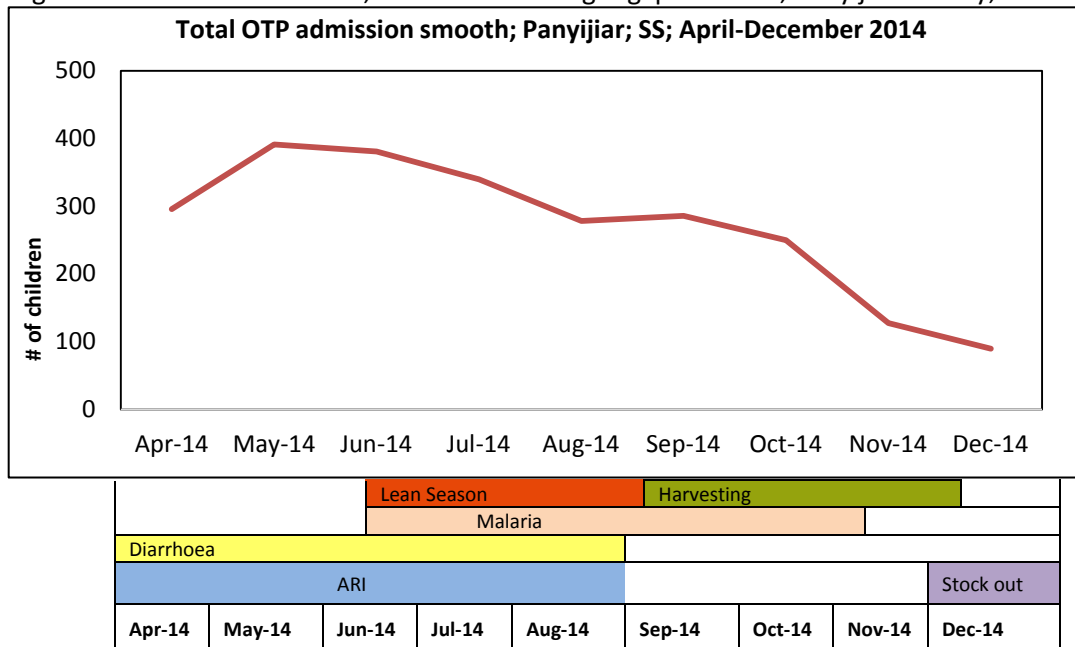
### IRC-Panyijiar County Admissions and Seasonal Trend: Diseases and Hunger Gap

In Greater Ganyliel in Panyijiar County, the IRC Nutrition (CMAM) programme have admitted in total of 2,391 children between 6-59 months of age from April 2014 to December 2014 in nine (9) OTPs. Of the 2,391 children admitted 65.8% of the children have been successfully treated and discharged cured.

### OTP admission and seasonal trends

The graph below shows the admission trends of the nine OTPs in Greater Ganyliel in comparison with the seasonal calendar. There was a peak in admission in the month of May 2014 as the activities for the nutrition program were picking up then the numbers gradually stabilized. The assessment team in consultation with the community identified seasonal peak of childhood diseases and hunger. The peak season for childhood illnesses was from June to August 2014 and hunger gap also fall within the same period. Admissions were considerably high in these months. Admissions decreased in number from September 2014 onwards. This was associated with the harvesting period and reports of stock out of ready to use therapeutic food in the month of December 2014. From figure 1 below it is evident that there is a relation between peak season of childhood illness, hunger gap and harvesting with the admission trend.

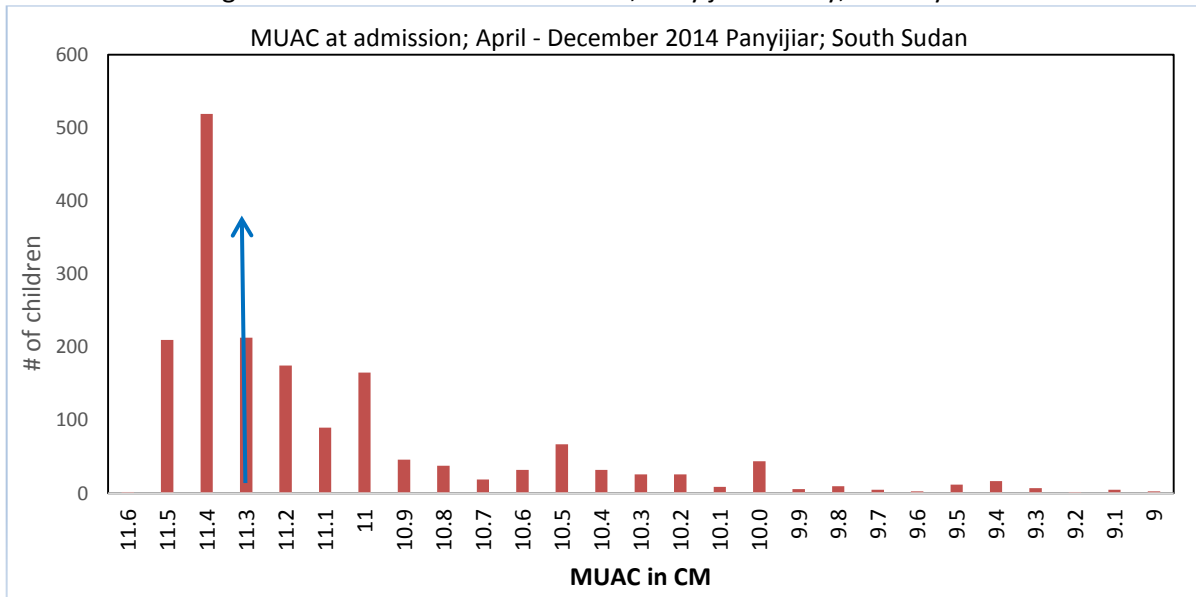
Figure 1: Admission in CMAM, diseases and hunger gap calendar, Panyijiar County; Jan '15



### MUAC at the time of admission in OTP

The admission MUAC allows the programme team to understand the timeliness of care seeking behaviours of communities as well as the pro-activeness of the communities on early screening and referring of cases to the IMAM programme. The median MUAC at admission from the programme data was 11.3cm. This shows a positive health care seeking behaviour from the community as malnutrition cases are identified timely. However, twenty nine (29%) percent of the admitted cases were recorded to have a MUAC of 11.4cm. This number is high which brings concerns on the accuracy of measuring MUAC. There were also number of admissions that did not fulfil the admission criteria (MUAC 11.5cm and 11.6cm).

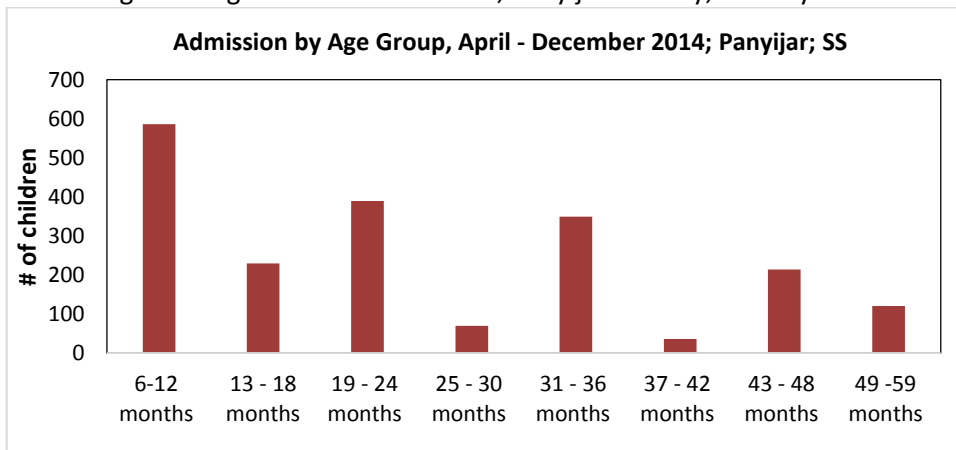
Figure 2: MUAC at admission in OTP, Panyijiar County; January 2015



**Age at admission**

Age at admission allows the programme team to identify the age group that is at higher risk of malnutrition for further investigation on the causes. This information can be used to better address the causes of malnutrition in the community. Figure three shows that there is a preference of rounding of the age of the child to the nearest whole year, seen by a peak in one, two and three years. Majority of the children (60%) admitted in the programme are children less than the age of two years with the median age group of admission being 19-24months. This highlight the need to focus and address infant and young child feeding practices and the current nutrition interventions in the operational area.

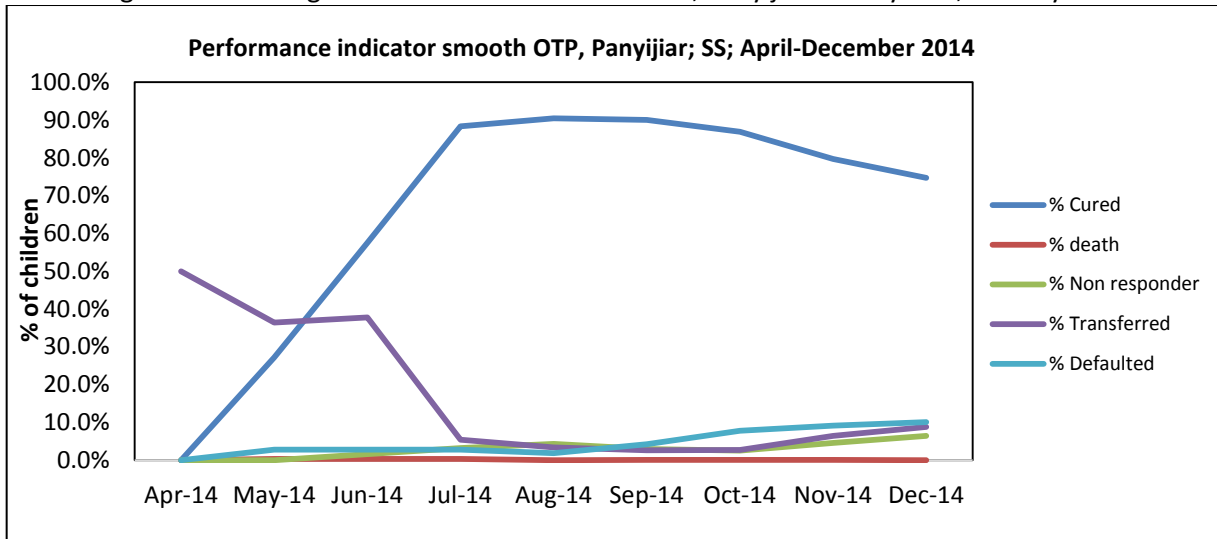
Figure 3: Age at admission in OTP, Panyijiar County; January 2015



**Programme performance indicators**

The programme performance indicators are the number of children who exited from OTP, compared to their status at time of exit (discharged cured, defaulter, and death etc.). Percentages were used to ascertain the effectiveness of the programme and compared with the SPHERE minimum standards. From April to December 2014 1,422 children exited the nutrition programme in OTP. Only 67.4% of the children that exited the OTP were discharged as cured in this specified timeframe. Death rates were very low throughout with only two cases of death recorded from April to December 2014. These deaths were associated with late presentation of malnutrition and development of complications at home.

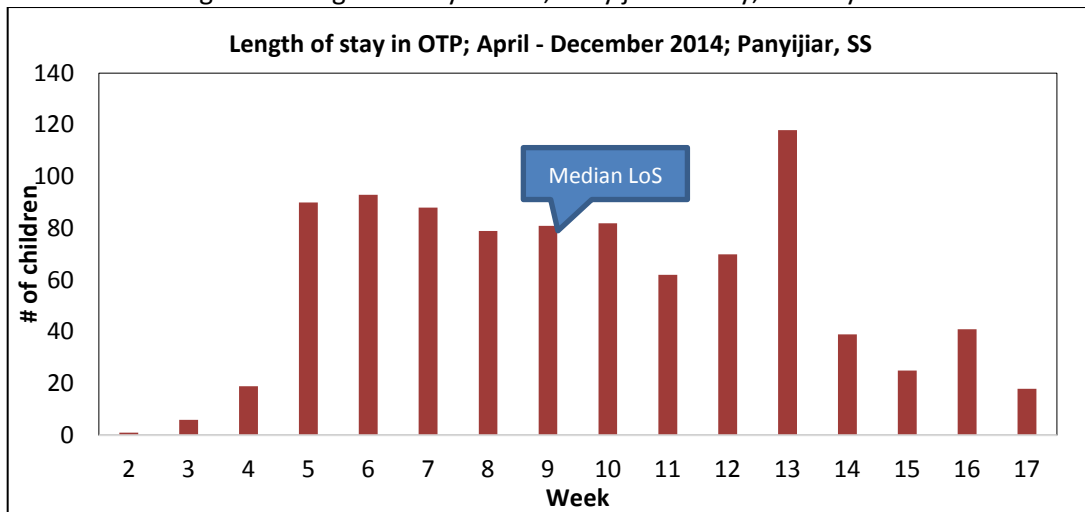
Figure 4: OTP Programme Performance Indicators, Panyijiar County OTP; January 2015



**Length of Stay (LoS)**

Length of Stay in OTPs is also an important performance indicator to assess the quality of care a child is receiving during treatment at the facility and at home and how effective the IMAM program is. The average acceptable length of stay in OTP is between 45-60 days according to the draft IMSAM guidelines of South Sudan. The median length of stay for children admitted in Panyijiar nutrition programme is nine (9) weeks which is slightly higher than the expected length of stay. There is a significant number of children (118 children) discharged on week thirteen. This may highlight a tendency of keeping children longer in the programme even after reaching the discharge criteria.

Figure 5: Length of Stay in OTP, Panyijiar County; January 2015



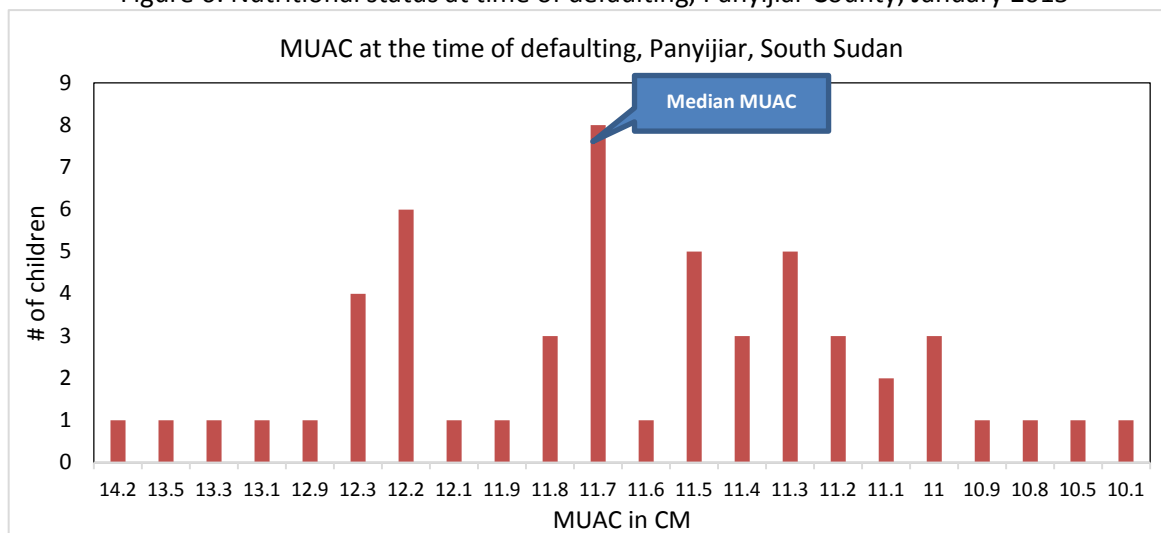
**Data on defaulters:**

According to the South Sudan draft IMSAM guidelines a defaulter is classified as a child who is absent for treatment for three consecutive visits. The defaulter data were examined as follows :

**Nutritional Status at the time of Defaulting**

Monitoring of the nutritional status of children at the time of defaulting helps to inform the programme on how to address issues related to defaulting. Data collected from the nine OTP sites in Panyijiar county showed that 37% (n=20) of children defaulted when they were still malnourished (MUAC < 11.5cm). This is significantly high and follow up for such cases have to be intensified and thorough. However most children (63%) who defaulted from the programme, although malnourished where no longer classified as severely acutely malnourished at the time of exit. The average Median MUAC at defaulting was recorded at 11.7cm.

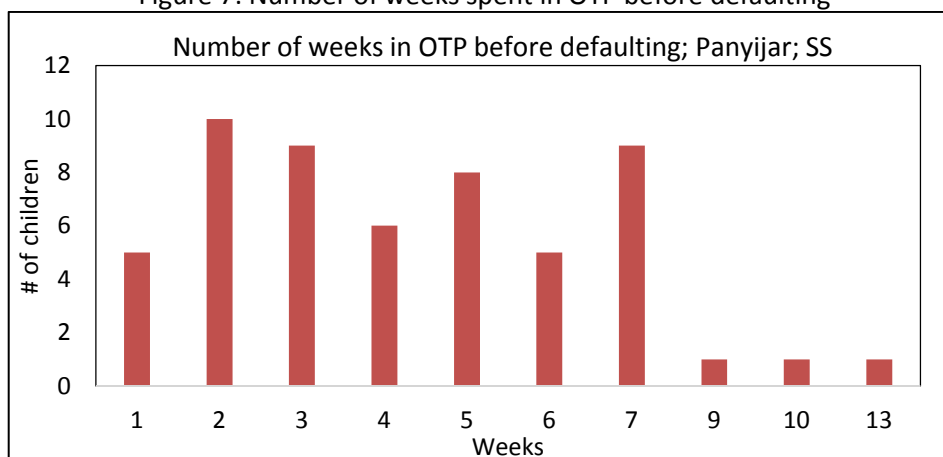
Figure 6: Nutritional status at time of defaulting, Panyijiar County; January 2015



**Time of defaulting from OTP**

It is paramount to monitor the length of stay in the programme before defaulting. This information directly reflects on the quality of services the beneficiaries are getting from the facility. A short period of stay indicates poor quality of services rendered at the facility while longer periods would reflect situations where caregivers think their children are cured and there is no need for them to go for treatment. The data shows that 78% (n=43) of the defaulted children left the program before the recommended LoS of a cured case. This highlights concerns over the quality of care at the facility. Interviews with caregivers confirmed long waiting hours due to crowdedness at the facility and lack of toilet facilities as some of the reasons for defaulting.

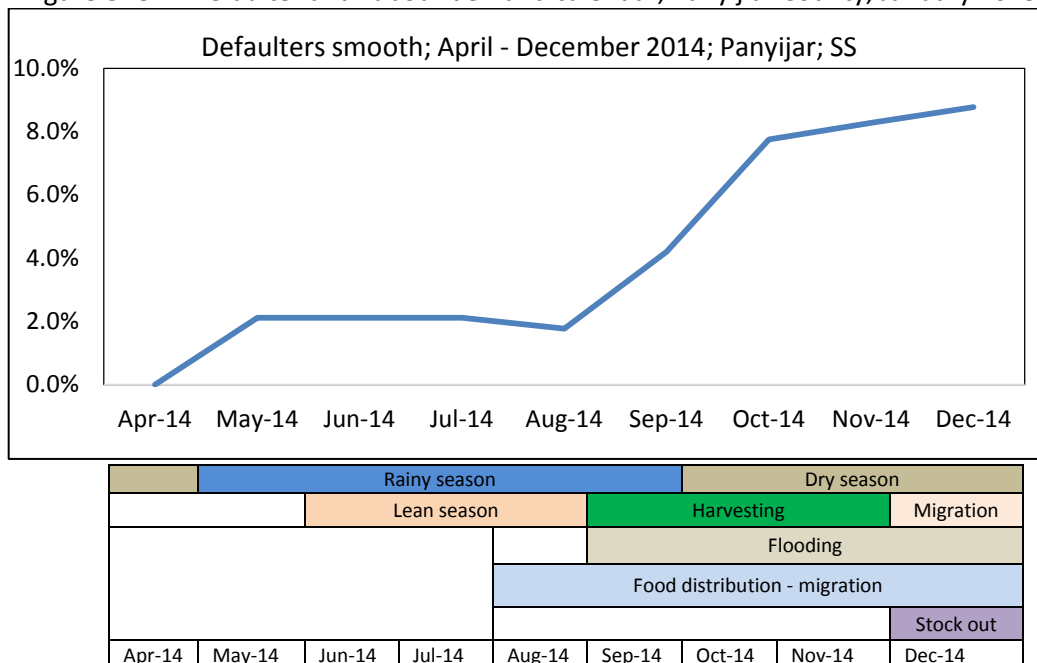
Figure 7: Number of weeks spent in OTP before defaulting



**Analysis of defaulters' data vs. hunger gap period and Labour demand trends**

The defaulter rate for Panyijiar nutrition programme went up from August to December 2014. This period coincided with harvest time, migration for food aid and flooding in Panyijiar County. In all stages of the assessment caregivers also highlighted accessibility concerns with regards to flooding and transportation. The prolonged length of stay in the programme might also be contributing to defaulting. The defaulter rate for the period April to December 2014 is 4.6% which is within the acceptable SPHERE standard (<15%).

Figure 8: OTP Defaulter and Labour demand calendar, Panyijiar County, January 2015



**The database and record keeping in Health Facilities**

The CMAM programme monitoring data provided by the IRC team were useful and allowed the analysis of some important indicators of the CMAM programme that are essential for SQUEAC assessment and to understand the service qualities of the programme. The data were found consistent and available for most of the important indicators of the OTP programme.

During the assessment to cross checking the dataset and to assess the quality of record keeping at the OTP level, in eight selected OTPs the admission cards and the registers have been examined by the assessment team. The team checked 240 cards from 8 different OTPs they found more than 70 percent card was filled fully and information matched between cards and register. In another word, thirty percent information either not recorded fully or matching between cards and register. Therefore record keeping of this programme need to improve with regular supervision and continuous training.

## 3.1.2 QUALITATIVE DATA<sup>11</sup>

For the qualitative part of the assessment eight villages and eight health facilities from 6 payams were visited and programme key stakeholders were interviewed and consulted to better understand how communities perceive this programme and how to improve the CMAM services in Panyijar county. Below are the summary of the key findings:

### 3.1.2.1 COMMUNITY STRUCTURES, LEADERSHIP AND GROUPS

The community figures, such as chief of the village, headman, and religious leaders, are gatekeepers of the communities in Panyijar County. A chief of the village is selected by the community and represents the communities at the Payam level. The chief of the village is an influential traditional leader and has overall control over the activities in the village. Headman is also influential traditional leaders and report to a chief of the village in the villages. There is a women's representative at each level of political and traditional leadership structures. The religious leaders (a catholic priest and protestant pastor), who lead the worship in the church, are also equally important community figures in the area. The involvement of the chief of the village in the CMAM program helped to gain full access to the target community and to get their support to community mobilization for CMAM in the area. However, other community figures, such as Sub-chief, headman, women representative, religious leaders needs equally to be involved in community mobilization for the programme.

The IRC and County Health department have established few committees in greater greater Ganyiel i.e. Water Management, Community Protection Committees, Teacher-Parents association, and Village Health Committee (VHC). The VHC supports health service delivery and function as a bridge between health facilities and communities. The extensive networks of these committees and volunteers are found to be remarkable and will greatly facilitate the community mobilization for and management of IMAM services. However, the lack of formal integration between community mobilization for IMAM programme and these committees must be addressed.

### 3.1.2.2 COMMUNICATION CHANNELS

The community meeting is a key communication method used in Panyijar County. Community leaders (Chief and headman) convey important messages during community meetings. Community announcement via microphone and VHC, and announcement after church services by priests or pastors as well as informal information exchange at market, food distribution day and traditional rallies cited by the community informants an effective communication channels.

### 3.1.2.3 LOCAL UNDERSTANDING OF CHILDHOOD MALNUTRITION

Most community informants were able to understand and describe malnutrition, and could differentiate it from other diseases like malaria and diarrhoea. They were also familiar with different signs and forms and/or signs of malnutrition, such as wasting/ thinness, oedema, big abdomen, old man's face, stunting and light colour hair.

The perceived causes of malnutrition cited by community members were lack of cow's milk, lack of food, vomiting, diarrhoea and fever. Furthermore, most of the community reported that if the caregivers are lazy, their children become malnourished as the result of poor care and poor feeding practices.

Despite the fact that the IMAM programme has been recently rolled out in the area, most communities mentioned that they seek IMAM services to treat acute malnutrition. They also indicated that they do appreciate the outcome of the treatment and have recognized the positive changes in children who had received treatment. However, most of them lacked knowledge about the IMAM target groups and just want to have RUTF/RUSF as part the family food.

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<sup>11</sup> For more information, please refer To Community Assessment Report, CMAM prog, Panyijar County, Unity State, South Sudan, Jan 2015.

Traditional healing practices and home remedies are also sometimes used as ways of addressing malnutrition alongside available IMAM services.

#### 3.1.2.4 FACTORS INFLUENCING ACCESS TO CMAM SERVICES

Several factors, such as, active involvement of chiefs of the villages in IMAM programme and supporting community mobilization have been identified along the assessment as boosters to accessing IMAM services by the communities. Good community mobilization activities through community nutrition volunteers (CNVs) contributed to improved early case finding and referral and minimized defaulter. Community-Based Distributors' (CBDs) opportunistic case finding and referral as part of iCCM has contributed to increase case finding and referral effort, particularly in the villages that are not reached by CNVs.

On the other hand, this assessment revealed the communities in greater Ganyiel still faces a range of barriers to access and use of CMAM services. This ranges from long distance to CMAM delivery points and stock out of Ready-to- Use Therapeutic/Supplementary Food (RUTF/RUSF) to the high opportunity cost of caretakers and the history of pervious rejection. It's necessary to address these barriers through active involvement of community figures in and implementation of good community mobilization for CMAM programme, including community sensitization about CMAM target group and malnutrition.

#### 3.1.2.5 COMMUNITY MOBILIZATION STRATEGY

There is a distinct community mobilization structure for CMAM programme. IRC has 65 community nutrition volunteers (CNVs), five CNVs per OTP site, who are based in the communities. The CNVs, under the supervision of the three community outreach supervisors, works four days a week. Generally, supervision of community outreach supervisor of CNVs is good. However the overall supervision activities need to be further strengthen and organised to provide adequate support to all OTP sites and villages to support CNWs and CNVs regularly.

The screening of children for acute malnutrition is done at health facilities and communities. The IRC trains the community nutrition workers to diagnose and treat childhood acute malnutrition. CNVs were also trained by IRC and have good skills in MUAC measurement. CNVs conduct the active case finding and referral, home visit follow-up visit for defaulter and non-responders and home-to-home sensitization in their villages and nearby villages. CNWs share the profile of defaulted children to CNVs and CNVs with helps of the chief of the village trace and encourage caretakers to return to the program. If the husband of caregivers refuses to take the child to the programme, the chief of the village contact the husband and encourage the husband to allow the caregiver to take the child for treatment.

Mother Care-group members meet health workers every fortnight and discuss at health facility to promote positive infant and young child feeding (IYCF) practices. The CNVs conduct health and nutrition promotion at household level when they conduct home-to-home case finding and community meeting. However, sensitization about malnutrition and IMAM programme needs to be conducted at community gathering to reach the larger community.

The chiefs of the villages support the CNVs and CNWs to trace the defaulters in the villages and were involved in the selection of volunteers at the start of the programme. The chiefs also support the case finding by mobilizing the community; provide room for OTP service provision, secured storage facility for RUTF and RUSF supplies.

However, other community leaders and figures involvement in CMAM programme is limited in greater Ganyiel. Community figures, including the chief of the village and headman, women representative, religious leaders, traditional healers, traditional birth attendant in the area, expressed commitment to support the community mobilization and support CMAM services in their locality.



## 3.2 STAGE 2: SMALL AREA SURVEY

In the second stage of SQUEAC, data (qualitative and quantitative) gathered and analysed in stage one is utilized. The assumptions and/or questions that are generated sometime needs further investigation to validate the findings of stage one. In greater Ganyliel, the SQUEAC assessment generated one question:

“Does the OTP/health facility with high admissions have high coverage and OTP/health facilities with low admissions consequently have low coverage”?

### **Hypothesis formation**

Trailing the question above, a hypothesis was generated: “OTP/health facility with high admission has high coverage rate while OTP/health facility with low admissions has low coverage rate”.

The OTP service in Thoarnhom payam was found to have highest admission while OTP service in Pachak payam had lowest admission rate. Therefore to test the hypothesis, villages around Thoarnhom and villages around Pachak were selected to survey. High and low admission was defined by number of children under the age of five years in the area vs. the percent's of children under the age of five years admitted to the OTP with SAM.

Four villages from each OTP area were selected and surveyed by eight teams in one day to find SAM & MAM cases. The sample size was not necessary to calculate in advance for small area survey. The survey sample size was the number of SAM children found by the surveyors in the selected villages by one day. Based on coverage threshold for rural area noted in SPHERE minimum standard,  $\geq 50\%$  coverage was defined as minimum coverage rate.

Pre designed questionnaires were used to record the cases (SAM & MAM), including both current cases and recovering cases (Annex 3). A ‘semi structure’ interview was carried out using separate questionnaire for the mothers/caretakers of malnourished child that were not attending the programme to find out and record the reasons for ‘not attending the programme’ (Annex 4).

In this survey, a door to door case finding method was utilized to find active cases of SAM and MAM as well as recovering cases for both SAM and MAM. Therefore almost all children age 6 to 59 months were measured in surveyed villages around in two health facilities.

### **Case Definition**

The admission criteria for SAM and MAM of Panyjiar CMAM programme included children age between 6 to 59 months with at least one of the following criteria.

#### **❖ OTP admission criteria:**

1. A Mid Upper Arm Circumference (MUAC) of  $< 11.5$  cm and/or
2. Bilateral pitting oedema with no medical complication

#### **❖ TSFP admission criteria:**

1. A Mid Upper Arm Circumference (MUAC) of  $< 12.5$  cm to  $\geq 11.5$  cm

### 3.2.2 STAGE 2 ‘SMALL AREA SURVEY FINDINGS’

#### **Active cases found**

In eight surveyed villages for ‘Small Area Survey’ in total 9 SAM cases were detected, of which 2 were found to be in programme (Table: 3).

Table: 1 Active SAM cases found ‘Small Area Survey’ Panyjar

STATUS BY OTP ADMISSION	TOTAL SAM CASE FOUND	IN PROG.	NOT IN PROG.
HIGH ADMISSION HF (Thoarnhom)	2	0	2
LOW ADMISSION HF (PACHAK)	7	2	5

Decision rule for High coverage OTP (Thoarnhom )	Decision rule Low coverage OTP (Pachak)
In high admission HF 2 cases were detected. Out of 2 child/case 1 child needed to be in programme for 50% coverage confirmation.	In low admission HF 7 SAM cases were detected. Fewer than 3 children needed to be in the programme for less than 50% coverage confirmation.
The survey found 0 cases in programme. Therefore, this part of hypothesis was not confirmed. Therefore villages around OTPs with high SAM admissions do not necessarily have higher coverage.	2 cases were found in programme, therefore this part of the hypothesis was confirmed. The survey data confirmed that the villages around HFs with low SAM admission may have low SAM coverage.

### 3.3 STAGE 3 ‘WIDE AREA SURVEY’

In Stage three the surveyors, try to get all information from stage one and two to understand the possible coverage rate for the programme that undergoing the assessment. To predict the programme coverage rate, estimation or scores from boosters and barriers and the survey result from stage two are generally consulted.

#### 3.3.1 SUMMARY OF BOOSTERS AND BARRIERS

The lists of comprehensive boosters and barriers were derived from well triangulated evidence in stage 1 and stage 2 by the assessment team. The scoring of boosters and barriers was done by the assessment team based on the weight of each element. The scale used rating from 0 to 11 to score for both ‘barriers’ and ‘boosters’. Eight assessment teams scored each booster and barrier separately as it was expected that the scoring would differ among the team. However in this case the scoring did differ in some extent. The final scoring for each booster and barrier was agreed and assigned by using the average score. These average score for each category were added to “build up” the coverage score. The scores of Boosters are added to zero (i.e. lowest possible coverage) and the scorers of barriers are “subtracted” from 100% i.e. highest possible coverage (see Table-4).

Using the averages scores from boosters and barriers the expected coverage values with upper and lower expected values of coverage for both SFP and OTP were then set separately to test.

**Table: 2 Boosters & Barriers, Panyijiar Jan. 2015**

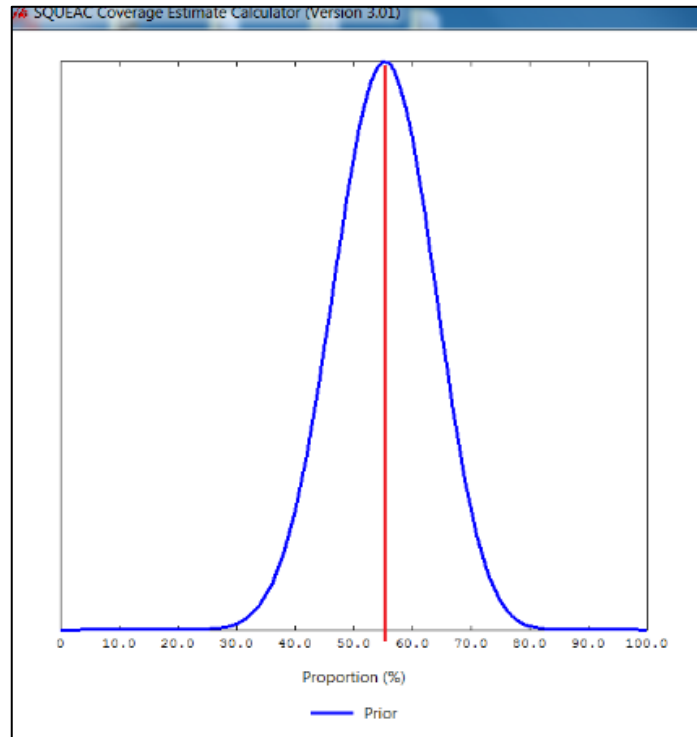
Barrier	Score	Score	Booster
Long distance to service delivery point (no access in remote area too)	10	10	Community appreciation of the outcome of the CMAM treatment ( save life of children)
Inaccessibility ( flooding, swamps, difficult to get transport, lack of money to pay for transport and insecurity)	8	10	The availability of comprehensive CMAM services (OTP, TSFP and SC)
High opportunity cost of caretakers ( mother busy, sick , workload, competing task and lack of support )	7	10	Good referral system between OTP, SC and TSFP services ( good CNV's skills on MUAC measurement )
Shortage of staff (CNW,CNV and outreach supervisor, many villages per CNV, long waiting hrs, crowding, no security guard )	7	9	Provision of free CMAM service
Storage of supply (frequent stock out of RUTF/RUSF, logistic constrain )	6	8	Community awareness about the availability of services
Inadequate quality of service ( poor motivation of CNVs, CNWs and no admission card )	6	7	Community has easy access to CMAM services in some area
Inadequate community figures involvement ( poor involvement of VHC, tradition healers , religious leaders and mother think every child is eligible)	6	7	Good community mobilization activities (case finding and referral, defaulter tracing , sensitization, community leaders participation in CMAM program) in most area
A child rejected by the program ( know rejected case too	6	7	Good collaboration between health and nutrition staff and the community in most area
Poor infrastructures of health facility ( no store, no waiting area, no latrine )	5		
Total	62	68	
Subtracted from Maximum Coverage (100%)	100- 62 = 38	0+ 68 =68	Added to Minimum Coverage (0%)
Estimated coverage:	38+68= 106/2=53%		

### 3.3.2 FORMING THE PRIOR<sup>12</sup>

To select the sample size for 'wide area survey' SQUEAC turn to Bayesian calculator by setting the 'Prior' or 'Mode' of the coverage. 'Prior' is generally set using the prior information from stage one and two data to make an informed assumption about the most likely coverage value and then express it as a probability density. Based on the findings from stage one and two data, the assessment team set the 'prior' for both OTP and TSFP, for the final stage of the coverage survey. The team assumed that the programme coverage for both TSFP & OTP is likely to be around 55%. Therefore the 'mode' was set at 55%, with speculation of lowest possible coverage 30% and highest possible coverage 80%, for both OTP and TSFP. The prior is then described using the probability, alpha prior = 19.1 and Beta prior = 15.6 using Bayesian-SQUEAC software (see Figure 7). The precision for OTP was set at  $\pm 10\%$ , the software then automatically calculated, 56 SAM cases need to be found regardless of whether they are in the programme or not in the programme. Viewing the higher prevalence rate of MAM the precision was reduced to  $\pm 6\%$  to accommodate higher case load that was expected to be found in the survey. The Bayesian software then automatically calculated that 159 MAM cases need to be found regardless of whether they are in the programme or not in the programme.

<sup>12</sup> PRIOR is a statistical representation of our belief in programme coverage

Figure: 7 Prior for OTP and TSFP coverage, Panyjiar



### 3.3.3 Estimation of sample size and sampling frame

The Wide-Area Survey sampling covered the entire programme catchment areas by adopting a spatial sampling method. A two-stage sampling procedure was employed to estimate the sample size and sampling frame. Sample size requirements were calculated, using simulation with the Bayesian-SQUEAC calculator by setting the 'Prior'.

To provide a coverage estimate with a 95% Credible Interval (CI) and in a set precision, therefore the Bayesian SQUEAC calculated minimum sample size,  $n = 56$ , current SAM cases, either in programme or not in programme for OTP coverage. While sample size  $n = 159$  was calculate for TSFP coverage, current MAM cases, either in programme or not in programme.

To estimate number of village to be sampled the following data was used:

- i) the proportion of the population living in the survey area/village = 138
- ii) percentage of population age less than five years old (21%, according to census report) and
- iii) Based on 2014 SMART survey<sup>13</sup>, the MUAC form the prevalence of SAM was 3.5% and prevalence of MAM 10.3% among children 6-59 months
- iv) To determine the minimum number of villages to sample, using the formula 32 villages was calculated to be sampled using spatial selection method to find both SAM and MAM cases covering all payams in greater Ganyiel.

#### **Spatial Representation**

In order to achieve spatial representation, a map was drawn and used of target area marking the health facilities, the payams, and major public places. The map was divided into equal sizes of quadrats, which yielded 40 quadrats. In total, 32 quadrats were selected excluding quadrats made up of less than 50% landmass and surveyed. This is to ensuring spatial coverage of case finding for each of the targeted area.

<sup>13</sup> INTEGRATED NUTRITIONAL ANTHROPOMETRY AND MORTALITY SMART SURVEY, Panyjiar County Unity state Republic of South Sudan, Final report, April 2014

All selected quadrats areas were further marked into a list of its composite payams and villages to identify comparable primary sampling units and to ensure that sampling could be completed within the specified time period. Name of the payam and villages in each square (Quadrat) was listed separately. Villages closest to the centre of each of the quadrats were selected as a sampling area for the survey.

To find SAM and MAM cases and recovering cases of SAM and MAM, a door to door case finds method was used, which was same as 'Small Area Survey' method. This method allowed for the inclusion of all, or nearly all, current MAM and SAM cases in all sampled villages. As anticipated that almost all suspected MAM and SAM children in surveyed villages has been measured within two days of wide area survey. Cases that were 'not in the CMAM programme (SFP/OTP)' were referred to the nearest SFP/OTP care, as appropriate.

### 3.3.4. Findings of Wide Area Survey

#### **Cases found in different communities**

The wide area survey team found 227 MAM and 66 SAM cases from 32 selected villages that were surveyed using MUAC measurement and checking for bilateral pitting oedema. No SAM or MAM case was found in one village namely Kayman.

For MAM coverage assessment, out of 227 MAM cases out of 128 cases were found to be in programme while 99 cases found are 'not in programme' (table 5).

**Table: 3 CMAM programme greater Ganyiel, SQUEAC wide area survey results for TSFP, January, 2015**

Village	Total MAM cases found	MAM cases in prog.	MAM cases not in prog.
Nguek	4	3	1
Dhorjoak	9	8	1
Dhorchiengwiew	7	4	3
Dhorbolmani	13	10	3
Thiel	20	5	15
Reykey	12	6	6
Tharyier	18	7	11
Paidar	13	7	6
Yai	9	7	2
Chuek	8	6	2
Wichdhoryakni	6	5	1
Nguer	10	8	2
Dhornyabor	3	0	3
Nyiem	1	0	1
Padiengchier	2	1	1
Guit	2	0	2
Nyaljor	9	5	4
Rubanyal	14	11	3
Nyoke	14	5	9
Buongkal	11	5	6
Parial	1	0	1
Pabar	5	1	4
Pulmok	3	2	1
Weah	3	2	1
Pajakrial-1	1	0	1
Pajakrial-2	1	0	1
Mabear	3	0	3
Thornhuom	5	4	1
Tarweng	7	4	3
Buotbany	6	5	1
Chiluop	7	7	0
<b>Total</b>	<b>227</b>	<b>128</b>	<b>99</b>

For SAM coverage assessment, out of 66 SAM cases 45 SAM cases were found in programme and 21 were recorded 'not in programme' (Table 6)

**Table: 4 Greater Ganyiel CMAM programme, SQUEAC wide area survey results for OTP, Jan. 2015**

Payam	Village	T. SAM cases found	SAM in Prog.	SAM not in Prog.
Thornhom	Buotbay	6	5	1
Thornhom	Pajakrial 2	4	1	3
Thornhom	Tarweng	4	4	0
Thornhom	Thornhom	6	6	0
Ganyliel	Thiel	2	2	0
Ganyliel	Tharyier	2	2	
Ganyliel	Pajakrial 1	1	0	1
Pachak	Nguer	1	1	0
Pachak	Ruopnyal	3	1	2
Pachak	Wichdoryani	1	1	0
Pachar	Buongkal	6	4	2
Pachar	Nyaljor	1	0	1
Pachar	Nyoke	7	5	2
Pachar	Pabar	1	1	0
Pachar	Puolmuok	2	1	1
Pachienjok	Chuek	1	1	0
Pachienjok	Dhorbolmani	2	1	1
Pachienjok	Dhorjoak	2	1	1
Pachienjok	Nguek	2	1	1
Pachienjok	Yai	2	2	0
Tiap	Chiluop	4	4	0
Tiap	Dhorngabor	2	1	1
Tiap	Guit	2	0	2
Tiap	Nyiem	2	0	2
<b>Total</b>		<b>66</b>	<b>45</b>	<b>21</b>

### 3.3.5 COVERAGE ESTIMATION

To estimate the programme coverage rate data from the 'Wide Area Survey' and the pre-set Bayesian-SQUEAC prior was used. For this survey only point coverage was estimated and reported.

To calculate the 'Point coverage' for OTP as denominator (66) and numerator (45) was inserted to Bayesian-SQUEAC calculator while same Alpha and Beta values ( $\alpha$  19.1  $\beta$  15.6) and precision 10% have been used from the pre-set 'Prior'. The 'Point' coverage is estimated at 56.3% rate with Credible Interval (CI 50.2% - 62.1%), P value = 0.9111.7609 (figure: 9).

For TSFP Point coverage estimation as denominator (227) ) and numerator (128) was inserted to Bayesian-SQUEAC calculator while same Alpha and Beta values ( $\alpha$  19.1  $\beta$  15.6) and precision 6% have been used from the pre-set 'Prior'. The 'Point' coverage is estimated at 63.9% rate with Credible Interval (CI 54.0% - 72.6%) P value = 0.2297

The z-test revealed that there are reasonable overlaps between the 'prior' the 'posterior' and the 'likelihood' for both OTP and TSFP coverage estimation on graphs of Bayesian SQUEAC. See graph 9 & 10 below:

Figure: 9 Point coverage, OTP greater Ganyiel, Jan '15

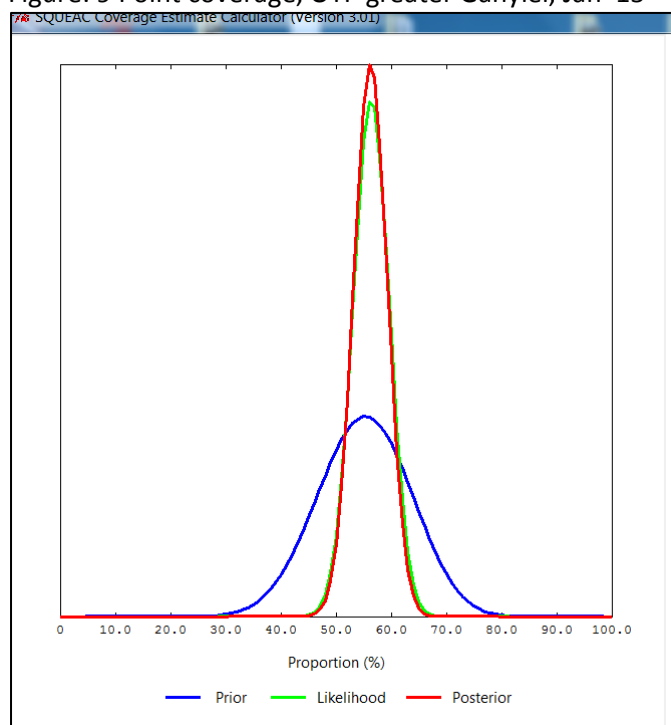
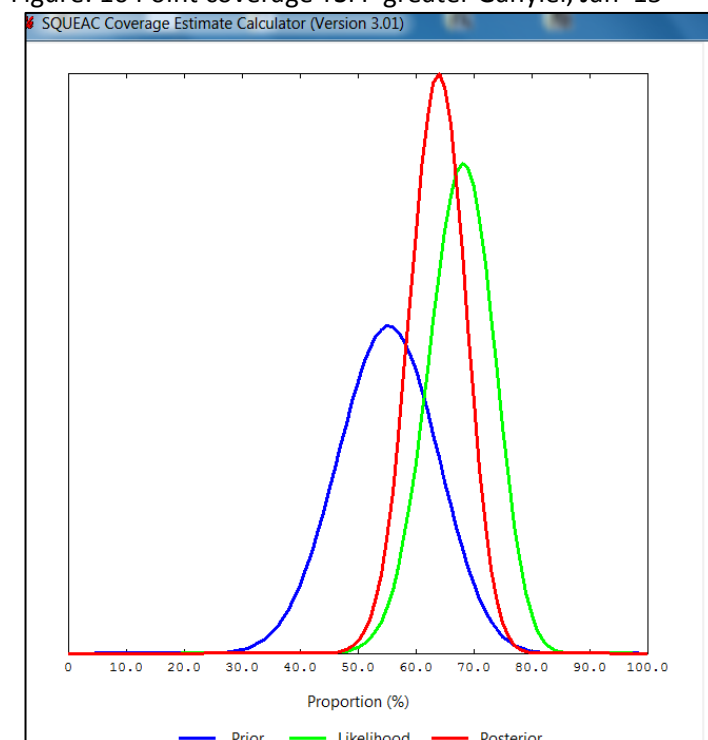


Figure: 10 Point coverage TSFP greater Ganyiel, Jan '15



### 3.3.6 BARRIERS TO ACCESS IDENTIFIED BY WIDE AREA SURVEY

Wide area survey interviewed the mothers/caretakers of MAM and SAM cases who were found 'not attending the programme. The interview included if they know the condition of their children and if they know the programme that can treat acute malnutrition cases.

For SAM cases more than 85% mothers/caretakers claimed to know the status of their children. Only one mother (5%) said that she did not know the programme that can treat her child with SAM. See Table 7 below:

Table: 5 Mothers/caretakers knowledge of the status of their 'SAM' children and prog.

Question (SAM cases)	Yes (# & %)	No (# & %)
Is your child malnourished?	18(86%)	3(14%)
Do you know programme that can help your child	17(81%)	3(19%)
Was your child previously attended the programme.	8(38%)	13(62%)

For MAM cases more than about 94% mothers/caretakers claimed to know the status of their children. When asked do you know the programme that can treat your child 11% of the mother/caregivers said that they did not know the programme that can treat children with MAM. See Table 8 below:

Table: 6 Mothers/caretakers knowledge of the status of their 'MAM' children and prog.

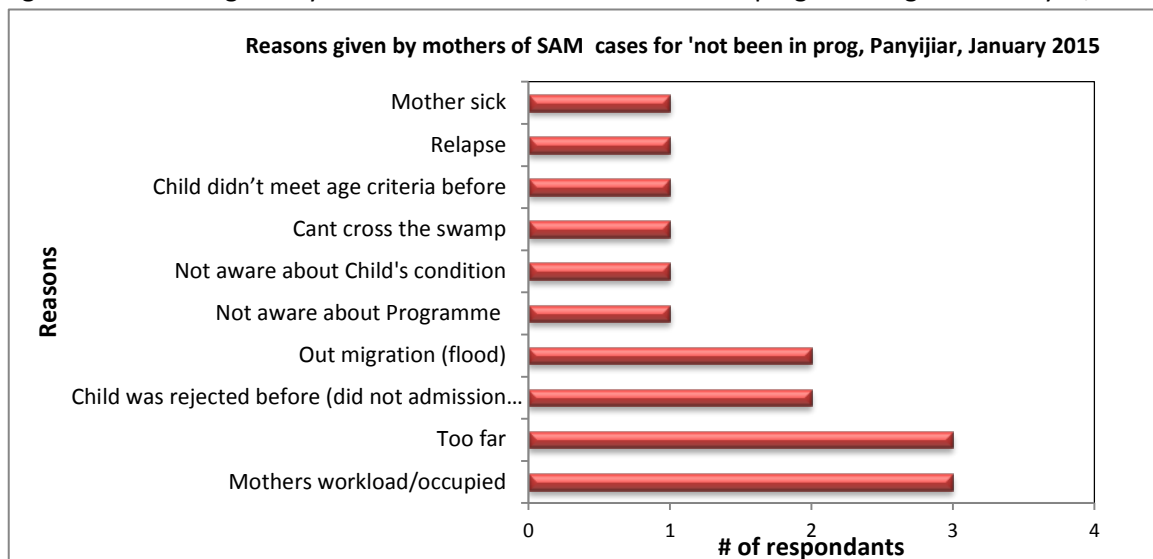
Question (MAM cases)	Yes (# & %)	No (# & %)
Is your child malnourished?	93 (94%)	6 (6%)
Do you know programme that can help your child	88 (89%)	11 (11%)
Was your child previously attended the programme.	21 (52%)	23(48%)

**Reasons that made mothers/caretaker of SAM and MAM cases for 'not to attend' the programme:**

***Mothers/care takers of SAM:***

Out of the 21 mothers/caregivers of SAM cases that were 'not in programme' among those 3 mothers mentioned their workloads and other 3 said HF is too far as their main reasons for not attending the programme. While others were mentioned various reasons for not attending the programme (see Figure 11).

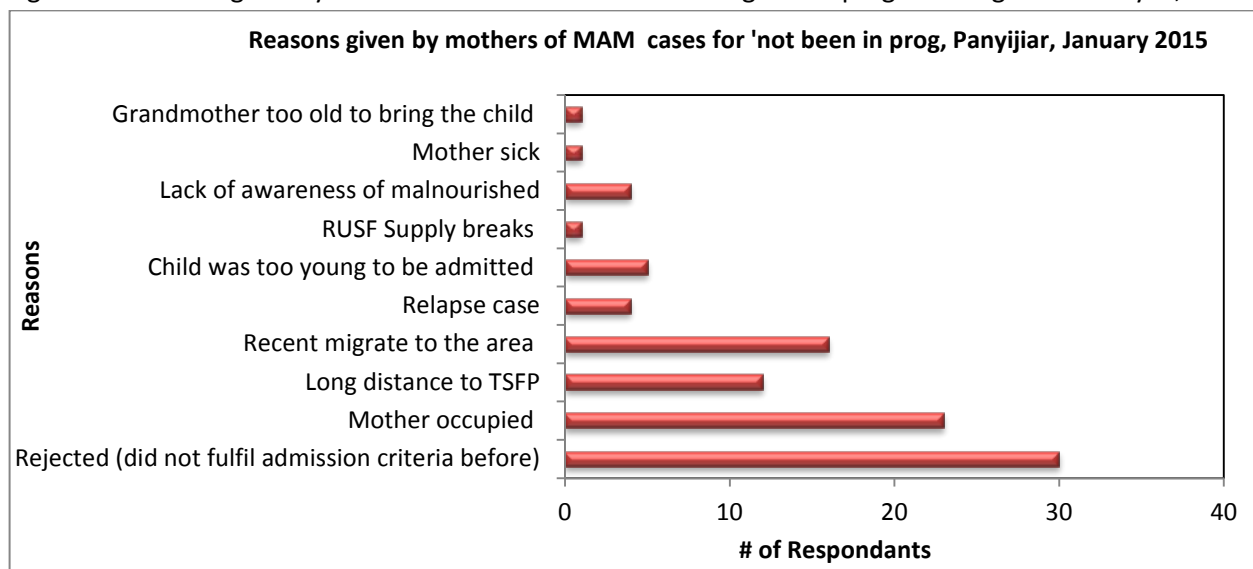
Figure: 11 Reasons given by the mothers of SAM cases for 'not in programme' greater Ganyiel, Jan '15



***Mothers/care takers of MAM:***

Out of the 99 mothers/caregivers of MAM cases that were 'not in programme' among those majority (about 30%) that their children were checked with MUAC but did not fulfil the criteria. While others were mentioning various reasons including rejection and long distance to TSFP (see Figure 12).

Figure: 12 Reasons given by the mothers of MAM cases for being 'not in programme' greater Ganyiel, Jan '15





## 4. DISCUSSION

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In this SQUEAC assessment, the team collected some primary and secondary data on both qualitative and quantitative and analysed them to better understand the programme and the dynamic associate with it. The main focus of this assessment was to assess if performance of the programme is up to the standard and to assess if the community easily access the programme. This assessment also aimed to improve the services qualities as well as access and coverage of the programme by developing and implementing a Joint Action Plan (JAP).

### **OTP DATA ANALYSIS:**

The secondary data (routine programme monitoring data) that was provided by the team for analysis for the SQUEAC assessment was not readily available as routine monitoring data of this programme. The programme team seems were not gathering the data from OTP cards and registers on a regular basis and utilising them as programme monitoring tools. However, some programme performance data are used for donor report such as programme 'exit' data. To understand the service qualities, utilising programme data and use them as regular programme monitoring tools can help to improve the quality of the programme.

The greater Ganyiel OTP programme performance data suggested that the programme was not meeting all the SHPERE minimum standards adequately. The discharged cured rate was recorded as 67.4% which was less than >75% set by the SPHERE standards. The transfer rate was recorded as 26.7% but no proper record was found to better understand why transfer rate was very high. It is significantly important to collect and monitor the programme defaulters data as to understand why caregivers defaulting from the programme. The information from defaulter data analysis will directly reflects communities' perception of the programme and the quality of services that the beneficiaries are getting from the facility.

### **QUALITATIVE DATA ANALYSIS:**

The information from qualitative data analysis revealed that the establishment of IMAM programme in Greater Ganyiel has impacted positively on communities' access to treatment for their malnourished children. Community mobilization through CNVs and the integration of the case finding of acute malnutrition and referral into iCCM contributed to timely case finding and increased uptake of the IMAM service.

There are several others factors that have been identified as boosters of the programme such as active involvement of chief of the villages. The chiefs of the villages were engaged early in and orientated on the IMAM programme. As a result the chiefs are who have selected the CNVs with consulting the community in their locality, and supporting community mobilization by mobilizing the community for screening and encouraging defaulted caregivers to return to the programme. However the involvement of other community figures, particularly religious leaders, Traditional Healers, headman and women representatives are very limited and need to encourage by this programme.

A good collaboration between nutrition staff and the community is another key element of the programme. The community provides their Tukul (small house) and these are used as IMAM service delivery point and storage of RUTF and RUSF. The communities also assist in transportation of programme supplies and provide security for the supplies. It has been recognised that community participation greatly contributed to delivery of the IMAM services in inaccessible area. However, the assessment also recognised that coordination between CHD and IRC are not very strong. The areas of responsibility of CHD's are not clearly defined which might leads to confusion and challenges of the sustainability of the IMAM services.

The assessment also revealed the communities in greater Ganyiel faces a range of other barriers to access to and use of IMAM services. This ranges from long distance to IMAM delivery points and stock out of RUTF/RUSF to the high opportunity cost of caretakers and the history of previous rejection. To have successful service it necessary to address all these barriers through active involvement of the community figures in and implementation of good community mobilization for IMAM programme. Active involvement of community will empower the community and enable them to access culturally appropriate and community-owned IMAM service and minimize the high opportunity costs for caregivers.

The assessment makes note that self-referral of caretakers to the IMAM sites for MUAC measurement of their children is very high as they like to receive RUTF/RUSF. However, continue discussion with community and sensitization of the admission criteria could help community better understand the programme and malnutrition.

Current home to home sensitization by CNVs and health and nutrition education at health facility need to be augmented by sensitization at community gathering places through identified effective communication channels. This is to improve community knowledge of acute malnutrition, practices on child proper care and improve health-seeking behaviour within the community.

Community mobilization to increase access to CMAM services should be implemented and review on a regular basis to improve CMAM services at health facility level. Piloting and scaling up community-based CMAM delivery through iCCM by trained CBDs could help to improve communities' access to CMAM services in the inaccessible areas.

#### **STAGE TWO & STAGE THREE:**

The stage two assessment focus on areas that have record of higher and lower admission/coverage and better and weaker knowledge of the programme and identify the reasons. Based on programme admission data a small area survey was conducted. The survey results confirmed that area with low admission has low coverage. However, to better understand the reason behind the low admission a regular data analysis and discussion with community are essential step to further increase the programme coverage. The overall programme coverage for both TSFP and OTP meet the standard that was set by SPHERE at >50%.

Although the assessment has highlighted an acceptable programme coverage, some important barriers have been such as long distance to OTP sites have been identified as limiting factors for access and coverage. The 2010 South Sudan Household Survey showed that only 44% of the population lives within walking distance of a functional health facility<sup>3</sup> and this is a most limiting factor to accessing services To address the barrier of this programme; detailed recommendations are provided in below section in the joint plan of action for community mobilization and to improve the IMAM services in table 7.

#### **ASSESSMENT LIMITATIONS:**

The major challenges of this assessment not having easy access to many of the locations and this meant the team spent a significant amount of time to reach some villages by walking few hours through swamp and mud. In few cases the team had to sleep in a village that the long distance and difficult to reach some village there was enough time to collect data and return to the base within a day. This situation reduced the supervision during the field works as well the team had limited time to dig dipper to have better understanding of the situation.

## 5. JOINT PLAN OF ACTION

The SQUEAC assessment in greater Ganyiel made eight consolidated recommendations to improve the service qualities of current CMAM programme, increases access in services and continue to keep high coverage rate. To implement the recommendations below action plan has been developed in association with the programme team and relevant partners from the Panyijiar County.

**TABLE 7: IRC AND PANYIJAR DEPARTMENT HEALTH JOINT PLAN OF ACTION ON COMMUNITY MOBILIZATION AND CMAM SERVICES, FEB –DEC. 2015**

	STRATEGY/ACTIVITIES	PERFORMANCE INDICATOR	TARGET	RESPONSIBLE	TIME	PRIORITY
<b>I</b>	<b>COMMUNITY MOBILIZATION</b>					
<b>1</b>	<b>IMPROVE COMMUNITY PARTICIPATION, COMMUNICATION AND DECISION MAKING REGARDING THE IMAM PROGRAM</b>					
1.1	Gradually involve community figures ( chiefs, women leaders religious leaders, traditional healer), Village Health Committee (VHC) , PTA and men to support community mobilization activities in the targeted payams	# of key community figure (by category) actively involved in community mobilization	69*7	IRC, CHD	Mar-Dec 15	High
1.2	Increase community leaders participation in decision making to improve performance and motivation of the community volunteers and community ownership (such as safeguard the OTP/TSFP equipment/supplies in all areas)	# of CNVs supported and oversee by community leaders	65	IRC, CHD	Mar-Dec 15	High
<b>2</b>	<b>STRENGTHEN OUTREACH ACTIVITIES (SENSITIZATION , CASE FINDING AND REFERRAL, HOME VISIT FOLLOW-UP etc )</b>					
2.1	Provide orientation to community figures on malnutrition and IMAM program and involve men to support IMAM services	# of community figures oriented and effectively involved in supporting IMAM services	69*3	IRC, CHD	Mar-Dec 15	High
2.2	Increase community awareness on malnutrition and IMAM program (target groups, referrals) at community gathering places, such as market, church, community meeting, traditional “rallies”, food distribution site, MCG etc	# of villages reached six times per year for community sensitization at community gathering places	110 villages	IRC, CHD	Mar-Dec 15	High
2.3	Provide job aid (images, counselling cards and necessary tools to CNW, CBD, MCGs facilitators and CNVs) to ensure proper dissemination of nutrition and health messages to the targeted communities	% of community volunteers who have job-aid and use counselling cards for nutrition promotion	100%	CHD, IRC	Mar-Dec 15	Medium

	STRATEGY/ACTIVITIES	PERFORMANCE INDICATOR	TARGET	RESPONSIBLE	TIME	PRIORITY
2.4	Provide refresh training to CNVs and improve their performance through provision of necessary tools and incentive on regular basis	# of CNVs perform their work and report regularly	65	CHD, IRC, Community leader	Mar-Dec 15	High
2.5	Train and equip traditional healers (THs) and CBDs with MUAC to improve opportunistic case finding and referral	# of TH and CBDs trained, equipped and actively involved in identification and referral of malnourished cases	264+138	IRC, CHD	Mar-Dec 15	High
2.6	Integrate case finding through MUAC screening into existing community-based initiatives or national event (national immunization day, breastfeeding day, monthly outreach immunization service, MCG, etc.)	# Integrated MUAC screening into other community based program conducted per year	4	IRC, CHD	Mar-Dec 15	High
2.7	Improve follow-up of absentees/defaulters cases through home visits by CNVs and involvement of community leaders in the targeted areas	% absentees/defaulters cases traced and returned/re-admitted to program	80%	IRC, CHD	Mar-Dec 15	Medium
2.8	Redefine the role and responsibility of community based volunteers, harmonize their work to ensure maximum integration in the different thematic areas.	Community based worker and volunteers roles and incentive harmonized	Yes/No	IRC	Mar-Dec 15	Medium
<b>3</b>	<b>STRENGTHEN COORDINATION, MONITORING AND SUPPORTIVE SUPERVISION</b>					
3.1	Re-define the community mobilization strategy based on the actual needs and available resources	community mobilization strategy redefined and implemented	1	IRC	May 2015	High
3.2	Involve CHD and other actors(RRA,) in monthly nutrition and community mobilization coordination meeting	# monthly coordination meeting held in one year	10	IRC, CHD	Mar-Dec 15	Medium
3.3	Conduct close supportive field supervisions and provide technical support to nutrition staff (CNW, CNVs) using a predefined checklist and ensure that feedback is provided to all regarding individual performance	# of supportive supervision conducted per health area per quarter	3	IRC, CHD	Mar-Dec 15	High
3.4	Conduct quarterly <b>joint</b> performance review meeting on community mobilization and IMAM program	# quarterly performance review conducted	3	IRC, CHD	Mar-Dec 15	Medium
3.5	Introduce appropriate reporting tools (pictorial tally sheet, reporting sheet and referral form) for CNVs, CBDs, and outreach supervisors	% of CNVs, CBDs and supervisors report weekly/monthly	100%	IRC,CHD	Mar-Dec 15	High
<b>II</b>	<b>STRENGTHEN OTP AND TSFP SERVICES</b>					
1	Provide refresher training to CNWs on IMAM services and patient-provider interaction	# of health workers trained on IMAM # quarterly refresh training done	48 1	IRC, CHD	Mar-Dec 15	Medium

	STRATEGY/ACTIVITIES	PERFORMANCE INDICATOR	TARGET	RESPONSIBLE	TIME	PRIORITY
2	Mapping the OTP/TSFP service utilization and distribution then establish mobile IMAM service to villages located far from OTP sites, and link with CBDs for follow up	# mobile OTP/TSFP teams established and provide service	2	IRC, CHD	Mar-Dec 15	Medium
3	Introduce system to reduce the crowding and workload for CNWs by providing priority for caretakers who have appointment and link service with community screening for new admission	# of OTP/TSFP sites strengthening community based case finding to improve crowd control at facility	9	IRC, CHD	Mar-Dec 15	High
4	Support the training of CHD staff on supportive supervision on IMAM programming	# of CHD staff trained on supportive supervision on IMAM	2	IRC, CHD	Mar-Dec 15	Medium
5	Improve OTP/TSFP supply chain by ensuring that supplies are pre-positioned in hard to reach sites in adequate amounts and developing an efficient transporting mechanism for the supplies.	% of OTP/TSFP has improved RUTF/RUSF supply chain management # of stock out of RUTF/RUSF/site/year	100% 2	IRC, CHD Community members	Mar-Dec 15	High
6	Mobilize the community to construct health facilities ,stores and waiting area	# of health unit construed	5	IRC,CHD	Mar-Dec 15	Medium
7	Harmonize the current reporting system (UNICEF, WFP, PSI , IRC) into a single report system or database to reduce workload and ensure appropriate reporting for IMAM program achievement	A single report system introduced	Yes/No	IRC, CHD	Mar-Dec 15	High
8	Engage community leadership for the security of supplies in OTP/TSFP sites.	# of OTP/TSFP has security guard	4	IRC	Mar-Dec 15	High

## 6. ANNEXES

### Annex: 1 Schedule: SQUEAC Training & Assessment, Panyijiar South Sudan, January 2015

Time	Activity	Facilitator
Wednesday, Jan. 14 <sup>th</sup>	<i>Class room training</i> Opening Session Introduction Overview of the SQUEAC methodology Overview of the qualitative data collection objectives, methods Group work identify Programme's boosters and Barriers	Lovely/ Melaku
Thursday, Jan. 15 <sup>th</sup>	<i>Class room training</i> Overview FDG , KI and SSI methods Review of the questionnaire Distribution of task to the assessment team Developing Seasonal Calendar Analysis some programme data	Lovely/ Melaku
Friday Jan. 16 <sup>th</sup>	<i>Field data collection</i> Collection of some Contextual Data from the stakeholder from selected villages	Team
Saturday Jan. 17 <sup>th</sup>	<i>Field data collection</i> Information collection from OTP & SC FGD/KII with OTP Mothers, and Health Centre staff Developing Seasonal Calendar with OTP mothers	Lovely/ Melaku
Sunday Jan. 18 <sup>th</sup>	Day Off	
Monday, Jan. 19 <sup>th</sup>	<i>Classroom training</i> Contextual data analysis (Field data) Identification of potential barriers and boosters of coverage Plan for OTP/SFP visit and data collection.	Team
Tuesday, Jan. 20 <sup>th</sup>	<i>Classroom training</i> Analysis of field data (OTP data) Preparation for Small area survey	Lovely/ Melaku
Wednesday Jan. 21 <sup>st</sup>	<i>Field data collection</i> Carry out Small Area Survey Meeting the CHD and partners at county level	Team
Thursday, Jan. 22 <sup>nd</sup>	<i>Classroom training</i> Data analysis of Small area survey Data analysis (qualitative) OTP & TSFP Data analysis Bayesian SQUEAC Calculation of samples and villages for 'wide area survey'	Lovely
Friday, & Saturday Jan. 23 <sup>rd</sup> & 24 <sup>th</sup>	<i>Field data collection</i> Carry out Wide Area Survey	Team
Sunday Jan. 25 <sup>th</sup>	Day off	
Monday Jan. 26 <sup>th</sup>	<i>Classroom training</i> Data compilation of wide area survey Estimations of coverage Recommendation Develop Joint Action Plan (JAP)	Lovely/ Melaku

**Annex: 2 List of Participant, SQUEAC Training & Assessment, South Sudan, January, 2015**

<b>First Name</b>	<b>Last Name</b>	<b>Position</b>	<b>Organisation</b>	<b>Email Address</b>
Stephen	Gatlah	CHD Director	SMoH	<a href="mailto:stephen-gatlah@yahoo.com">stephen-gatlah@yahoo.com</a>
Michael	Gatwich Puk	C-Nutrition Officer	SMoH	
James	Manyang Kuol	C-Finance Officer	SMoH	
Samuel	Mayiech		SSRRA (South Sudan Relief and rehabilitation Agency)	
Stephen	Bichok		SSRRA	<a href="mailto:bbichokgatkuoth@yahoo.com">bbichokgatkuoth@yahoo.com</a>
John	Gatdiet Gatlah	Nutrition Worker	IRC	<a href="mailto:jgatlah@yahoo.com">jgatlah@yahoo.com</a>
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Rose	Nyaluak William	Nutrition Worker	IRC	
Elizabeth	Nyabuar Jok	Nutrition Worker	IRC	
Simon	Riek	Nutrition outreach worker	IRC	
James	Kasare Ruei	Nutrition outreach worker	IRC	
Peter	Gatluak Gieng	Nutrition Worker	IRC	
Liep	Chany	Nutrition Worker	IRC	
James	Gatluak Lew	Nutrition Officer	IRC	<a href="mailto:james.gatluaklew@rescue.org">james.gatluaklew@rescue.org</a>
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Gordon	Diu	Nutrition Officer	IRC	<a href="mailto:gordon.diu@rescue.org">gordon.diu@rescue.org</a>
William	Gatjiok	Nutrition Worker	IRC	

**ANNEX: 3 Survey data collection form 'Small/Wide area survey' Panyijiar, South Sudan, January 2015**

**SQUEAC: Small/Wide Area Survey SAM, Panyijiar County, January 2015**

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Team: \_\_\_\_\_ Team member: \_\_\_\_\_ Boma & Village \_\_\_\_\_

#	Child's Name	Father's Name	Age (Month)	SEX		MUAC in cm	Oedema	SAM case in the prog.	SAM case NOT in the prog.	OTP recovering Cases in prog.
				M	F					
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										

**SQUEAC: Small/Wide Area Survey MAM, Panyijiar, January 2015**

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_ Team \_\_\_\_\_ Team member \_\_\_\_\_

#	Child's Name	Father's Name	Boma/Village	Age (Month)	SEX		MUAC	MAM in the prog.	MAM NOT in the prog.	SFP recovering Cases in prog.
					M	F				
1										
2										
3										
4										
5										
6										
7										
8										
9										
10										



**ANNEX: 4 Small/ Wide area survey Questionnaire for the guardians of the children  
(Active SAM and MAM cases) NOT in the programme**

Name of Child: \_\_\_\_\_ Payam: \_\_\_\_\_

Village: \_\_\_\_\_ OTP site: \_\_\_\_\_ Date: \_\_\_\_\_

1. DO YOU THINK THAT YOUR CHILD IS MALNOURISHED?

YES  NO

2. DO YOU KNOW A PROGRAM WHICH CAN HELP MALNOURISHED CHILDREN?

YES  NO  If answer is NO stop

If yes, what is the name of the program? \_\_\_\_\_

3. WHY DIDN'T BRING YOUR CHILD IN FOR CONSULTATION TO THIS PROGRAM?

- Too far (What distance to be travelled with foot? .....how many hours? .....)
- I do not have time/too occupied
- To specify the activity which occupies the guardian in this period \_\_\_\_\_
- The mother is sick
- The mother cannot travel with more than one child
- The mother is ashamed to go the program (no good cloths etc...)
- Problems of safety
- The quantity of services too poor to justify to go
- The child was rejected before.
- The child of other people was rejected
- My husband has refused
- The guardians do not believe that the program can help the child (or prefers the traditional medicine, etc.)
- Other reasons: \_\_\_\_\_

4. Was the CHILD ALREADY ADMITTED IN the PROGRAM before?

YES  NO

If answer is NO stop, if answer is yes continue,

- Why isn't s/he registered any more at present?
- Defaulted, when? ..... Why? .....
- Cured and discharged from the program (When? .....
- Discharged but not cured (When? .....
- Others: \_\_\_\_\_

5. If you decide to use OTP/SC service, where and when you want to use of CMAM service?

6. Who decide or influence you take or NOT to take a child to a health facility?

7. How do you deal with a child who sick? Where you first seek a solution for a sick child? (**Probe:** home remedies with herbs used and which herbs are used, are the traditional treatment sought and administrated before children are taken to a health facility? Change of trend on the use of these methods, OTP )

8. Do you (women caregivers) breastfeed their babies under six months of age? At what age do mother start to give additional liquids to infants? What about complementary soft foods? How many times per day does a mother feed a 12 month-old infant? What is the child fed?

(Thank the guardian)