



SQUEAC REPORT
For
East Pokot, Marigat and Mogotio Sub- Counties,
Baringo County,
Kenya

BY
World Vision Kenya 2015

ACKNOWLEDGEMENTS

World Vision Kenya (WVK) highly acknowledges the participation of many partners at different levels who contributed to the success of this coverage assessment.

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Special thanks go to Baringo County community members for their time and accepting to provide information once they were visited by the assessment team.

ACRONYMS

ADP	Area Development Program
BBQ	Boosters Barrier and Questions
CHW	Community Health worker
CHEWS	Community Health Extension Workers
CMN	Coverage Monitoring Network
CSB	Corn Soy Blend
EP	East Pokot
GAM	Global Acute Malnutrition
GFD	General Food Distribution
CU	Community Unit
HH	Household
H/W	Health Workers
IMAM	Integrated Management of Acute Malnutrition
KNBS	Kenya National Bureau of Statistics
MOH	Ministry of Health
MUAC	Mid upper arm circumference
LQAS	Lot Quality Assurance Sampling
OJT	On job Training
OTP	Outpatient feeding program
RUTF	Ready to use therapeutic food
SAM	Severe acute malnutrition
SCHMT	Sub- County Health Management Team
SFP	Supplementary Feeding Program
SMART	Standardized Monitoring and Assessment of Relief and Transition
SQUEAC	Semi-Quantitative evaluation of access and coverage
TBA	Traditional Birth Attendants
WFH	Weight for Height
WVK	World Vision Kenya

EXECUTIVE SUMMARY

Baringo County is composed of the 6 sub-counties: Baringo Central, Baringo North, Marigat, Mogotio, East Pokot and Koibatek found in original Rift Valley Province. It borders Turkana and Samburu Counties to the North, Laikipia to the East, Nakuru and Kericho to the South, Uasin Gishu to the South West, Elgeyo Marakwet and West Pokot to the West. The county has five livelihood zones segregated in proportions as shown in the map below. The Pastoral livelihood covers 33%, Agro-Pastoral 9%, Marginal mixed farming 39%, Mixed Farming 14% and Irrigated Cropping 4%. The Population of Baringo County is at 648,042 based on the 2015 population Projection.

The Ministry of Health through the Department of Nutrition in collaboration with WVK, UNICEF and WFP has been implementing CIMAM Program in Baringo County. The intervention includes community screening, identification and management of severe and moderate acute malnutrition of children under five years and pregnant and lactating mothers under the Community Integrated Management of Acute Malnutrition Program.

The last coverage survey that was conducted in Baringo took place in 2012 and only covered East Pokot. Thus this assessment was done to identify the specific barriers and boosters to access of OTP and SFP programs in East Pokot, Marigat and Mogotio Sub -Counties as well as to assess the achievement of the previous assessment recommendations for East Pokot.

All the three stages of SQUEAC Methodology were employed. Stage 1 involved identifying areas of low and high coverage as well as reasons for coverage failure using routine program data, any other existing data and qualitative data. Stage 2 involved confirming the location of areas of high and low coverage and the reasons for coverage failure identified in stage 1. This was done using the small studies, small surveys and small-area surveys. Stage 3 involved providing an estimate of overall program coverage using Bayesian techniques. Point and Single coverage estimate were calculated.

The coverage assessment was conducted between 12th October to 23rd October 2015 for stage 1 and 2 and from 28th October to 2nd November 2015 for stage 3.

From the Bayesian coverage calculator, the posterior 'point coverage' for OTP in East Pokot was estimated at 45.7% and 'single coverage' for Marigat and Mogotio was 39.4% and 52.5% respectively. 'Single coverage' for SFP in East Pokot, Marigat and Mogotio was 48.5%, 32.1% and 29.5% respectively. Both OTP and SFP estimate coverage were found to be below the recommended SPHERE standard of 50% in rural areas and thus considered unsatisfactory apart from Mogotio OTP that was at slightly above (52.5%) the sphere standards thus considered good.

The major barriers across the sub counties to both the SAM and MAM coverage were Long distance, Mothers work load, poor child spacing, Poor Documentation, Understaffing, Alcoholism, Migration, inadequate capacity of Health workers and inactive CHWs. In Marigat, scaling down of outreach sites and insecurity that led to closure of health facilities was also a key barrier.

Based on the finding of the assessment a number of recommendations were developed which include Capacity building of health workers and Community Health Volunteers on IMAM guidelines and good documentation, Conduct community sensitization and awareness on malnutrition and how to identify children suffering from malnutrition, Mapping of outreach sites and conducting consistent Health and nutrition services to the far villages, Ensure consistent supply of RUTF /RUSF in IMAM sites, Formation of new Community units and strengthen the existing ones to ensure they are functional, Promote healthy timing and spacing of pregnancy and Create awareness on importance of men participation in child health care support

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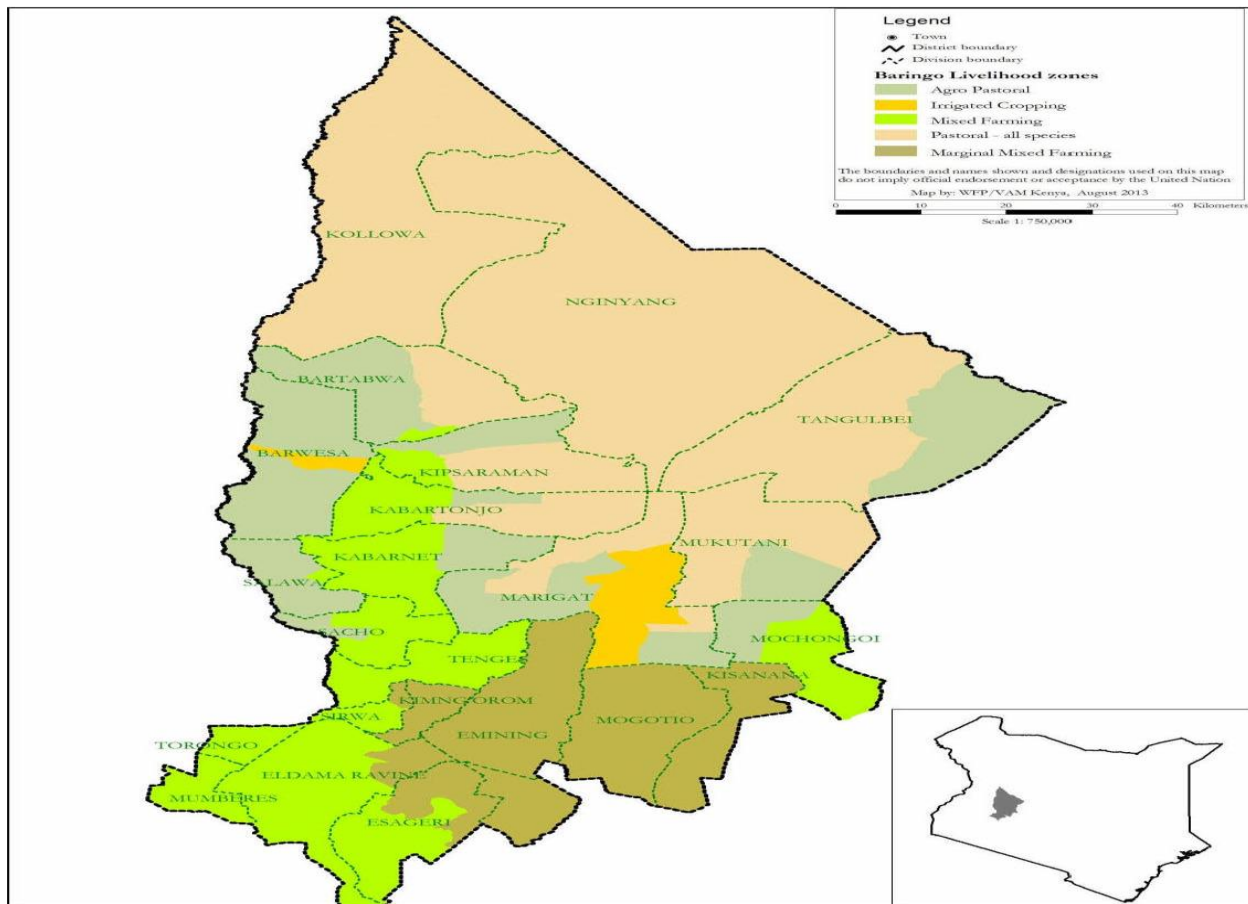
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1.0 INTRODUCTION

1.1 CONTEXT

Baringo County is composed of the 6 sub-counties: Baringo Central, Baringo North, Marigat, Mogotio, East Pokot and Koibatek found in original Rift Valley Province. It borders Turkana and Samburu Counties to the North, Laikipia to the East, Nakuru and Kericho to the South, Uasin Gishu to the South West, Elgeyo Marakwet and West Pokot to the West. The county has five livelihood zones segregated in proportions as shown in the map below. The Pastoral livelihood covers 33%, Agro-Pastoral 9%, Marginal mixed farming 39%, Mixed Farming 14% and Irrigated Cropping 4%. The Population of Baringo County is at 648,042 based on the 2015 population Projection.

Figure 1: Baringo County Map



According to findings of 2015 SMART survey, East Pokot Sub County was reported to have Global Acute Malnutrition (GAM) levels of 18.8% which is still critical despite being an improvement from 21.1% in the previous year. Severe Acute Malnutrition (SAM) levels were 3.8% an increase from previous year that was 3.0% though not significantly. There was no survey covering Mogotio and Marigat between 2014 and 2015 despite having similar livelihood in some areas. Various factors that have been attributed to poor health and nutrition status at the County include low staffing levels of the health sector, poor community health seeking behavior, poor infrastructure, alcoholism, high illiteracy levels and poor child spacing practices especially in East Pokot. East Pokot and some parts of Marigat Sub County are also affected by sporadic cattle rustling attacks that cause insecurity leading to closure of health facilities and migration of

communities. Malaria, diarrhea and acute respiratory infections are prevalent diseases particularly amongst the under-fives in the County.

1.2 IMAM program in Baringo

The Ministry of Health through the Department of Nutrition in collaboration with WVK, UNICEF and WFP has been implementing CIMAM Program in Baringo County. The intervention includes community screening, identification and management of severe and moderate acute malnutrition of children under five years and pregnant and lactating mothers. Overall management of malnutrition follows the integrated management of malnutrition (IMAM) model where treatment is integrated into the County health system.

One of the major challenges facing the IMAM programs is high defaulter rates leading to poor program outcomes. . It is for this reason that WVK in partnership with WFP supported the coverage assessment in Baringo to identify the barriers and promoters of access to OTP and SFP programs.

1.3 OBJECTIVES

- To identify barriers/promoters of access to OTP
- To identify barriers/promoters of access to SFP
- To classify a headline coverage of the IMAM program
- Build the capacity of MoH in conducting coverage surveys using Semi Quantitative Evaluation of Access and Coverage

2.0 METHODOLOGY

2.1 SQUEAC METHODOLOGY

This coverage assessment applied the SQUEAC Methodology. All the three stages of the methodology were applied. Stage 1 involved identifying areas of low and high coverage as well as reasons for coverage failure using routine program data, any other existing data and qualitative data.

Quantitative routine program data was obtained from the IMAM registers of health facilities from the three Sub- counties. Qualitative information was obtained from various sources that included health facility in charges and nutrition officials, religious leaders, caregivers, health facility nurses, traditional birth attendants (TBAs), Traditional healers, CHWs/CHEWs, program staff, community members and local leaders.

Stage 2 involved confirming the location of areas of high and low coverage and the reasons for coverage failure identified in stage 1. This was done using the small studies, small surveys and small-area surveys.

Stage 3 involved providing an estimate of overall program coverage using Bayesian techniques. The prior mode was computed using the average of the total sum of weighted boosters and barriers plus un-weighted barriers and boosters, concept map plus the belief (histogram)

2.2 ASSESSMENT PERIOD AND TEAM

The coverage assessment was conducted in between 12th October to 23rd October 2015 for stage 1 and 2 and from 28th October to 2nd November 2015 for stage 3. In total, there were 23 participants who were involved in the collection of the both qualitative and quantitative data. The participants were drawn from the Ministry of Health, WVK nutrition project staffs and UNICEF

2.3 LIMITATIONS OF THE INVESTIGATION

- Lack of comprehensive data recording and poor documentation by some of the facilities.
- Lack of/weak internet connectivity in some of the field locations to allow for timely communication.
- Tough terrain
- Very Scattered Villages and households living very far apart

2.4 CASE DEFINITIONS

OTP

- Children age between 6-59 months with at least
- A Mid Upper Arm Circumference (MUAC) of <11.5 cm and/or
- Bilateral pitting oedema (grade+ and grade++) with no medical complication
- WFH $<-3SD$

SFP

- Children age between 6-59 months with at least
- A Mid Upper Arm Circumference (MUAC) of <12.4 cm and/or
- Weight For Height $<-2SD$

3.0 RESULTS

3.1 EAST POKOT OTP AND SFP COVERAGE ASSESSMENT

3.1.1 Program Data Analysis

The routine program data which was analyzed included MUAC on admission, OTP/ SFP admission over time and standard program performance data with focus on the defaulters and the in-program deaths. This data was used to detect any trends that were later explained. A calendar of seasonal events for East Pokot was developed and compared with the trend of program data. In particular the relationship between the OTP/ SFP admissions, exits and the defaulters with the seasonal calendar was established

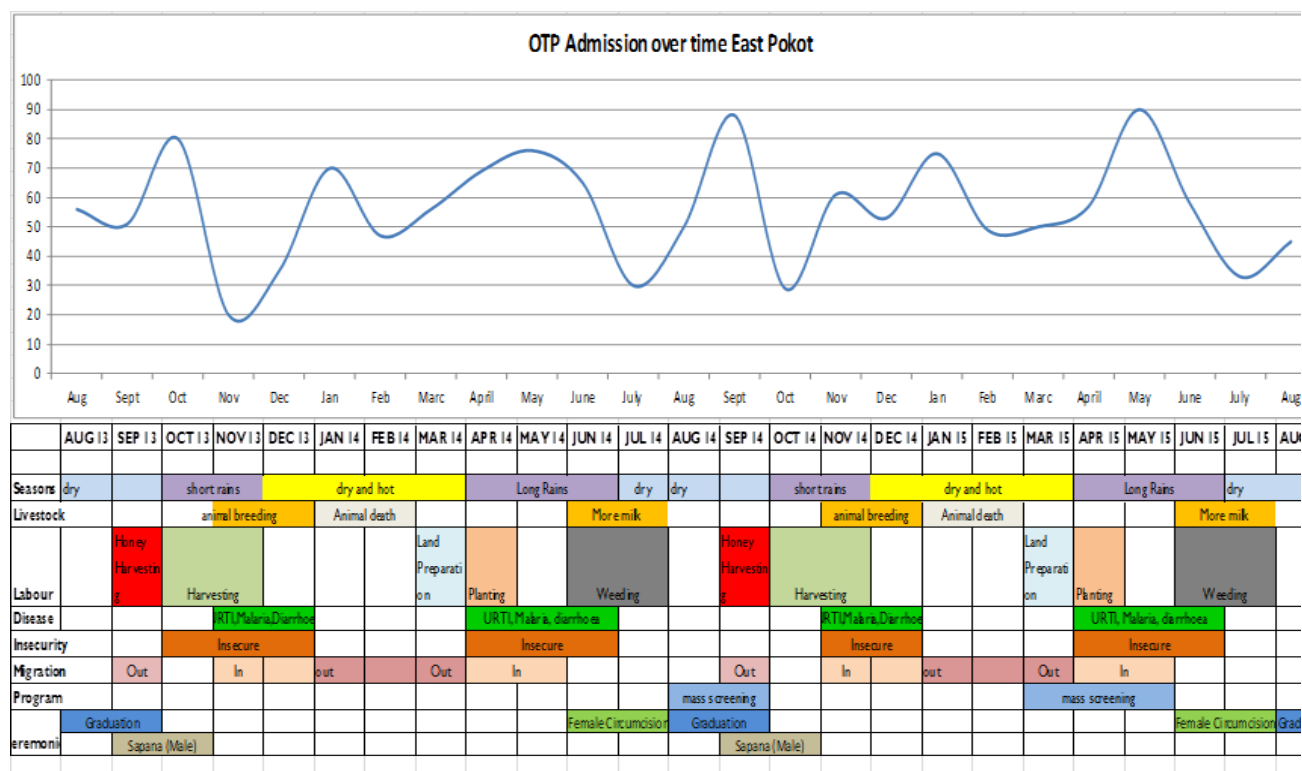
3.1.1.1 OTP Admission Trends

The figure 2 below shows the trends in OTP admissions overtime as compared with the seasonal calendar from August 2013 to Aug. 2015.

On the general trend of the admissions, there was increase of admission in August to September 2014 and April to May 2015 due to mass screening and outreaches that were conducted then. High admission were also noted in dry spell months i.e. September, October and January and also in the months of April and May due to diseases like Malaria, URTI and Diarrhea which are common during rainy season.

Another observation is that there were low admissions noted in the months of July and November due to availability of milk and also in the month of Nov. after honey and crop harvesting.

Figure 2 OTP Admission over time

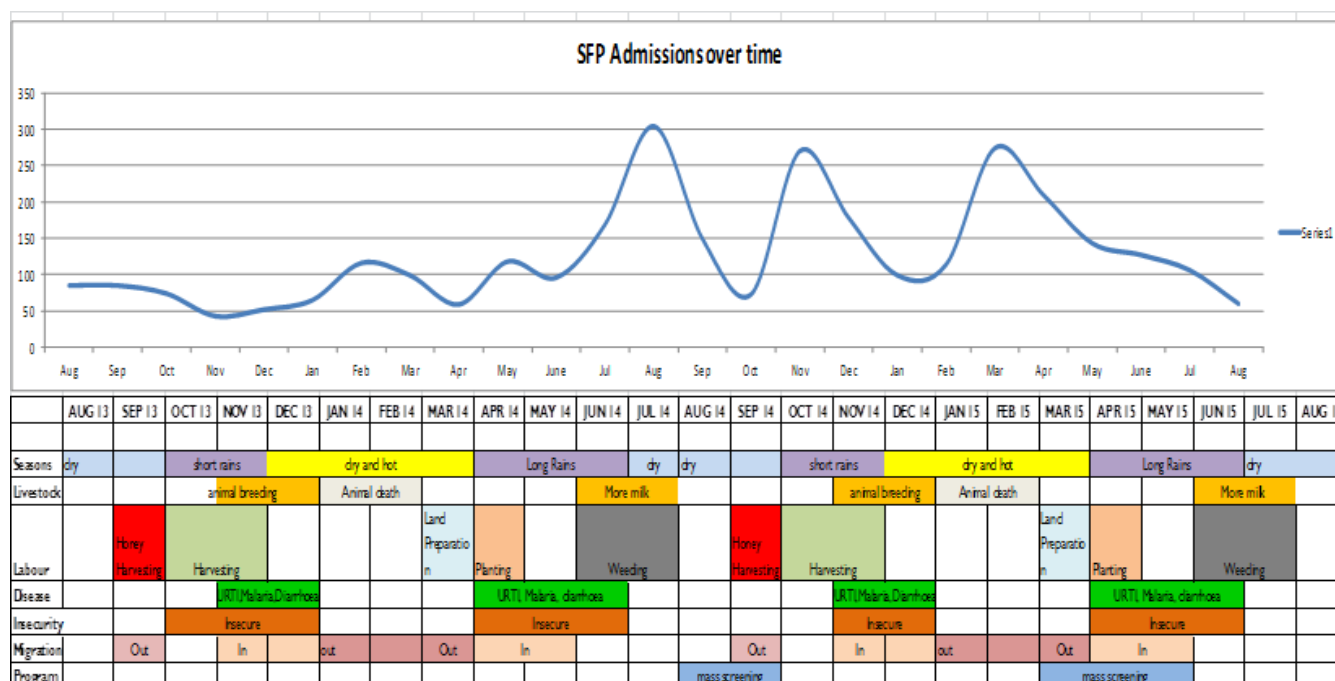


3.1.1.2 SFP Admission over time

An investigation to trend of admissions over time in SFP showed an increase in the months of July and August 2014 due to dry spells and health/nutrition outreaches. Prevalence of diseases like malaria, diarrhea and URTI during short rains led to increase in admissions in October and November 2014 and in March and April 2015 increase in admissions was due to mass screening and health/nutrition outreaches.

Crop harvesting in the month of October 2014 contributed to food availability at household level and this led to a decline in admissions in that month.

Figure 3 SFP Admission over time



3.1.1.3 MUAC on Admission

MUAC at admission in OTP and SFP programs in East Pokot Sub County was assessed to examine timeliness of seeking treatment of the beneficiaries. The investigation showed a median value of 111mm and 120mm in OTP and SFP respectively which reflects early treatment seeking behavior of the beneficiaries. A proportion of SFP beneficiaries were admitted with a MUAC of 115mm which were transfers from OTP program. Late admissions were also reported in both programs and this was attributed to distances, ignorance and poor seeking behavior among the communities.

Figure 4 MUAC at Admission in OTP Program

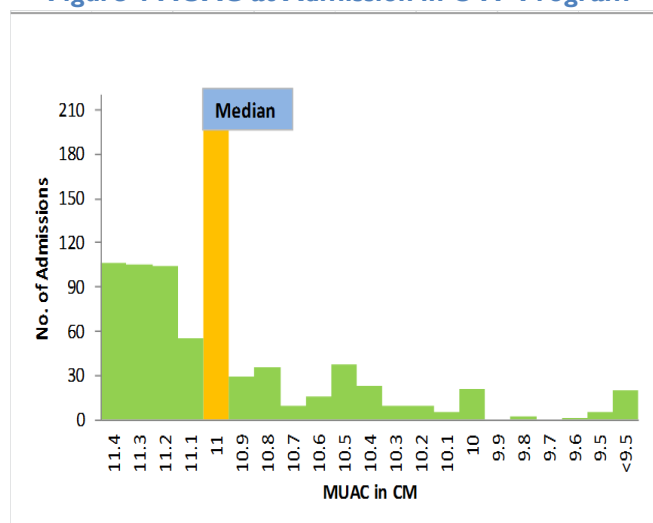
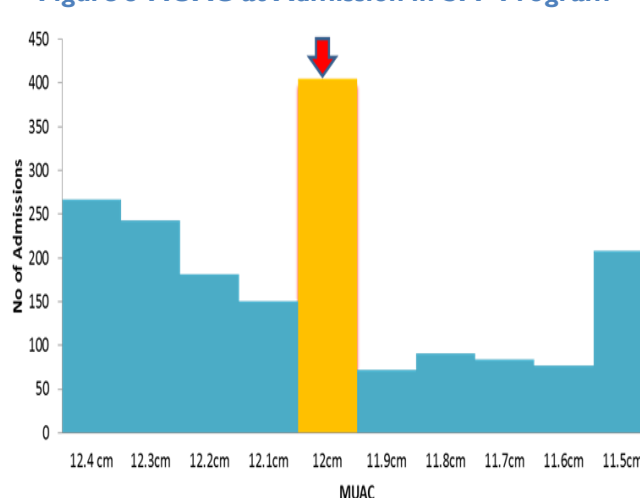


Figure 5 MUAC at Admission in SFP Program

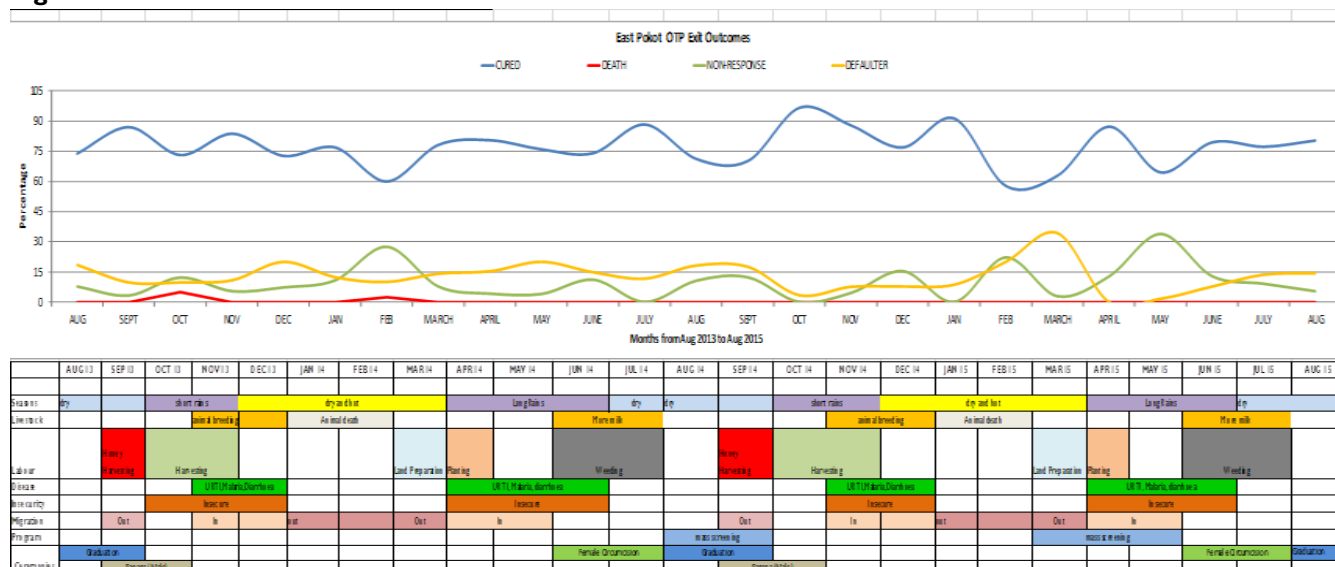


3.1.2 East Pokot Program Performance Indicators

3.1.2.1 OTP Exit Trend over time

The program exits showed that the cure rates were above the sphere standards of 75% in most months and the defaulter rate was below 15% for most of the months. The trend showed that defaulter rate increased while cure rate decreased during dry spell months (Jan, Feb) as a result of outmigration. The nonresponses recorded were as a result of absenteeism over time and sharing of nutrition supplies. There were two deaths recorded in the month of Oct. 2013 which were attributed to illness and not caused by malnutrition

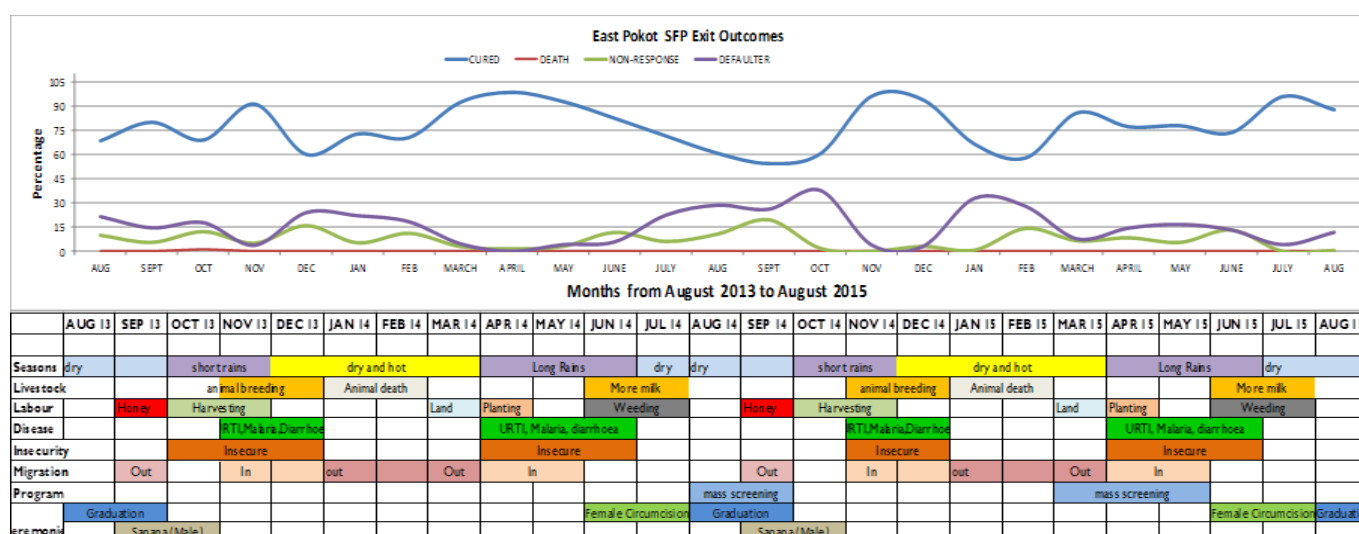
Figure 6 OTP Exit Trends over Time



3.1.2.1 SFP Exit Trend over time

As regards to program effectiveness in SFP, Cure rate fluctuated between moths and decreased while defaulter rate increased during dry spell months (Jan, Feb, Sept. Oct) as a result of out migration. The proportion of the non-response recorded was as a result of absenteeism over time and sharing of nutrition supplies.

Figure 7 SFP Exit Trends over Time



3.1.2.3 Defaulter by Visit

An examination into the time of defaulting from the program discovered that highest defaulting was in the 3rd and 4th visit for both OTP and SFP respectively which is an indication of early defaulting. The reasons for defaulting were identified as long walking distance from far villages to IMAM sites, Alcoholism, migration, and increased work load of the caregivers.

Figure 8 SFP Defaulter by visit

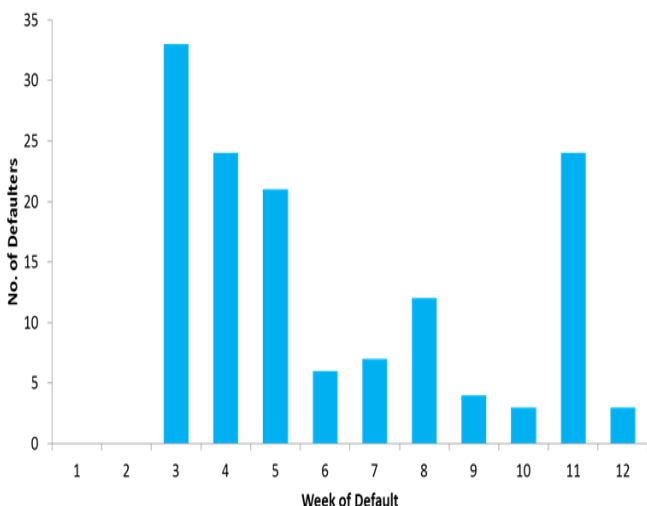
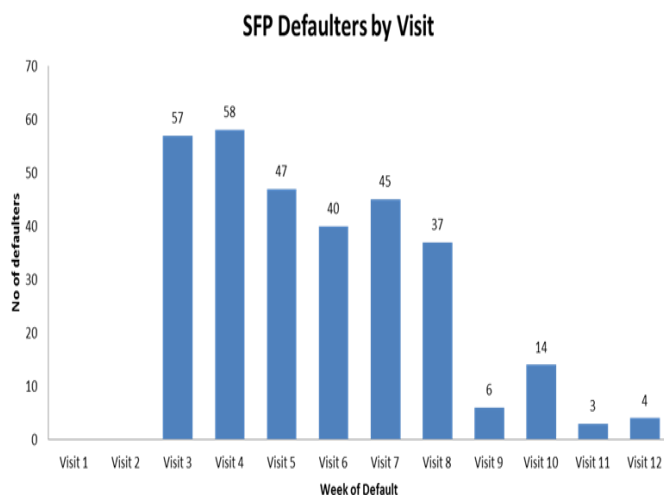


Figure 9 SFP Defaulter by visit



3.1.2.4 Average Length of Stay (ALOS)

An investigation of average length of stay of the beneficiaries was also done to assess the quality of care a child is receiving during treatment at the facility, at home and the effectiveness of the IMAM program in the SFP program. The average acceptable length of stay in OTP is between 45-60 days and less than three months for SFP according to the IMAM guidelines.

In OTP Median length of stay was four weeks. This indicated that where treatment protocols were being observed, clients were curing early and were being discharged to SFP

In SFP Median length of stay was week five. This indicates that where treatment protocols were being observed, clients were curing early. Those exits noted in the 1st and 2nd weeks were beneficiaries discharged early due to wrong admission criteria. Late exits (above 8th visit) were those who overstayed in the program due to household sharing of the ration and absenteeism.

Figure 10 Length of Stay in OTP

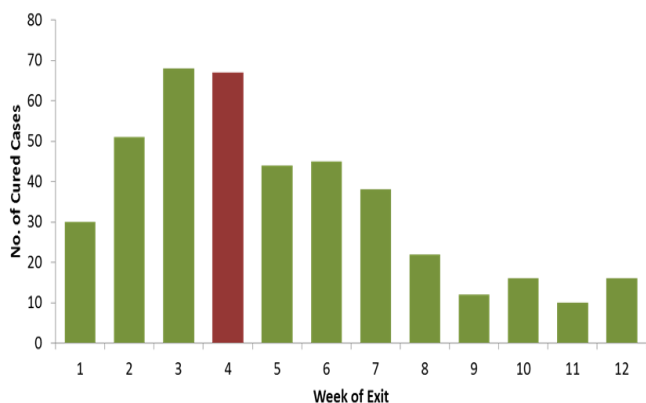
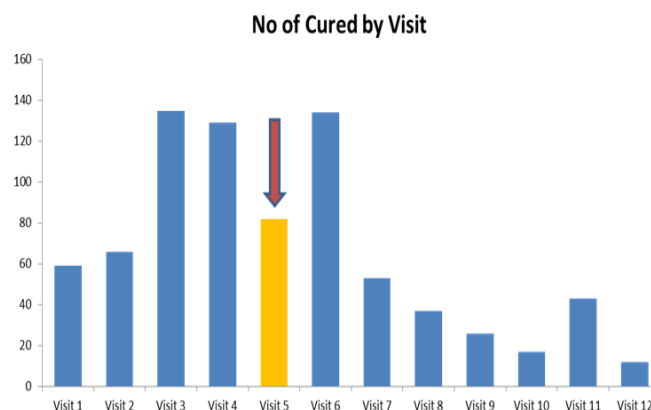


Figure 11 Length of Stay in SFP



3.1.3 Qualitative Data

Qualitative data was collected from different sources using various methods. These methods included; Informal Group discussions, Semi structured interviews, In-depth interviews and Observation. The data was collected from Community Leader, Community Health worker, Care givers of children not in Programme, Care givers, Health Workers, Program Staff, Chief/Administration, Observation, TBAs/Traditional Healers, Religious Leaders, Defaulters. Program data, Pastoralists and Teachers

From the qualitative assessment several factors were identified as promoters or barriers to access of IMAM services as summarized below:

Barriers were defined as factors that contributed to poor/low coverage for SFP.

Boosters were defined as factors that contributed to good/high coverage for SFP.

Table 1 OTP/SFP Boosters East Pokot Sub County

Boosters	
Mass screening	Mass screening which was conducted in March and April 2014 led to increase in the number of beneficiaries in the program.
Awareness of the program	The community members were aware of the existence of program..
Understanding of Malnutrition	The community members were conversant with Malnutrition especially signs and symptoms and this led to early treatment seeking behavior.
Integration of the Program and other care services	More children were screened when the health services were integrated.
Community sensitization/health education	The community members were aware of malnutrition and made referrals after identifying the cases.
Consistent On job training	Health care providers were well equipped with information on IMAM.
Good defaulter tracing Mechanism	Defaulter tracing was in place and was being conducted by community health volunteers.
Availability of Plumpysup	There was no stock out of the commodity during the period.
Adequate staffing	Nurses and the community health volunteers supported each other and worked at a team in offering IMAM services and other health services.
Health/Nutrition Outreaches	IMIAM services were provided at outreach sites.
Trained Health workers/CHV	The health workers had the expertise to offer IMAM services.
Presence of IEC materials	Presence of IEC materials at the health facilities created awareness of Malnutrition.

Table 2 OTP/SFP Boosters East Pokot Sub County

Barriers	
Long Distance	Some of the SFP beneficiaries live far from the health facilities leading to missing days during SFP

	distribution.
Stock outs	Some of the health facilities had SFP commodity stocks outs resulting to beneficiaries not coming for the revisits and finally contributing to defaulting.
Household sharing of the ration	Sharing of the ration at household level and this contributing to beneficiaries staying longer in the program than expected.
Lack of motivation of CHW'S	Some of the health facilities had one staff and with no support from CHW'S who were demotivated, they were overworked in providing IMAM services.
Alcoholism	The community where alcoholism is rampant the defaulter rate was high because the caregivers forget to take their malnourished children for the rations.
No community unit	Some of the areas with no community unit active case findings and referrals were not conducted.
Inadequate human resource	Some of the health facilities reported to have a high workload that was a challenge to attending to all beneficiaries appropriately.
Defaulting/Poor defaulting tracing mechanism	This led to the beneficiaries staying longer in the program than expected.
Health worker/CHW'S not trained in IMAM	This led to IMAM protocol not being followed e.g criteria of admission and discharge.
Facilities closed often	Some of the health facilities are often closed discouraging the beneficiaries to come for the SFP ration.
Drought/rainy season/migration/ceremonies	During this periods the priorities of the caregivers changes leading to defaulting.
No linkages to other food security programs	This led to household sharing of the SFP ration and overstay in the program.
Poor documentation and non-adherence to Imam guidelines	Protocol of IMAM which was not followed led to beneficiaries who do not meet the criteria of admission to be in the program.

3.1.4 Hypothesis Testing And Small Area Survey For East Pokot

Based on the information collected and analyzed in Stage One (both quantitative and qualitative), there were indications of high coverage in some areas and low coverage in others. Hypotheses were then set for OTP and for SFP. These hypotheses were tested in the stage 2 of the SQUEAC Survey by applying the simplified LQAS formula $d = (n/2)$ against the 50% SPHERE standard for Coverage in Rural Areas

3.1.4.1 Hypothesis statements:

- I. There is High OTP program coverage (>50%) in areas near (less than 7km) IMAM site and low coverage in areas far (>7km) from IMAM Service delivery point.
- II. There is High SFP program coverage (>50%) in areas near (less than 7km) IMAM site and low coverage in areas far (>7km) from IMAM Service delivery point.

In order to test the above hypothesis, four far villages (Kadingding, Ngarua, Kacheptuiya and Chemoril) and five near villages (Kotut, Sosion, Chemokol, Adipo and Dunyasa) were selected. These villages were sampled purposively. The target respondents for the small area survey were the caregivers of the children aged between 6 to 59 months. An in-depth interview was conducted with the caregivers of the selected households. Results were analyzed as shown in the tables below;

Table 3 Results for small-area survey for SAM in East Pokot

Analysis of results for the small-area survey for SAM in East Pokot		
	Near Villages	Far Villages
	Kotut	Kadingding
	Sosion	Ngarua
	Chemokol	Kacheptuiya
	Adipo	Chemoril
	Dunyasas	
Expected coverage (p)	50%	50%
Number of SAM cases (n)	2	2
SAM cases in-program	2	1
Decision rule (d)	$d=2/2 = 1$	$d=2/2= 1$
Deductions	Since SAM cases in-program (2) is greater than decision rule (1) then the Hypothesis was Confirmed	Since SAM cases in-program (1) is equal to the decision rule (1) then the Hypothesis was Confirmed

Table 4 Results for small-area survey for MAM in East Pokot

Analysis of results for the small-area survey for MAM in East Pokot		
	Near Villages	Far Villages
	Kotut	Kadingding
	Sosion	Ngarua
	Chemokol	Kacheptuiya
	Adipo	Chemoril
	Dunyasas	
Expected coverage (p)	50%	50%
Number of MAM cases (n)	4	7
MAM cases in-program	3	5
Decision rule (d)	$d=4/2 = 2$	$d=7/2= 3.5$ $d = 3$
Deductions	Since MAM cases in-program (3) is greater than decision rule (2) the Hypothesis was Confirmed	Since MAM cases in-program (5) is greater than the decision rule (3) the Hypothesis was NOT Confirmed

3.2 MARIGAT OTP AND SFP COVERAGE ASSESSMENT

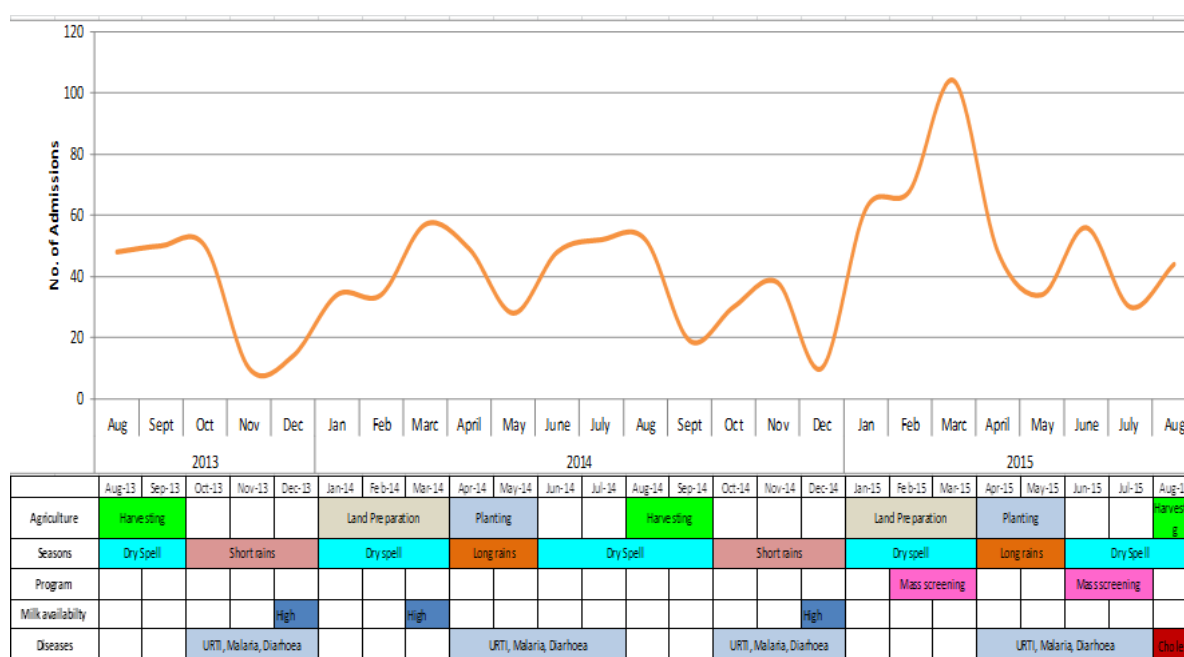
3.2.1 Marigat Routine Program Data Analysis

The routine program data which was analyzed included MUAC on admission, OTP/ SFP admission over time and standard program performance data with focus on the defaulters and the in-program deaths. This data was used to detect any trends that were later explained. A calendar of seasonal events for Marigat was developed and compared with the trend of program data. In particular the relationship between the OTP/ SFP admissions, exits and the defaulters with the seasonal calendar was established

3.2.1.1 Marigat OTP Admission Trends

The OTP Program was found to correspond with the context of Marigat Sub-County. The factors that were found to affect the program were availability of food at household level, for example during rainy season (November and December) there was good amount of fresh milk and therefore less OTP admissions. The opposite is true where during dry spell (March and August) and reduced food availability, high admissions were recorded. Another factor is mass screening for OTP beneficiaries which lead to high admissions in March 2015.

Figure 12 OTP Admission over time

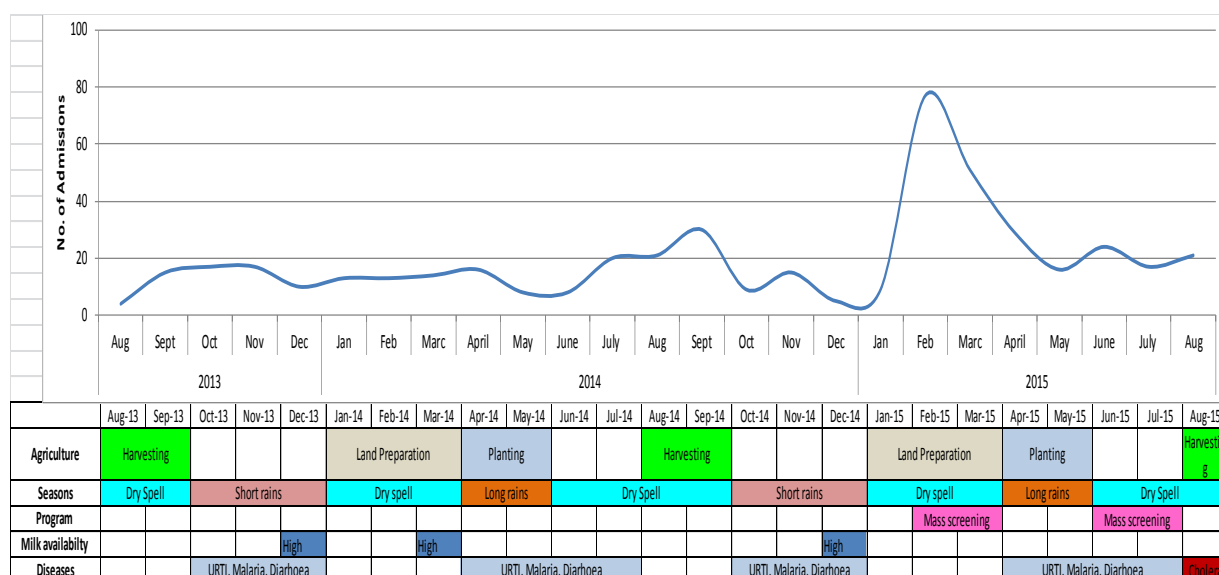


3.2.1.2 Marigat SFP Admission Trends

The assessment of SFP admissions over time were found to be in line with the expected trends in the seasonal calendar. As shown in the figure below, Mass screening was found to significantly contribute in increased admissions in SFP program. This is evident in the period between January to March 2015 when mass screening was conducted in the sub county.

Increased admissions into the program were also noted during the dry spell between January and March 2015.

Figure 13 SFP Admission over time



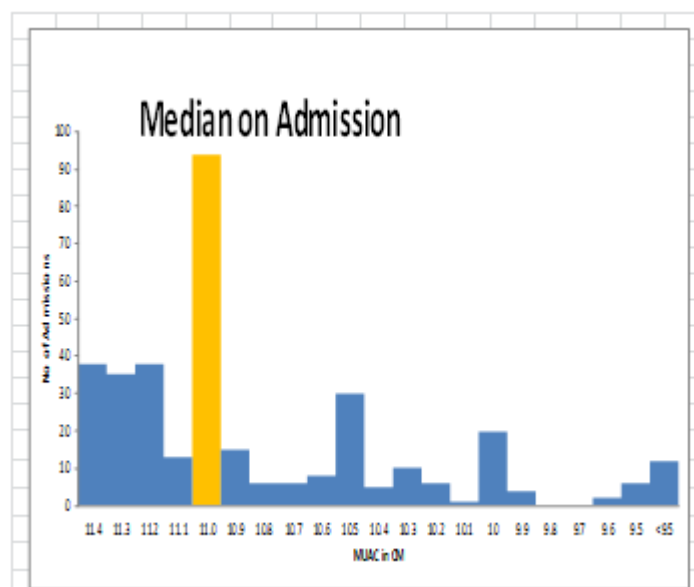
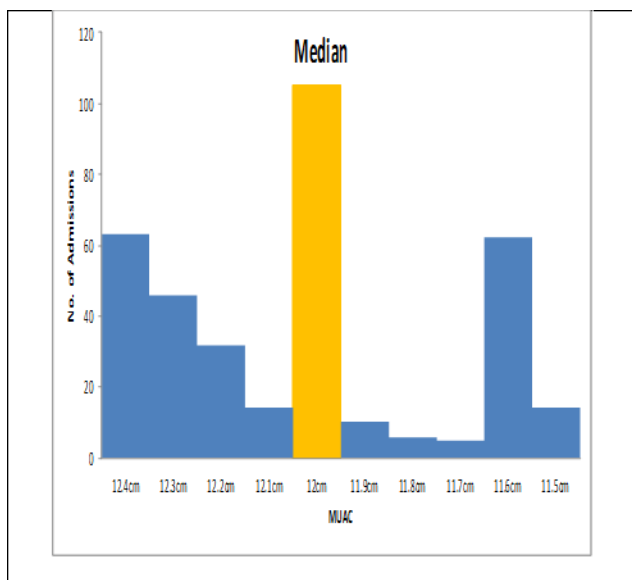
3.2.1.3 MUAC on Admission

MUAC at admission in OTP and SFP programs in Marigat Sub County was assessed to examine timeliness of seeking treatment of the beneficiaries. Medium MUAC in OTP admission was found to be 11.0cm, an indicator of early treatment seeking for majority of the beneficiaries. However there were cases of beneficiaries enrolled with < 10.5 MUAC, indicating late treatment seeking. This was due to high maternal workload, and long distance to OTP service points following closure of some health facilities (Lomaiwei and Ol-Arabel) due to insecurity. People were also displaced from areas of Mukutani and Kiserian, leading to disruption of normal routine, where most of the beneficiaries defaulted while others took long to enroll in OTP sites at secure places.

In SFP program, median value was 120mm. As indicated in the figure below, this indicated that many children were admitted into the program with a MUAC of 120mm which translates to early treatment seeking behavior. The late admissions with a MUAC of 116 mm were found to be transfers from the OTP. Discussions with some of the caregivers, health care workers and sub-county management teams attribute the late admissions with a median MUAC of 116mm to be the cured transfers from the OTP. Other factors that were attributed to these late admissions included: inadequate program awareness, long distance to IMAM service delivery points, end of outreach service delivery, caregivers' workload and negligence. In appropriate admission can be attributed to inadequate IMAM knowledge/skills linked inconsistent OJTs as well as limited number of staffs targeted for IMAM trainings.

Figure 14 MUAC at Admission in OTP Program

Figure 15 MUAC at Admission in SFP Program



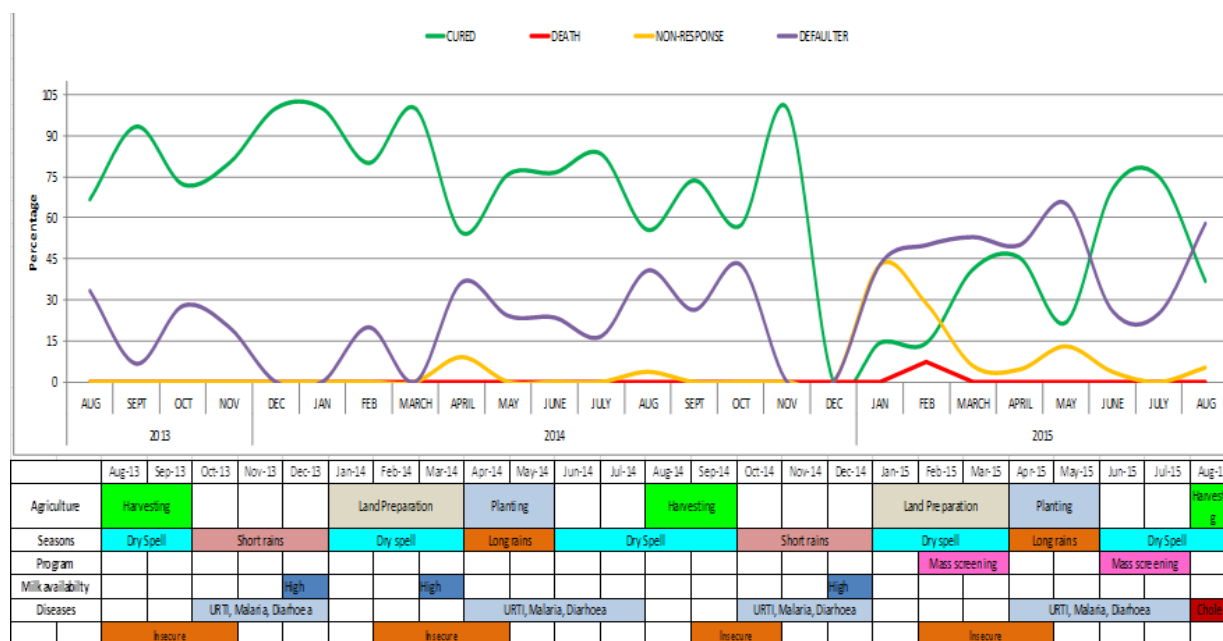
3.2.2 Marigat Program Performance Indicators

3.2.2.1 OTP Exit Trend over time

According to the SPHERE standards, the cure rates, default rates, and death rates in the IMAM should be above 75%, below 15% and below 10% respectively.

OTP effectiveness was assessed through monitoring/exit indicators which include cure rates, defaulter rates, death rates and non-response rates. Cure rates was found to be below 75% which is the recommended SPHERE standards in most of the months. Defaulter rates were higher than 15%, which is above the recommended SPHERE standards. The low cure rates and high defaulter rates are attributable to migration due to insecurity and dry spells with caregivers taking their livestock to far places looking for pasture. Temporary closure of some health facilities like Lomaiwei and Ol-Arabel due to insecurity also contributed to high defaulting of beneficiaries. Celebration of cultural activities like circumcision and the festive seasons (December) took most of the communities' time and therefore there were minimal OTP attendance.

Figure 16 OTP Exit Trends over Time

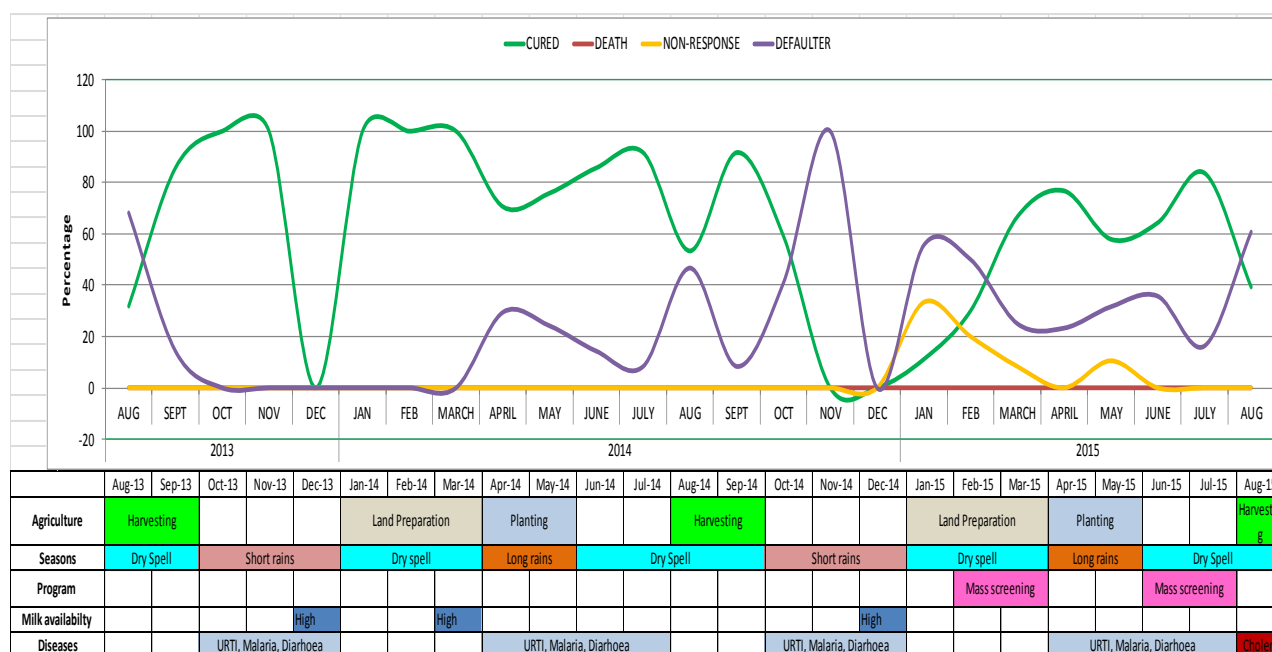


3.2.2.2 SFP Exit Trend over time

Throughout the period, there were no deaths associated with Moderate Acute Malnutrition (MAM). Cure rates were above the sphere standards of 75% in September to November 2013, January to February 2014, May to July 2014, September 2014, April 2015 and July 2015. From the investigations with the HMT, caregivers, health workers, community health volunteers and community members, the low cure rates of below 75% in the rest of the months were attributed to weak defaulter tracing mechanisms, end of outreach service delivery, insecurity leading to closure of some health facilities and hence more children exited as defaulters and not cured. A slowed down service delivery mode during the festive seasons of December was seen to reduce the cure rates since this is the period that most health workers close the health facilities for the festive seasons.

In the month of November 2014, only two cases exited as defaults hence 100% defaulter rate. Defaulter rates were seen to rise during harvesting, planting and land preparation seasons. From the FGDs and KIs, it was noted that maternal work load during these seasons is one of the greatest contributing factor to defaulting. Other factors included insecurity, migration and closure of health facilities, poor defaulter tracing mechanisms, long distances to service delivery points and negligence by the caregivers.

Figure 17 SFP Exit Trends over Time

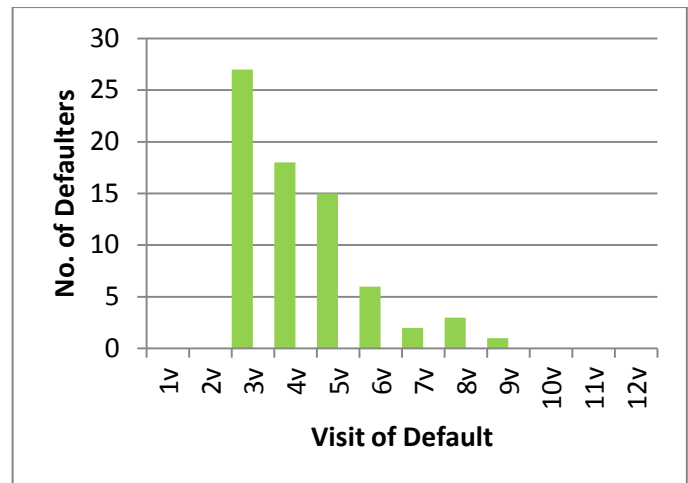
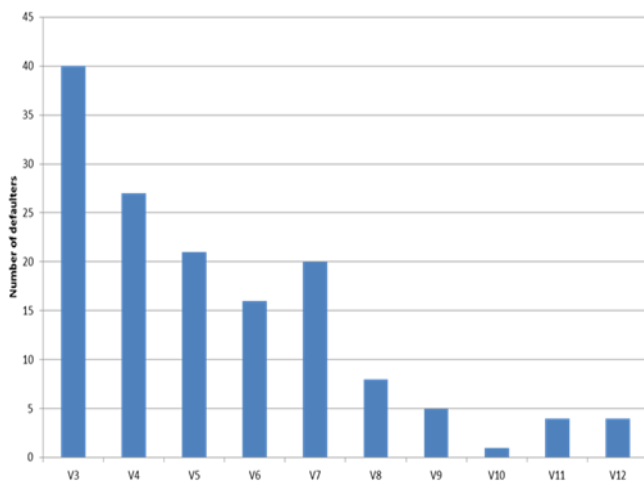


3.2.2.3 Marigat Defaulter by Visit

Investigation into the time of defaulting for both OTP and SFP revealed that the highest defaulting was noted in 3rd and 4th Weeks which is an indication of early defaulting. Beneficiaries defaulting at week 4 are mostly current cases. Reasons for early defaulting was due to insecurity leading to closure of health facilities, long distance to OTP service points when beneficiaries relocate to secure places, alcoholism, migration, high maternal workload especially during the harvesting and planting seasons and end of outreach service delivery. RUSF stock outs and Poor follow up mechanisms of children in the SFP by the health workers and CHVs was also seen to greatly contribute to SFP early defaulting. This was also coupled with poor documentation of the child's follow up visits by the health workers at the health facility. A case of child refusal to take RUTF was also reported and mother in police custody with no responsible person to take the beneficiary for routine monitoring.

Figure 18 OTP Defaulter by visit

Figure 19 SFP Defaulter by visit



3.2.2.4 Marigat Average Length of Stay (ALOS)

An investigation of average length of stay of the beneficiaries was also done to assess the quality of care a child is receiving during treatment at the facility, at home and the effectiveness of the IMAM program. OTP median ALOS was found to be at week 5 and SFP was 4 weeks. This is an indication of early recovery of beneficiaries. Early recovery was attributed to adherence to IMAM treatment protocols. However there were some cases who exited past 8 weeks which was due to sharing of RUTF at household level due to food insecurity and inadequate awareness about the importance of the RUSF. During the field visits, KIIs and FGDs, it was noted that a significant percentage of caregivers allow their children in the SFP to share the RUSF with other siblings at the household level. Poor adherence to IMAM management protocol and poor follow up mechanisms were attributed to the reported cured cases in visits 1 and 2.

Figure 20 OTP ALOS

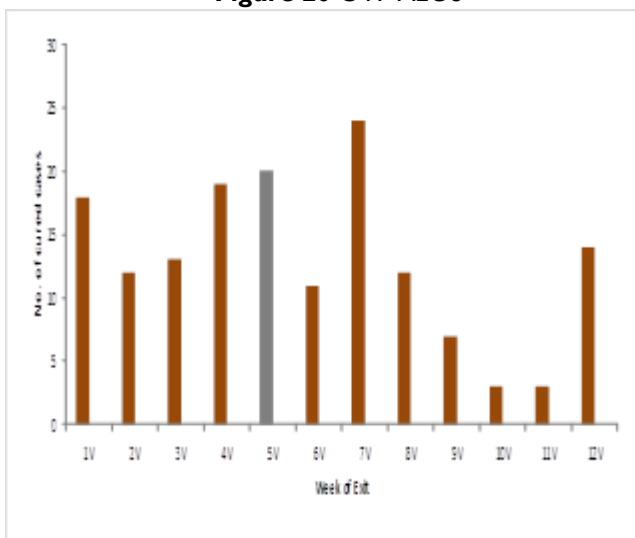
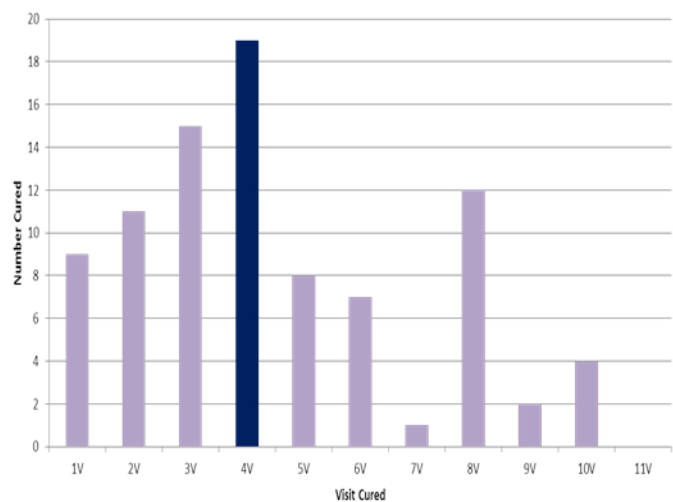


Figure 21 SFP ALOS



3.2.3 QUALITATIVE DATA

Qualitative data was collected from different sources using various methods. These methods included; Informal Group discussions, Semi structured interviews, In-depth interviews and Observation. The data was collected from Community Leader, Community Health worker, Care givers of children not in Programme, Care givers, Health Workers, Program Staff, Chief/Administration, Observation, TBAs/Traditional Healers, Religious Leaders, Defaulters. Program data, Pastoralists and Teachers. From the qualitative assessment several factors were identified as promoters or barriers to access of IMAM services in Marigat as summarized below:

Table 5 Summary of Boosters OTP /SFP Marigat

Booster	
Positive attitude among the caregivers	Most caregivers appreciated that their children recovered from malnutrition through taking RUTF and other routine medication.
Mobile outreaches	Mobile outreaches reduced distance covered by beneficiaries thus encouraging early admissions and exits from OTP.
Short distances to IMAM sites	To enhance access to health services, most Health Facilities are constructed in places with high population.
On Job Trainings of health workers and CHWs	Regular On Job training of health workers by the Health management teams and Implementing Partners build their capacity for proper management of OTP cases
Community mobilization	Community mobilization through chiefs and religious leaders lead to increased admission into OTP.
Presence of school health programs	It minimizes on RUTF sharing at household level and early recovery of beneficiaries.
Health workers knowledge and capacity on IMAM	Having Health workers knowledgeable on IMAM at health facilities, proper management of OTP beneficiaries leads to good outcomes.
Linkage of FFA and IMAM/ and catholic church relief support	Improves on household food security thus early recovery of beneficiaries and good outcome of the program.
Mass screening	Most cases are identified and enrolled to OTP increasing coverage.
Availability of supplies	RUTF Supplies are often in stock thus beneficiaries get timely and adequate supplies and leading to early recovery.
Good health seeking behavior	Caregivers take their sick children to health facilities where they are diagnosed with malnutrition and enrolled to OTP.
Program ownership	Health facilities where health workers own OTP, they serve beneficiaries timely, provide right information and rations. This leads to early recovery boosting good reception by local community.

Table 6 Summary of Barriers OTP /SFP Marigat

Barriers	
Stigma	RUTF is associated with HIV and poverty thus most caregivers are reluctant to have their children enrolled in OTP.
Inadequate awareness of the programs	Most community members do not know of the existence of the program at health facilities.

Alcoholism	Most caregivers' abuse alcohol thus not sober to make good decision of seeking treatment for their SAM children.
Long distance to IMAM service sites	IMAM sites are not adequately distributed in the Sub-County thus some beneficiaries have to walk more than 5 kms to OTP sites.
Sharing of RUTF	RUTF is shared at the household level due to food insecurity and RUTF being perceived as food
Insecurity	Cattle raids along the East Pokot borders i.e. Lomaiwei and Ol-Arabel caused people to move from their homes and nearby facilities closed down
Stock out of IMAM commodities	RUTF stock out was reported in some health facilities.
Inadequate CHV motivation	There is minimal CHV motivation which is mainly through trainings due to inadequate funds from the MoH and Implementing Partners.
Poor documentation	Incomplete recording of beneficiaries data in OTP registers does not give a clear picture of how the beneficiaries' progress is.
Low program ownership	In some health facilities health workers perceive OTP as extra duties, thus they do not tend to beneficiaries on time, and they keep them waiting for long.
Negative perception	Some caregivers perceive RUTF as meant for the poor and thus avoid taking their malnourished children for treatment.
Low women empowerment	Women do not have power to make decisions on their own even taking their children to health facility they have to seek permission from their husbands.
Seeking treatment from THPs	A few cases of beneficiaries were reported to visit THPs for medication. This lead to late admission and defaulting of beneficiaries.
Caretakers workload	Caregivers have a lot of work including looking after animals, fetching water, casual laborer

3.2.4 Hypothesis Testing And Small Area Survey In Marigat

Based on the information collected and analyzed in Stage One (both quantitative and qualitative), there were indications of high coverage in some areas and low coverage in others. Hypotheses were then set for OTP and for SFP. These hypotheses were tested in the stage 2 of the SQUEAC Survey by applying the simplified LQAS formula $d = (n/2)$ against the 50% SPHERE standard for Coverage in Rural Areas.

3.2.4.1 Hypothesis statements:

The hypothesis statement for both OTP and SFP was stated as below:

There was High OTP and SFP program coverage (>50%) in areas perceived to be secure (Latacha, Longewan, Loldama, Ilngarua Centre and Ilgeriyoi) and low (<50%) in areas prone to insecurity (Sokotei, Ngoriangai, Rugus Ndogo, Lematudai and Kiserian B)

Rationale:

Majority of defaulters and absentees were noted to reside in villages that were prone to insecurity and some health facilities like Lomaiwei and Ol-Arabel closed due to the same insecurity. Five areas were hypothesized to be insecure and five areas to be secure.

3.2.4.2 OTP Hypothesis Testing

Table 7 results for the small-area survey for SAM in Marigat Sub County

Analysis of results for the small-area survey for SAM in Marigat Sub County		
	Villages prone to insecurity	Villages Perceived to be secure
	Sokotei	Lotacha
	Kiserian Centre	Longewan
	Ngoriangai	Loldama
	Rugus Ndogo	Ilgeriyoi
		Illingarua Centre
Expected coverage (p)	<50%	>50%
Number of SAM cases (n)	5	1
SAM cases in-program	0	1
Decision rule (d)	$d=5/2 = 2.5$	$d=1/2= 0.5$
Deductions	SAM cases in-program (0) <decision rule (2)	SAM cases in-program (1) > decision rule (0.5)
	Hypothesis Confirmed	Hypothesis Confirmed

Table 8 results for the small-area survey for MAM in Marigat Sub County

Analysis of results for the small-area survey for SFP in Marigat Sub County		
	Villages prone to insecurity	Villages Perceived to be secure
	Sokotei	Lotacha
	Kiserian Centre	Longewan
	Ngoriangai	Loldama
	Rugus Ndogo	Ilgeriyoi
		Illingarua Centre
Expected coverage (p)	<50%	>50%
Number of MAM cases (n)	0	1
MAM cases in-program	5	4
Decision rule (d)	$d=5/2 = 2.5$	$d=5/2= 2.5$
Deductions	MAM cases in-program (0) <decision rule (2)	MAM cases in-program (1) < decision rule (2)
	Hypothesis Confirmed	Hypothesis Not Confirmed

3.3 MOGOTIO OTP AND SFP COVERAGE ASSESSMENT

3.3.1 Program Data Analysis

The routine program data which was analyzed included MUAC on admission, OTP/ SFP admission over time and standard program performance data with focus on the defaulters and the in-program deaths. This data was used to detect any trends that were later explained. A calendar of seasonal events for Mogotio was developed and compared with the trend of program data. In particular the relationship between the OTP/ SFP admissions, exits and the defaulters with the seasonal calendar was established.

3.3.1.1 Mogotio OTP/SFP Admission Trends

IMAM operations in Mogotio Sub County were scaled up in January 2015. However, following low program awareness at the start of the intervention less than 60% of malnourished children below five years were enrolled into IMAM programs with a declining trend attributable to household workload linked to planting season. High admissions in both OTP/SFP were observed in the months of March and April as well as July due to mass screening. There was a slight decrease in admission in the month of May and gradually towards June due to Cholera outbreak. Harvesting in June led to low number of enrolment. However, there was a peak from July towards August resulted from drought onset in Mogotio Sub County. These trends show a strong relation of admissions to the context.

Figure 22 Mogotio OTP Admission Overtime

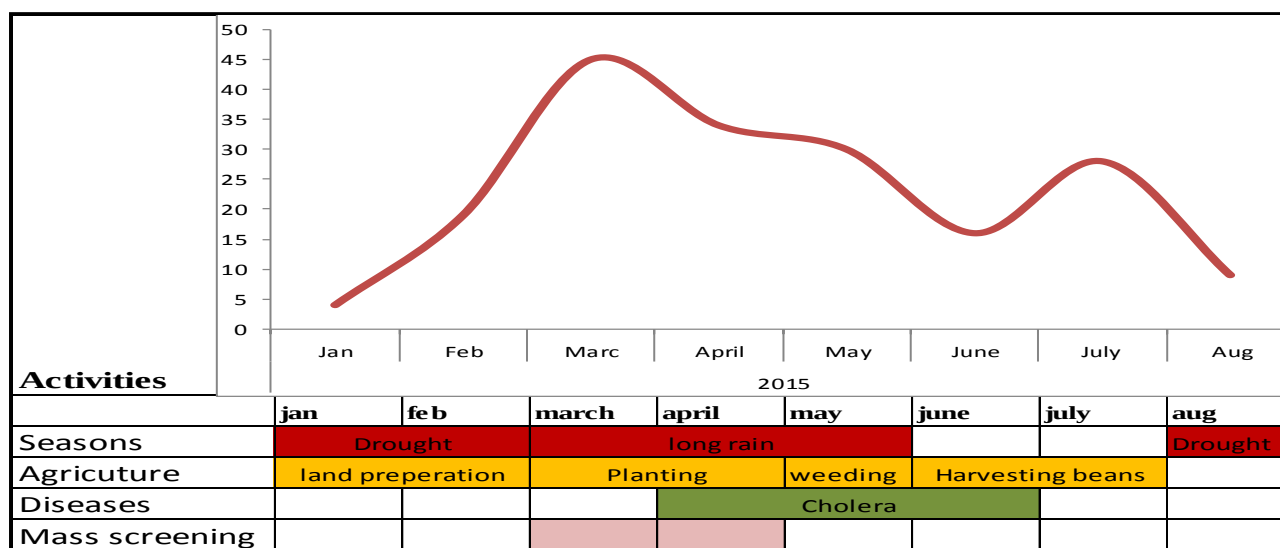
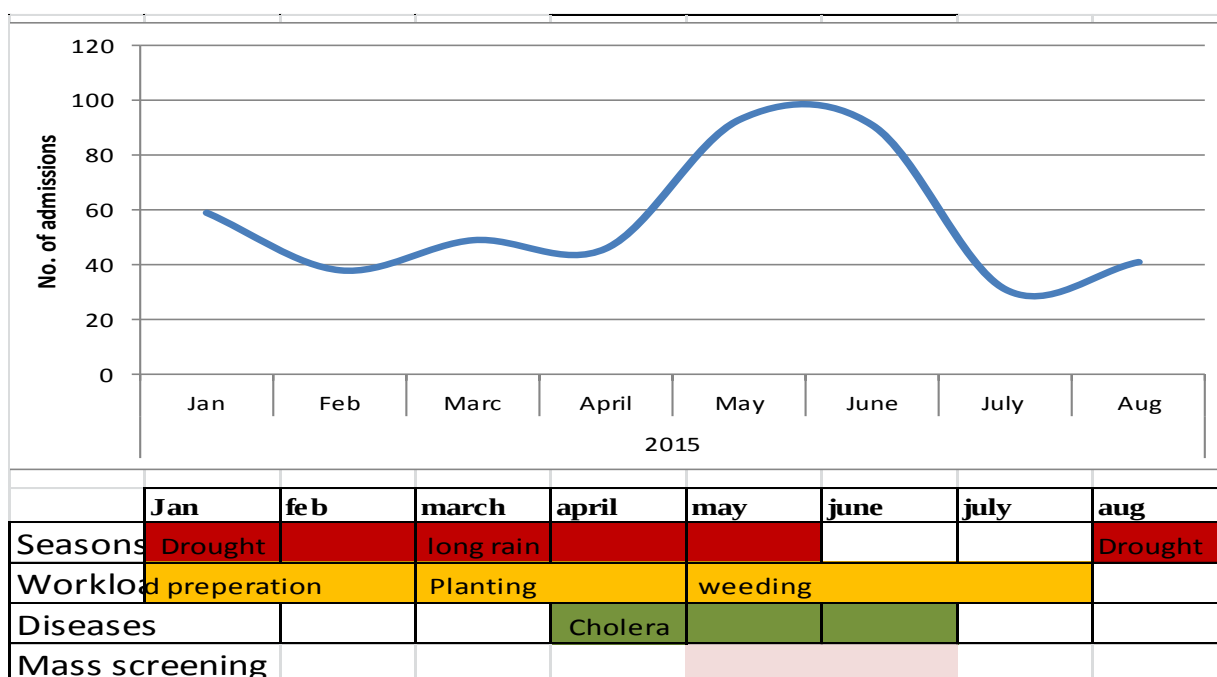


Figure 23 Mogotio SFP Admission Overtime



3.3.1.2 OTPP/ SFP MUAC on Admission

Assessment of OTP admission by MUAC revealed a median value of 110 mm which is an indication of early admission in to OTP program. This reflects early health seeking behaviour. However, a proportion of the community was found to be seeking treatment as late as MUAC of 95mm, 99mm, 100mm and 105mm as shown in figure 3 below. This is an indication of late admission of beneficiaries and is associated to long walking distance for some beneficiaries to IMAM sites and erratic mass screening and caregiver workload

Review and analysis of SFP registers based on admission of children by MUAC measurements revealed that the SFP intervention is timely for most of the cases i.e. 133 cases were admitted with MUAC ranging from 124mm to 120mm against 71 cases that were admitted late into the program. There were few cases (3) admitted with a MUAC measurement of less than 115mm. Discussions with some of the caregivers, health care workers and sub-county management teams attributed the late admissions to inadequate program awareness, long distance to IMAM Service delivery points for some cases, one-off mass screening as well as caregiver's workload and priorities that limits the time available to present malnourished children early enough at IMAM sites.

Figure 24 OTP MUAC at admission

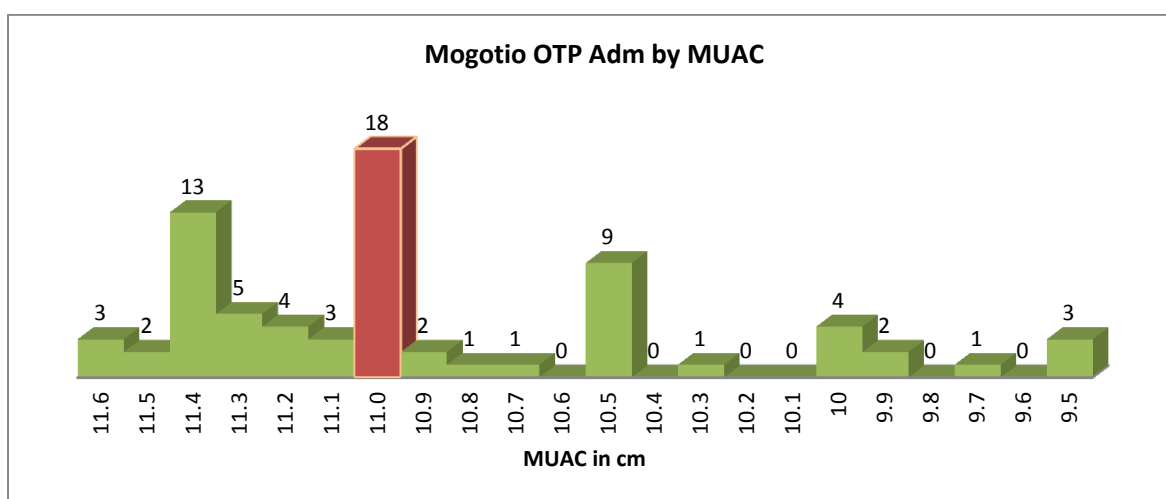
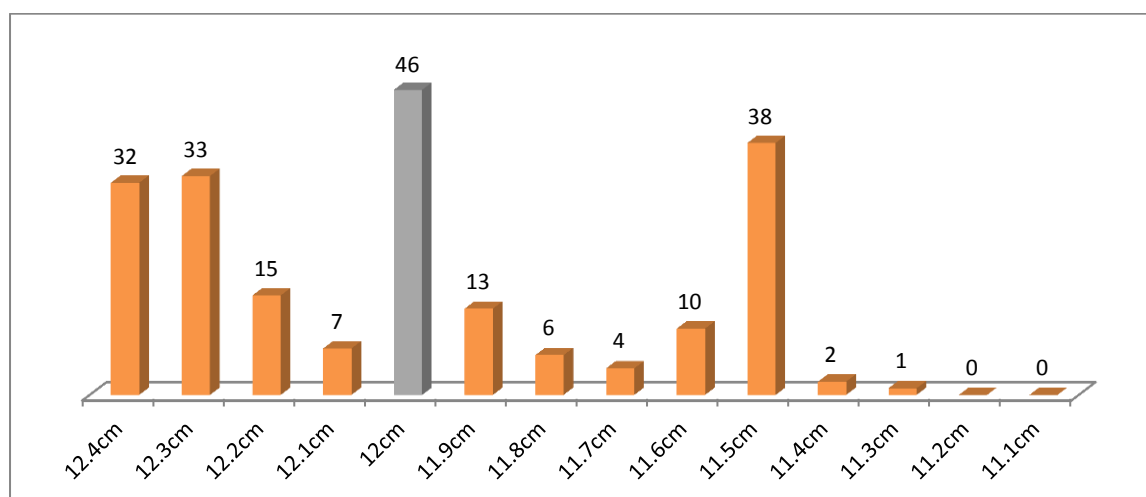


Figure 25 SFP MUAC at admission



3.3.2 Mogotio OTP/ SFP Standard Program Indicators

No deaths associated with IMAM were recorded. Before March, no cases had exited SFP and OTP program as the project has just scaled up in January. The trend picked up well from March exceeding the 75% SPHERE standard till June with a declining trend thereafter in SFP. OTP cure rates remained above the sphere standards. The improvement was linked to a better capacity for health workers to manage the interventions following an IMAM training in February 2015. The decline was attributed to the outbreak of cholera during the long rain season. SFP defaulters increased beyond the 15% SPHERE standard and were attributed to maternal workload with priority going to harvesting season. From focused group discussions most caregivers had limited time considering other household workload including herding of animals especially when schools were reopened. Other contributing factors included alcoholism, migration and SFP stock out.

Figure 26 OTP Program Performance Indicators

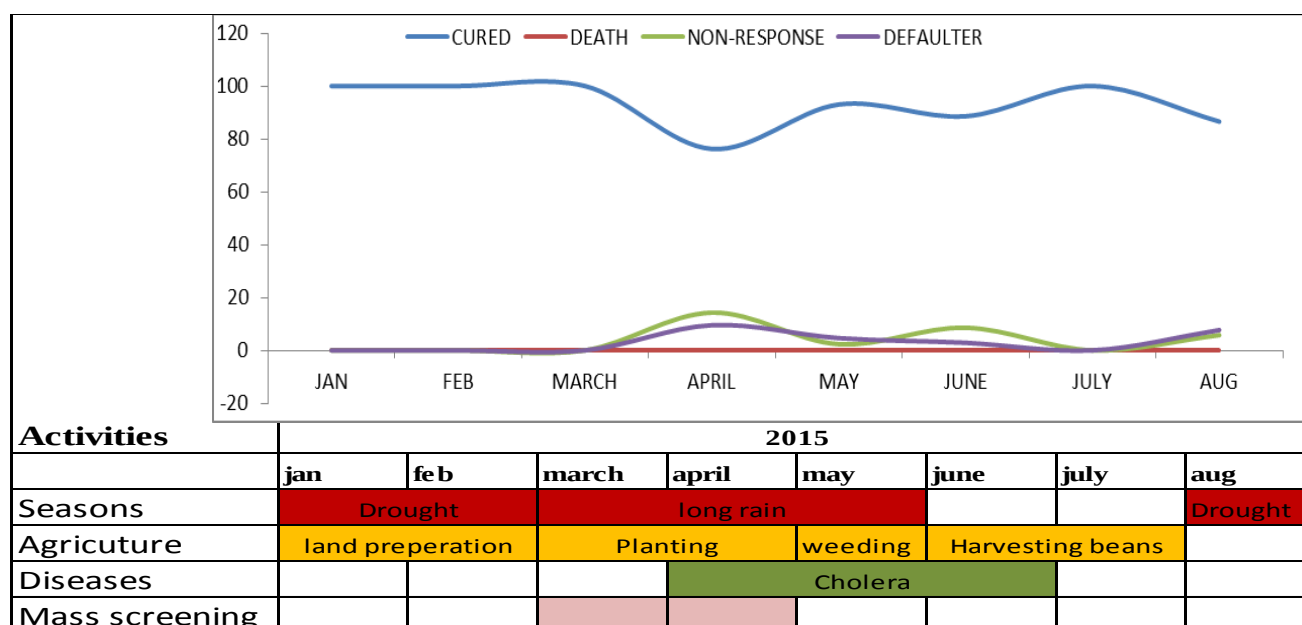
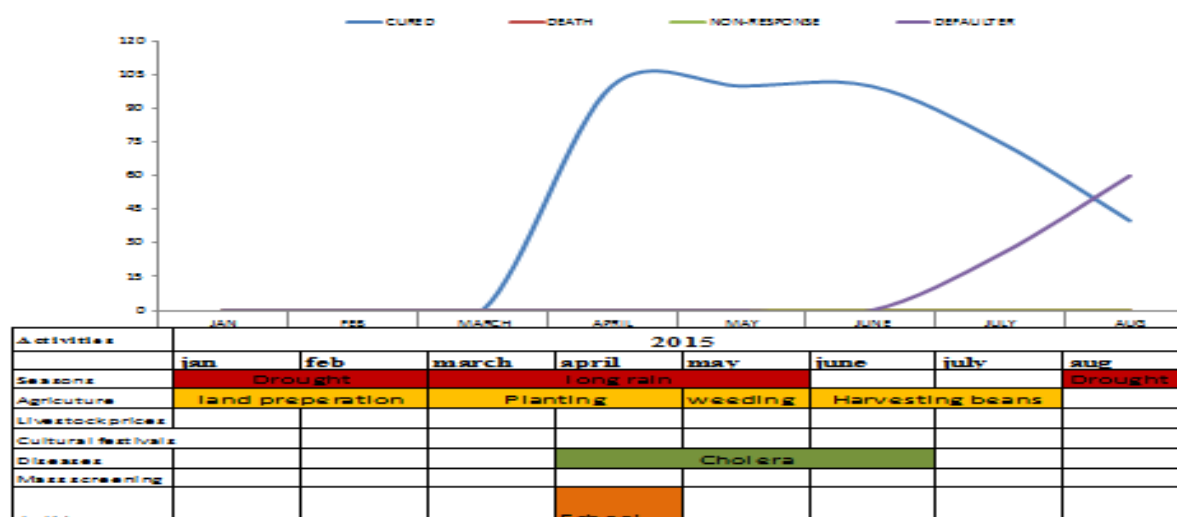


Figure 27 SFP Program Performance Indicators



3.3.3 Qualitative Data

From the qualitative assessment several factors were identified as promoters or barriers to access of IMAM services in Mogotio as summarized below:

Table 9 Summary of Boosters OTP /SFP Mogotio

Boosters	
Operationalization of new facilities on IMAM program	Establishment of more IMAM sites increases the coverage this was observed through erecting new facilities that with time linked to a community Unit
Positive attitude and support of the program	Many of the community members expressed knowledge of malnutrition and the signs and symptoms and consideration of malnutrition as a disease.
Staff capacity on the IMAM sites	Most of health workers and CHW/CHVs have been trained or mentored on OTP management using IMAM guidelines. Particularly, CHVs expressed approval for the current mode of payment which is given for the day worked.
Availability of an active Community Units	The CHW do conduct mass screening to identify children affected with malnutrition and enrol them in the SFP and OTP Program
Consistence in IMAM commodities supply in the facilities	Some of health workers and CHW/CHV expressed considerable continuous OTP suppliers in the health facilities
Presence of Mass screening	Mass screening is at least conducted quarterly to establish the nutritious status of the area and intervene per the protocols

presence of anthropometric equipment in the facility	It was observed in all the facilities the existence of adequate anthropometric equipment necessary to assess the nutritional status of the beneficiary. This improves the coverage of OTP cases in the area.
IEC materials present	The IEC materials found in the health facility are significant in creating awareness on the existence of the IMAM program, the services offered and the benefits to the beneficiaries.
Adequate staffing	These include nutritionists, health workers and health workers that work as a team to deliver services in the IMAM sites.
Awareness of malnutrition, and program by community	Most community members expressed knowledge of malnutrition and were able to cite the key signs of malnutrition to include wasting and distended abdomen. Overall the community regards malnutrition as a disease. They could also cite 'plumhy nuts' as the programme for severely malnourished children.
Active case finding, mass screening and defaulter tracing	Community active case finding was found to be in place some operational CUs, as noted by community leaders, health workers and CHW/CHV. In addition, CHVs and health workers are all involved in mass screening and defaulter tracing of OTP beneficiaries.

Table 10 Summary of Barriers OTP /SFP Mogotio

Barriers	
Long distance covered of the beneficiaries from their villages to the facility	Most of the community members live far from the IMAM sites resulting them missing some days.
Stock outs of IMAM commodities in the facilities	Some facilities have stock outs of the IMAM commodities. This discourages the caregivers in adhering to the program revisits resulting to high defaulter rates and relapses
No program awareness/ on IMAM programs in the community	Some communities especially those are not accessed by the health due to long distance coverage are not fully sensitized on the program
Workload of the caregivers that hinders them from taking the beneficiaries for IMAM revisits	The caregivers are overburden with workload at home that denies them the time to take their children for revisits. In addition
Migration of the community in search of greener pastures	Some communities migrate to nearby villages in times of drought in search for greener pasture for their livestock

The CHWs live far from the facility	The CHWs trekking distance is long that takes a lot of time reaching the facility to offer IMAMA services. This also discourages them to fully comply to the normal duties
Occasional mass screening	Due to scarcity of the CUs, the mass screening is conducted occasionally. Thus less coverage of the area and enrolment of new OTP cases.
Low staff capacity; knowledge and documentation	A few health workers, especially those new in the system have not clearly understood how to fill the registers
Short child spacing interval	Owing to cultural way of living, the women are forced to give birth to numerous children as a sign of wealth. Their husbands do not acknowledge the importance of Family Planning even with the Health Workers effort to sensitize them. This increase the workload of the caregiver thus less adherence to the program revisits
Lack of program ownership	Due to poor awareness, the community have not fully embraced the IMAM programs. In addition, a malnourished child is viewed as being cursed by the ancestors
Ignorance of the caregivers	The caregivers do not adhere to the regular visit of the OTP program. It was noted that defaulting is high after the first visit.
Stigma of malnourished children in the community	The community view a malnourished child as either being cursed or the parents could be suffering from HIV/AIDs. This

3.3.4 Hypothesis Testing And Small Area Survey In Mogotio

Based on the information that was collected and analysed in stage one, the following hypothesis was formulated to investigate further on the findings. One hypothesis was formulated for both SFP and OTP.

3.3.4.1 Hypothesis statement

- There is High OTP program coverage (>50%) in areas near (less than 5km) from IMAM site as awareness is high and low coverage in areas far (>5km) from IMAM Service delivery point as awareness is low.

Rationale:

Majority of defaulters and absentees were noted to reside in villages far from IMAM sites

Table 11 Mogotio small area OTP Findings

Health facility	Near Village	Case in	Case Out	Total Cases
Molosiwe	Bulioke	0	1	1

Kamar	Sitet	3	0	3
Kisanana	Pombo	0	0	0
Kipsogon	Kipsogon	0	1	1
		3	2	5
		n=5	5	
		d=2		
		3>2	Hypothesis Confirmed	
Health facility	Far Village	Case in	Case Out	Total Cases
Molosiwe	Chepyuan	1	1	2
Kamar	Kipyemit	0	0	0
Kisanana	Nabwawan	0	0	0
Kipsogon	Kelewa	0	0	0
		1	1	2
		n=12		
		d=1		
		1=1	Hypothesis Confirmed	

Table 12 Mogotio small area SFP Findings

Health facility	Near Village	Case in	Case Out	Total Cases
Molosiwe	Bulioke	6	0	6
Kamar	Sitet	1	1	2
Kisanana	Pombo	1	2	3
Kipsogon	Kipsogon	1	0	1
Total cases		9	3	12
n=12; d=2	Since 9>6, the Hypothesis was Confirmed			
Health facility	Far Village	Case in	Case Out	Total Cases
Molosiwe	Chepyuan	2	1	3
Kamar	Kipyemit	1	1	2
Kisanana	Nabwawan	0	3	3
Kipsogon	Kelewa	0	2	2
Total cases		3	7	10
n=10; d=2	Since 3<5, the Hypothesis was Confirmed			

4.0 WIDE AREA SURVEY

Wide Area Survey is the third stage of an IMAM coverage assessment. From the analysis, information obtained and confirmation of the hypotheses tested in the first and second stage, this stage seeks to now establish the coverage rate of the IMAM intervention within the area under investigation. The stage gives consideration to how boosters and barriers (BB) affect the coverage of the intervention being assessed.

In an effort to establish the coverage for supplementary feeding program in the three sub-Counties, the assessment teams approached it by first developing the PRIOR. Prior is an estimate of the actual coverage that considers Boosters and Barriers Questioning (BBQ) process.

4.1 CALCULATING PRIOR

Before proceeding to the wide area survey for the three sub counties, the prior distribution for SAM and MAM were developed using the following four methods:

- ❖ Concept Map
- ❖ Community Belief
- ❖ Unweighted boosters and barriers
- ❖ Weighted boosters and barriers
- ❖ Bayes Calculator

4.1.1 Concept Map

The final method involved developing a concept map. Using the concept map the number of positive links were added to the minimum coverage 0% and the number of negative links were subtracted from the maximum coverage 100% then the average was identified.

4.1.2 Weighted Barriers and Boosters

In this method, all the barriers and boosters which were identified in stage 1 and 2 were weighted- giving a score

Each barrier and booster in the list was given a percentage weight in relation to how much effect it would have on increasing or decreasing coverage. Scoring was done using a scale of between 1% to 5% where 5% was given as maximum effect and 1% representing minimum effect.

4.1.3 Un - Weighted Barriers and Boosters

The total number of Boosters was added to the minimum coverage (0%) and the total number of barriers subtracted from the maximum coverage (100%). The two results were added and un-weighted prior calculated.

4.1.4 Community Belief

In this method, the assessment participants were asked to estimate the coverage based on their belief of the most probable value that would reflect the OTP/ SFP program. Estimation values from Project staff, Sub County Nutrition Officer (SCNO), Sub County Health Records and Information Officer (SCHRIO) and Community Health Worker (CHW) were used to calculate the prior.

4.2 Establishing Averaged Prior

4.2.1 East Pokot Averaged Prior

The averaged Prior was calculated by taking the total of the four priors as shown below:

Table 13 East Pokot Averaged Prior

	Simple BBQ	Weighted BBQ	Community Belief	Concept Map
--	-------------------	---------------------	-------------------------	--------------------

OTP	$((0\%+60\%) + (100\%-65\%))/2 = 47.5\%$	$((0\%+38\%) + (100\%-40\%))/2 = 49\%$	$(45+50+48+40)/4 = 45.8$	$(0+17)+(100-20)/2 = 48.5$
SFP	$((0\%+60\%) + (100\%-70\%))/2 = 45\%$	$((0\%+38\%) + (100\%-42\%))/2 = 48\%$	$(40+60+55+40)/4 = 48.8$	$(0+17)+(100-21)/2 = 48$
	- OTP Averaged Prior $= (48.5+49+47.5+45.8)/4 = 47.7$ - SFP Averaged Prior $= (48+45+48.8+48)/4 = 47.5$ Uncertainty = ± 20			

The Averaged Prior mode was then plotted using the Bayes SQUEAC software package.

The Alpha and Beta values that best described the prior mode for **OTP (47.7%)** were α prior 14.8 and β prior 16.3 while the Alpha and Beta values that best described the prior mode for **SFP (47.5%)** were α prior 14.8 and β prior 16.4

4.2.2 Marigat Averaged Prior

Table 14 Marigat Averaged Prior

Simple BBQ	Weighted BBQ	Community BBQ	Concept Map
$(0+60) + (100-70)/2 = 45\%$	$(0+46) + (100-45)/2 = 50.5\%$	(Project staff, HMT, CHW) = 49%	$(0+18) + (100-15)/2 = 51.5\%$
$[(50) + (100 - 70)]/2 = 40.0$	$[(34) + (100 - 42)]/2 = 46$	= 41.7	$[(18) + (100 - 21)]/2 = 48.5$
$= \text{OTP Averaged Prior} = (51.5+50.5+45+49)/4 = 49\%$ $= \text{SFP Averaged Prior} = (40\%+46\%+41.7\%+48.5)/4 = 176/4 = 44.1\%$ Uncertainty = ± 20			

The Averaged Prior mode was then plotted using the Bayes SQUEAC software package.

The Alpha and Beta values that best described the prior mode for **OTP (49%)** were α prior 15.3 and β prior 15.9 while the Alpha and Beta values that best described the prior mode for **SFP (44.1%)** were α prior 13.6 and β prior 17.2

Table 15 Mogotio Averaged Prior

Simple BBQ	Weighted BBQ	Community BBQ	Concept Map
$[(40) + (100 - 60)]/2 = 40.0$	$[41 + 100 - 60]/2 = 40.5$	= 35.0	= 47.0
$[(50) + (100 - 75)]/2 = 37.5$	$[(37) + (100 - 58)]/2 = 39.5$	= 30.0	$[(22) + (100 - 31)]/2 = 45.5$
$\text{OTP Averaged Prior} = (40.0 + 40.5 + 35.0 + 47.5)/4 = 162.5/4 = 40.62$			

$$SFP \text{ Averaged Prior} = (37.5 + 39.5 + 30.0 + 45.5)/4 = 152.5/4 = 38.1$$

$$\text{Uncertainty} = \pm 20$$

The Averaged Prior mode for Mogotio was plotted using the Bayes SQUEAC software package. The Alpha and Beta values that best described the prior mode for **OTP (40.6%)** were α prior 12.1 and β prior 17.2 while the Alpha and Beta values that best described the prior mode for **SFP (38.1%)** were α prior 11.3 and β prior 17.4

4.3 SAMPLING AND SELECTION OF VILLAGES FOR WIDE AREA SURVEY

The sample size for SAM and MAM cases for wide area survey was calculated using Bayes calculator. In order to determine the number of villages which would yield the required sample size for both programs, the following formula was used

$$n \text{ villages} = \frac{n}{\text{average villages population} \times \frac{\% \text{population of (6-59)m}}{100} \times \frac{\text{Prevalence of SAM}}{100}}$$

Table 16 WAS Sample size and No. of Villages

	East Pokot		Marigat		Mogotio	
Program	Sample Size	No. of Villages	Sample Size	No. of Villages	Sample Size	No. of Villages
SAM	30	30	30	40	28	36
MAM	30	16	29	20	27	18

Systematic Random Sampling procedure was used in selection of villages for wide area survey and active case finding method (house-to-house screening) was adopted in finding cases.

4.4 RESULTS OF WIDE AREA SURVEY

4.4.1 East Pokot WAS Findings

The wide area survey team visited all the villages sampled looking for MAM/SAM cases in program, MAM/SAM cases not in program and MAM/SAM Recovering cases.

The team managed to get 41 MAM cases and 12 recovering MAM cases in 16 sampled villages. However, in OTP the team managed to get only 10 SAM cases after visiting 30 Villages. This was far below the target of 30 Cases. Therefore the team sampled four more villages to look for SAM cases. After visiting the four extra villages the team managed to get 2 SAM cases. In total 12 SAM cases were found in 34 villages. No recovering SAM cases were found.

Table 17 Wide Area Survey Results East Pokot

Program	Villages	# of SAM/ MAM cases in program (C _{in})	# of SAM/ MAM cases not in program (C _{out})	# of SAM/ MAM recovering cases (R _{in})
OTP	34	5	7	0
SFP	16	17	24	12

4.4.1.1 Coverage Estimation

To estimate the program coverage rate, data from the 'Wide Area Survey' and the pre-set Bayesian SQUEAC prior was used. For this survey, Point and Single coverage were estimated.

Point Coverage was used for OTP because No Recovery case was found. Single coverage was used to estimate SFP coverage.

4.4.1.2 Calculating Point Coverage- OTP

The following formula was used to calculate OTP point coverage

$$\text{Point Coverage} = \frac{\# \text{ of current cases (SAM) attending the programme}}{\# \text{ of current (SAM) cases}}$$

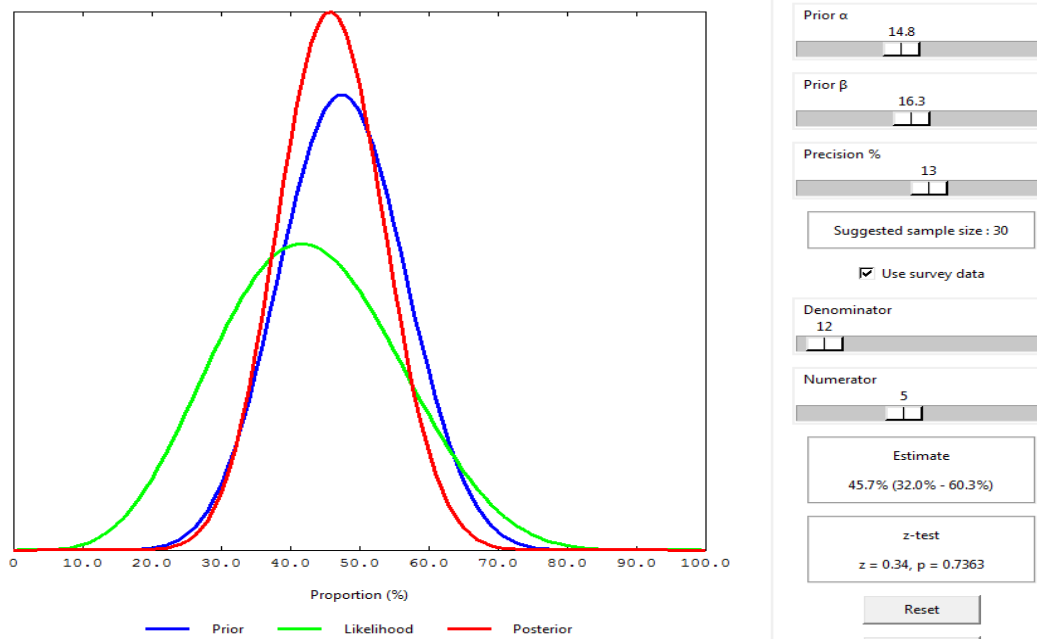
Numerator = 5

Denominator = 5+7 = 12

From the Bayesian-Software estimated 'Point' coverage was at 45.7% (CI 32.0% – 60.3%) and P- Value = 0.7363. There was a considerable overlap between the prior and the likelihood (prior and likelihood did not conflict). Thus the survey results could be used assertively.

This OTP coverage was below the SPHERE Standards of 50% for Rural.

Figure 28: East Pokot OTP 'Point' Coverage Estimation



4.4.1.3 Calculating SFP Single Coverage Estimation

In order to calculate 'Single coverage' for SFP, the equation below was first used to calculate Recovery cases out of program

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

Description of MAM survey data	Number	Equation
K = a correction factor	3	$R_{out} \approx \frac{1}{3} \times \left[12 \times \left(\frac{17 + 24 + 1}{17 + 1} \right) - 12 \right]$ $= 6$
C _{in} = Current MAM cases in the programme	17	
C _{out} = Current MAM cases not in the programme	24	
R _{in} = Recovering MAM cases in the program	12	
R _{out} = Recovering MAM cases not in the programme	6	

The following formula was then used to calculate the Single coverage' for SFP

Single Coverage

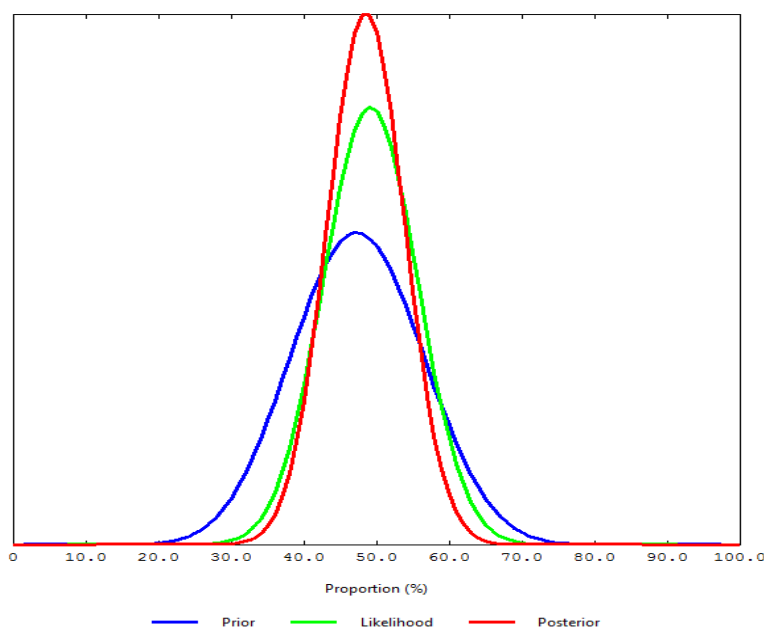
$$= \frac{\# \text{ of current cases} + \# \text{ of recovery cases that attending the programme}}{\# \text{ of current cases} + \# \text{ of recovery cases that attending the programme} + \# \text{ of current cases and recovering cases that } \textbf{NOT} \text{ attending the programme}}$$

Numerator = 29

Denominator = 59

The Bayesian-Software estimated 'Single' coverage at 48.5% (CI. 38.5% – 58.8%) and P- Value of 0.8671. There was a reasonable overlap between the prior and the likelihood (prior and likelihood do not conflict). Thus the survey results could be used assertively. SFP coverage was noted to be below the SPHERE Standards of 50% for Rural

Figure 29 East Pokot SFP 'Single Coverage' Estimation



Prior α 14.8

Prior β 16.4

Precision % 13

Suggested sample size : 30

☒ Use survey data

Denominator 59

Numerator 29

Estimate 48.5% (38.5% - 58.8%)

z-test z = -0.17, p = 0.8671

Reset

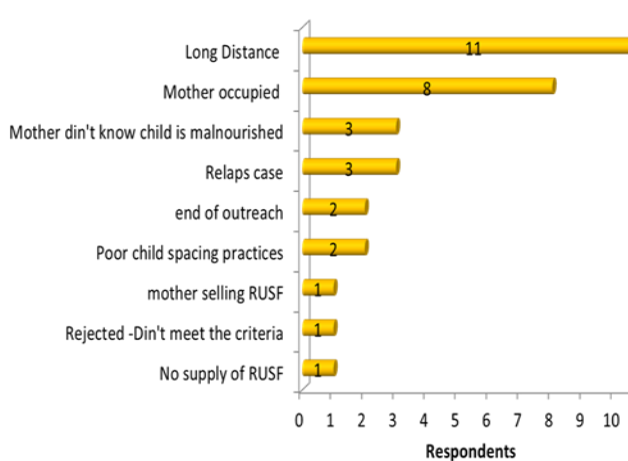
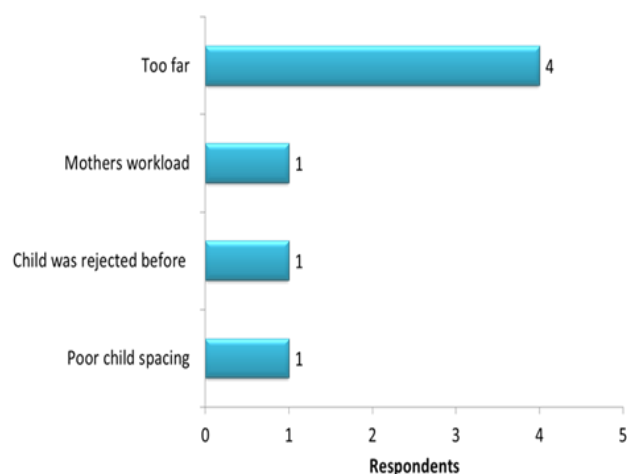
4.4.1.4 Reasons for Non-Attendance

A questionnaire was administered to care givers whose children were not in the program. Analysis was done and the summary of the reasons as to why their children were not in IMAM program is shown below.

Figure 30 Reasons for Non- Attendance in East Pokot

Reasons for Not being in OTP Program

Reasons for Not being in SFP Program



4.4.2 MARIGAT COVERAGE ESTIMATES

The team managed to get 26 SAM and 34 MAM cases in 40 and 20 villages respectively. 2 SAM and 7 MAM recovering cases were also found.

Table 18 Marigat Wide area survey summary findings

Program	Villages	# of SAM/ MAM cases in program (C _{in})	# of SAM/ MAM cases not in program (C _{out})	# of SAM/ MAM recovering cases (R _{in})
OTP	40	7	19	2
SFP	20	6	28	7

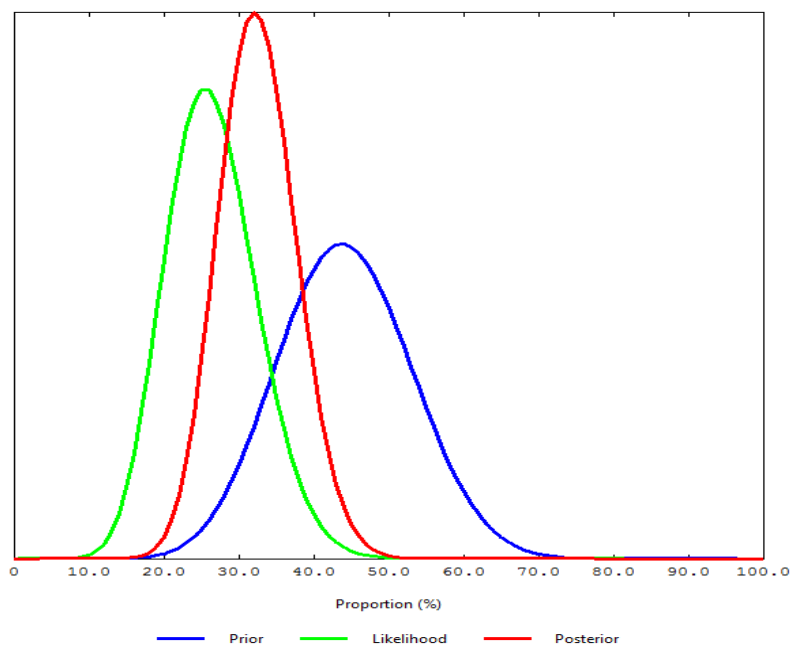
4.4.2.1 Marigat OTP/ SFP Single Coverage

Single coverage was the preferred estimate of the situation as per findings in the collected and analyzed data. In calculating Single coverage SAM/ MAM cases in program, out of program, recovering in program and recovering out of program were considered through application of the following formulae:

Description of SAM survey data	No. SAM	No. MAM	Equation
K = a correction factor	3	3	$R_{out} \approx \frac{1}{k} \times [R_{in} \times \left(\frac{C_{in} + C_{out} + 1}{C_{in} + 1} \right) - R_{in}]$
C _{in} = Current SAM cases in the programme	7	6	
C _{out} = Current SAM cases not in the programme	19	28	
R _{in} = Recovering SAM cases in the program	2	7	
R _{out} = Recovering SAM cases not in the programme	2	10	

Bayesian-Software estimated OTP ‘Single’ coverage at 39.4% (CI. 28.2% – 52.0%) and P- Value = 0.1353. There was a considerable overlap between the prior and the likelihood (prior and likelihood do not conflict) thus the survey results could be used assertively. OTP Coverage was Below the SPHERE Standards 50% for Rural

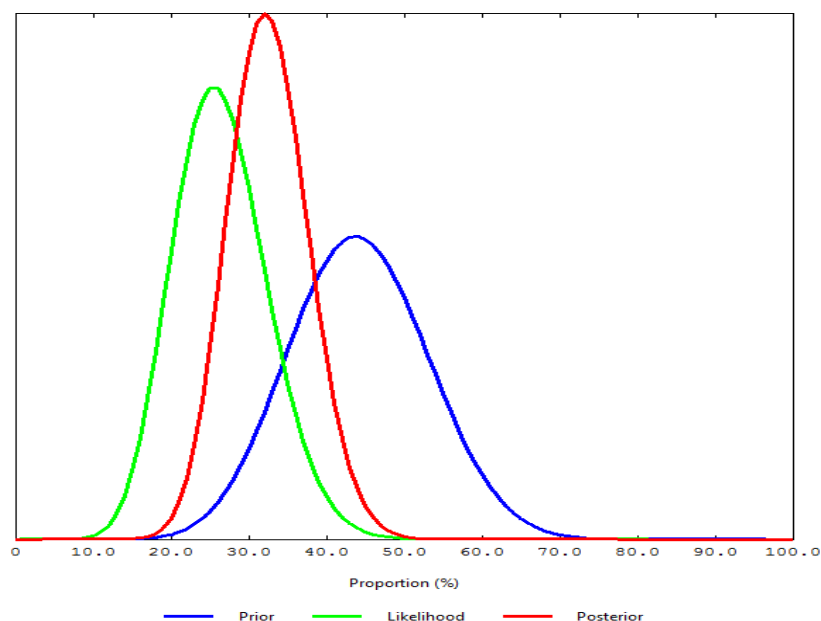
Figure 31 Marigat OTP Bayes Plot



Prior α	13.6
Prior β	17.2
Precision %	13
Suggested sample size : 29	
☒ Use survey data	
Denominator	51
Numerator	13
Estimate 32.1% (23.0% - 43.1%)	
z-test z = 1.68, p = 0.0934	
Reset	

The Bayesian Software estimated single coverage at 32.1% with credible interval of (CI 23.0% - 43.1%) and a P value of 0.0934. the z test of 1.68 revealed a reasonable overlap between the prior, posterior and likelihood of the single coverage estimate. See figure below.

Figure 32 Marigat SFP Bayes plot



Prior α	13.6
Prior β	17.2
Precision %	13
Suggested sample size : 29	
☒ Use survey data	
Denominator	51
Numerator	13
Estimate 32.1% (23.0% - 43.1%)	
z-test z = 1.68, p = 0.0934	
Reset	

4.4.2.2 Barriers to access of IMAM Services in Marigat

The figures below represent the barriers associated with access to OTP/SFP interventions in Margat Sub-County. The assessment teams collected the information from structured interviews with caregivers of moderately malnourished children not enrolled into supplementary feeding program.

Figure 33 Reasons for non- attendance - OTP

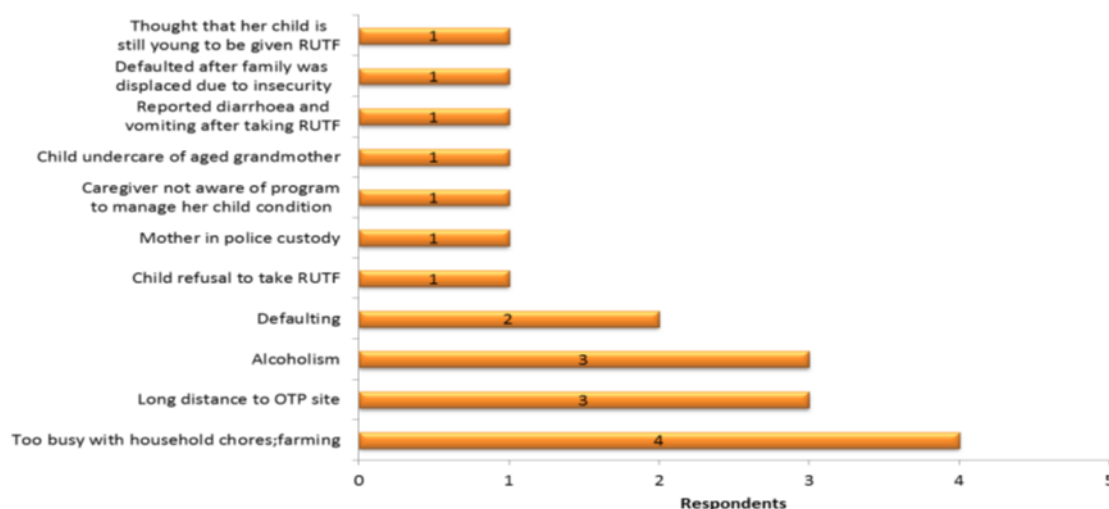
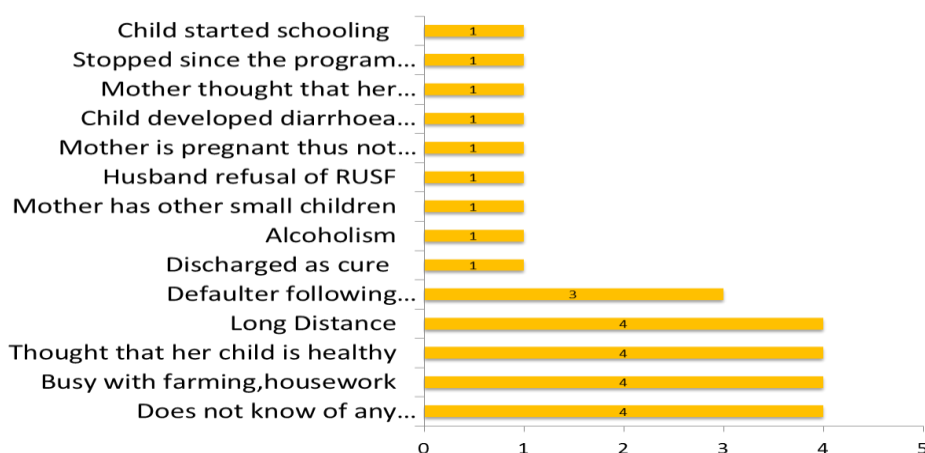


Figure 34 Reasons for Non- attendance - SFP



4.4.3 MOGOTIO COVERAGE ESTIMATES

The team managed to get 25 SAM and 30 MAM cases in 36 and 18 villages respectively. The following were the results obtained after conducting Wide Area Survey

Table 19 Mogotio Wide area survey summary findings

Program	Villages	# of SAM/ MAM cases in program (C _{in})	# of SAM/ MAM cases not in program (C _{out})	# of SAM/ MAM recovering cases (R _{in})

OTP	36	15	10	4
SFP	18	5	25	5

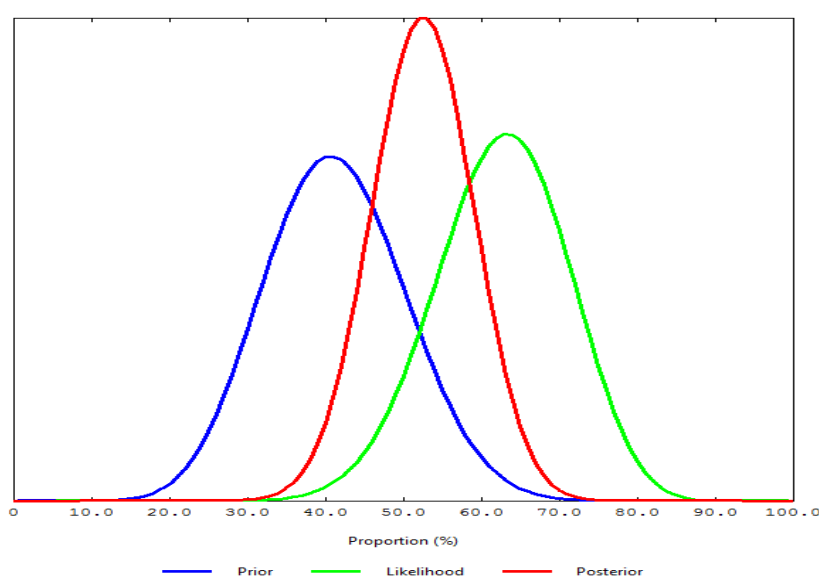
4.4.3.1 Mogotio OTP/ SFP Single Coverage

Single coverage was the preferred estimate of the situation as per findings in the collected and analyzed data. In calculating Single coverage SAM/ MAM cases in program, out of program, recovering in program and recovering out of program were considered through application of the following formulae:

Description of SAM survey data	No. SAM	No. MAM	Equation
K = a correction factor	3	3	$R_{out} \approx \frac{1}{k} \times [R_{in} \times \left(\frac{C_{in} + C_{out} + 1}{C_{in} + 1} \right) - R_{in}]$
C _{in} = Current SAM cases in the programme	15	5	
C _{out} = Current SAM cases not in the programme	10	25	
R _{in} = Recovering SAM cases in the program	4	5	
R _{out} = Recovering SAM cases not in the programme	1	7	

The Bayesian Software estimated OTP single coverage at **52.5%** with credible interval of (CI 39.7% - 64.9%) and a P value of 0.0861. The z test of 1.72 revealed a reasonable overlap between the prior, posterior and likelihood of the single coverage estimate as shown by the figure below

Figure 35 Mogotio OTP Bayes plot



Prior α 12.1

Prior β 17.2

Precision % 13

Suggested sample size : 28

☒ Use survey data

Denominator 30

Numerator 19

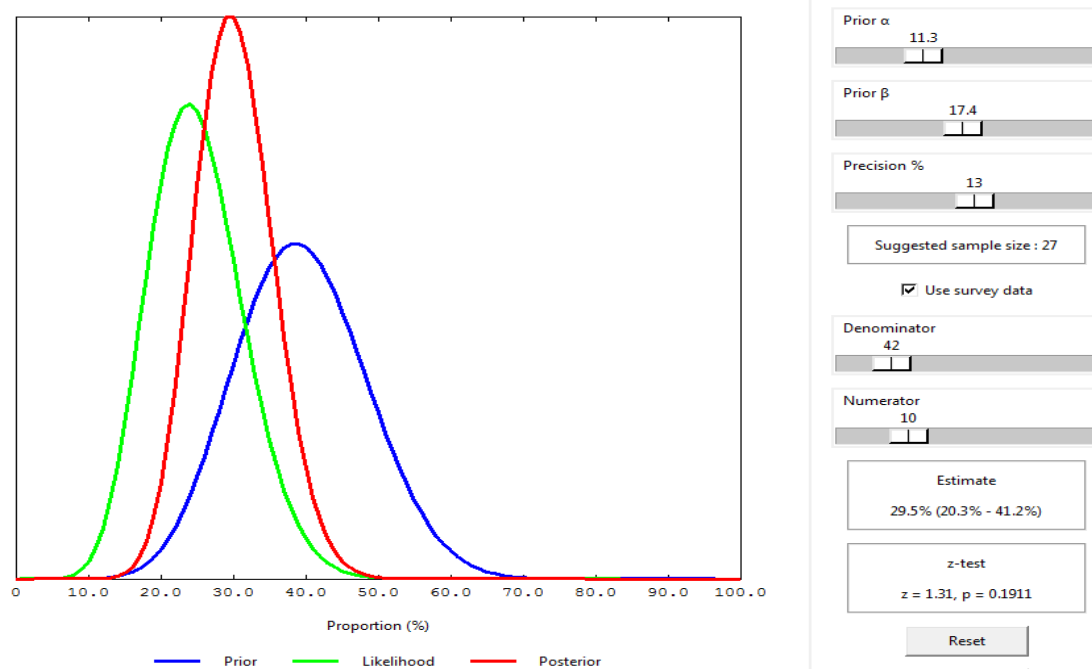
Estimate 52.5% (39.7% - 64.9%)

z-test z = -1.72, p = 0.0861

Reset

The Bayesian Software estimated single coverage at 29.5% with credible interval of (CI 20.3% - 41.2%) and a P value of 0.1911. The z test of 1.31 revealed a reasonable overlap between the prior, posterior and likelihood of the single coverage estimate as shown in the figure below.

Figure 36 Mogotio SFP Bayes plot



4.4.3.2 Barriers to access IMAM Services in Mogotio

Wide area survey interviewed mothers/ caregivers who were not attending the OTP/SFP in the various IMAM sites. The interviews also quested to know if they know the status of their children and if the OTP services provided can treat the malnutrition cases. The results are illustrated in the figures below.

Figure 37 Reasons for non- attendance - OTP

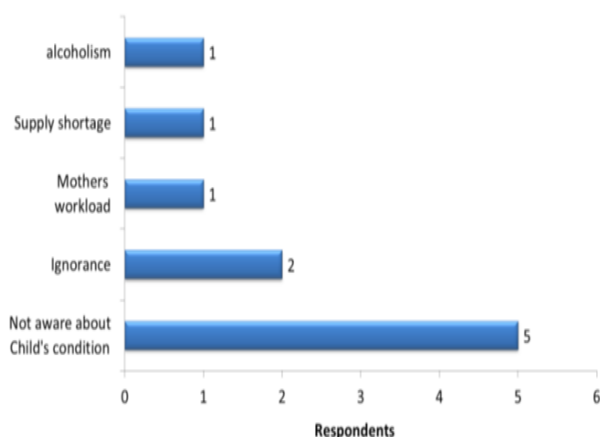
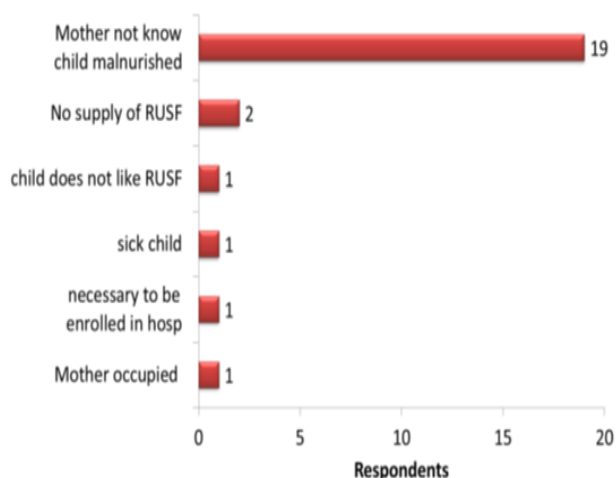


Figure 38 Reasons for non- attendance - SFP



5.0 CONCLUSION AND RECOMMENDATIONS

5.1: CONCLUSION

From the Bayesian coverage calculator, the posterior 'point coverage' for OTP and SFP in the three Sub Counties were found to be below the recommended SPHERE standard of 50% in rural areas and thus considered unsatisfactory as seen in the table below apart from OTP Mogotio which was slightly above the sphere standard thus considered okay. Therefore more efforts need to be put to improve coverage. Among the key barriers to coverage that requires interventions includes low staffing levels of the health sector, poor community health seeking behaviour, poor infrastructure, alcoholism, high illiteracy levels, poor child spacing practices and insecurity.

Table 20 Summary of Coverage Estimates

Program	Coverage Estimate		
	East Pokot	Marigat	Mogotio
OTP	45.7%	39.4%	52.5%
SFP	48.5%	32.1%	29.5%

5.1 RECOMMENDATIONS

Table 21 Summary of Recommendations

Barrier	Recommendation	Responsible	When
Lack of awareness	Regular active case finding at the CHUs and defaulter tracing mechanisms	Sub County CSFP, Sub County Nutrition Officer, CHMT, WVK, UNICEF	March 2016
	Sensitize CHVs on identifying malnutrition	Sub County CSFP, Sub County Nutrition Officer, CHMT, WVK, UNICEF	March 2016
	Community engagement to establish social support network with emphasis on men participation in the health and wellbeing of their children	SCHMT, CHMT, Local administration	June 2016
	Implement C4D messages to create awareness and promote good child care practices at the community level	SCHMT, CHMT, WVK, UNICEF, BBC Media Action	On going
	Formation of new community units and strengthening the integration of nutrition into the existing community units.	SCHMT, CHMT, WVK, UNICEF	May 2016
	Motivation of CHVs to support program awareness at community level	CHMT, SCHMT	Ongoing
	Train health workers and CHVs on IMAM	SCHMT, CHMT, WVK, UNICEF	On going
Long distance from health facilities and poor access to health services	Integrated health and nutrition outreaches in the hard to reach areas	SCHMT, CHMT, Beyond Zero, WHO	On going
	Strengthening integration of nutrition in the existing community units	SCHMT, CHMT, WVK, UNICEF	On going
Poor child spacing	Integration of healthy timing and spacing strategies in the nutrition project.	SCHMT, CHMT, WVK, UNICEF	May 2016

RUTF/RUSF shortage/stock out	Streamline nutrition supplies management (forecasting, request, documentation and reporting)	SCHMT, CHMT,WVK, KRCS, UNICEF	May 2016
	Training of health workers on nutrition supply chain management	SCHMT, CHMT,WVK, KRCS, UNICEF	May 2016
Poor documentation of IMAM clients in the registers at health facilities	Refresher training of health workers and CHVs in IMAM including documentation in the registers.	SCHMT, CHMT,WVK, UNICEF	April 2016
	Routine OJT and supervision	SCHMT, CHMT	April 2016
	Bi annual data quality audits at health facilities	SCHMT, CHMT	April 2016
Stigma associated with malnutrition	Community sensitization through MtMSGs, CHUs, health talks on IMAM	SCHMT, CHMT	June 2016
	Implement C4D messages to create awareness and promote good child care practices at the community level	SCHMT, CHMT,WVK, BBC Media Action, UNICEF	On going

6.0 APPENDIX

6.1 BARRIERS AND BOOSTERS

Table 22 BBQ OTP EAST POKOT

Boosters	Weigh ted Score	Unweigh ted Score	Weigh ted Score	Unweigh ted Score	Barriers
Mass screening	3	5	4	5	Long Distance
Awareness of program	4	5	2	5	Household sharing of the rations
Understanding of Malnutrition	3	5	3	5	Lack of motivation to CHW'S
Integration of the program and other health care services	3	5	4	5	Alcoholism
Community sensitization/health education	4	5	2	5	No community unit
Consistent On job training	3	5	4	5	Inadequate human resource and closing of health facilities
Defaulter tracing mechanism	4	5	3	5	Poor defaulter tracing mechanism
Availability of nutrition supplies	3	5	3	5	Health worker/CHW'S not trained on IMAM
Adequate staffing	2	5	2	5	Poor integration of IMAM and other health services
Health/nutrition outreaches	4	5	4	5	Drought/rainy season/migration/ceremonies
Trained health works/CHW's on IMAM	3	5	2	5	Caretakers workload
Presence of IEC materials	2	5	2	5	No linkage to other programs
			5	5	Poor Documentation/ Not Adhering to IMAM guidelines
Totals	38	60	40	65	Totals

Table 23 SFP EAST POKOT BBQ

Boosters	Weighted Score	Unweighted Score	Weighted Score	Unweighted Score	Barriers
Mass screening	3	5	4	5	Long Distance
Awareness of program	4	5	2	5	Stock outs
Understanding of Malnutrition	3	5	2	5	Household sharing of the rations
Integration of the program and other health care services	3	5	3	5	Lack of motivation to CHW'S
Community sensitization/health education	4	5	4	5	Alcoholism
Consistent On job training	3	5	2	5	No community unit
Defaulter tracing mechanism	4	5	4	5	Inadequate human resource and closing of health facilities
Availability of nutrition supplies	3	5	3	5	Poor defaulter tracing mechanism
Adequate staffing	2	5	3	5	Health worker/CHW'S not trained on IMAM
Health/nutrition outreaches	4	5	2	5	Poor integration of IMAM and other health services
Trained health works/CHW's on IMAM	3	5	4	5	Drought/rainy season/migration/ceremonies
Presence of IEC materials	2	5	2	5	Caretakers workload
			2	5	No linkage to other programs
			5	5	Poor Documentation/ Not Adhering to IMAM guidelines
Totals	38	60	42	70	Totals

Table 24 Mogotio OTP Barriers and Boosters

	BARRIERS	SOURCE	Un weighted score	Weighted SCORE	Un weighted score	Weighted SCORE	BOOSTERS	SOURCES
1	Long distance covered of the beneficiaries from their villages to the facility	@	5	6	5	5	Operationalization of new facilities on IMAM program	%
2	No program awareness/ sensitization on IMAM programs in the community	%, !	5	6	3	5	Staff capacity on the IMAM sites	%, &
3	Workload of the caregivers that hinders them from taking the beneficiaries for IMAM revisits	%, \$	5	4	4	5	Availability of an active Community Units	%, @
4	Migration of the community in search of greener pastures	%, !	5	1	6	5	Consistence in IMAM commodities supply in the facilities	%
5	The CHWs live far from the facility	%	5	6	2	5	Presence of Mass screening	%, &
6	Occasional mass screening	%	5	5	7	5	presence of anthropometric equipments in the facility	%, ?
7	Low staff capacity; knowledge and documentation	%, ?	5	6	1	5	IEC materials present	%, ?
8	Short child spacing interval	%	5	4	3	5	Adequate staffing	%
9	Lack of program ownership	%	5	2	1	5	Community awareness	%, !
10	Ignorance of the caregivers	%	5	6				
11	No IEC Matrerials in the facilities	%, ?	5	3				
12	Stigma of malnourished children in the community	%, !, \$	5	2				
13	Alcoholism		5	4				
14	Lack of support form the community leaders	%	5	1				
	Total Score		70	56	32	45		

Table 25 Mogotio SFP Barriers and Boosters

	BARRIERS	SOURCE S	Un weighted score	Weighted SCORE	Un weighted score	Weighted SCORE	BOOSTERS	SOURCES
1	Long distance covered of the beneficiaries from their villages to the facility	@	5	6	5	5	Operationalization of new facilities on IMAM program	%
2	Stock outs of IMAM commodities in the facilities	%	5	2	5	5	Positive attitude and support of the program	%, @
3	No program awareness/ sensitization on IMAM programs in the community	%, !	5	6	3	5	Staff capacity on the IMAM sites	%, &
4	Workload of the caregivers that hinders them from taking the beneficiaries for IMAM revisits	%, \$	5	4	4	5	Availability of an active Community Units	%, @
5	Migration of the community in search of greener pastures	%, !	5	1	6	5	Consistence in IMAM commodities supply in the facilities	%
6	The CHWs live far from the facility	%	5	6	2	5	Presence of Mass screening	%, &
7	Occasional mass screening	%	5	5	7	5	presence of anthropometric equipments in the facility	%, ?
8	Low staff capacity, knowledge and documentation	%, ?	5	6	1	5	IEC materials present	%, ?
9	Short child spacing interval	%	5	4	3	5	Adequate staffing	%
10	Lack of program ownership	%	5	2	1	5	Community awareness	%, !
11	Ignorance of the caregivers	%	5	6				
12	No IEC Materials in the facilities	%, ?	5	3				
13	Stigma of malnourished children in the community	%, !, \$	5	2				
14	Alcoholism		5	4				
15	Lack of support from the community leaders	%	5	1				
Total Score			75	58	37	50		

Table 26 Marigat OTP Barriers

Barriers	Weighted	Unweighted	Weighted	Unweighted	Booster
Stigma	4	5	6	5	Positive attitude among the caregivers
Inadequate awareness of the programs	2	5	5	5	Mobile outreaches
Alcoholism	5	5	4	5	Short distances to IMAM sites
Long distance to IMAM service sites	4	5	3	5	On Job Trainings of health workers and CHWs
Sharing of RUTF	1	5	3	5	Community mobilization
Insecurity	5	5	2	5	Presence of school health programs
Stock out of IMAM commodities	1	5	4	5	Health workers knowledge and capacity on IMAM
Inadequate CHV motivation	4	5	2	5	Linkage of FFA and IMAM/ and catholic church relief support
poor documentation	3	5	2	5	Mass screening
Low program ownership	5	5	5	5	Availability of supplies
Negative perception	1	5	5	5	Good health seeking behavior
Low women empowerment	3	5	5	5	Program ownership
Seeking treatment from THPs	1	5			
Caretakers workload	6	5			
Totals	45	70	46	60	Totals

Table 27 Marigat SFP Boosters

BOOSTERS	SOURCES	METHOD	Simple	Weighted
positive attitude among the caregivers	HW	KII	5	6
Mobile outreaches	HW,CL,RL	KII	5	5
Short distances to IMAM sites	HW	KII	5	4
On Job Trainings of health workers and CHWs enhancing knowledge in treating malnutrition	HW	KII	5	3
Community engagement during mobilization and mass screening	CF	KII	5	3
Presence of school health programs	HW and CF	KII	5	2
Health workers knowledge and capacity on treatment of malnutrition	HW & OB	KII, Observations	5	4
Linkage of FFA and IMAM/ and catholic church relief support	CG,RL,CF	KII,FGD	5	2
Availability of supplies- no stock out	CHV,HW,CG & CH	KII	5	3
Good health seeking behaviour in the community	PS & OB	KII	5	2
TOTALS			50	34

Table 28 Marigat SFP Barriers

Barrier	Source	Methods	Simple	Weighted
Stigma; RUTF associated with HIV, Malnutrition associated with maternal negligency and poverty, misconception of the products	CF,CH,RL	KII		5
Inadequate awareness of the programs- inadequate male / father involvement	HW,CH,RL & CG	KII,FGD		5
Alcoholism; caregivers spend time in taking alcohol thus neglect their children,, poor maternal care	RL,CF & HW	KII		5
Long distance to IMAM service sites	RL,CH & HW	KII		5
Missuse of the supplies, Sharing of RUTF among household members and health workers giving out the product, selling of RUTF/RUSF	RL,CG & CF	KII		5
Insecurity	HW,CF,CG,RL	KII		5
Stock out of IMAM commodities	CH,CG,HW	KII		5
Inadequate CHV motivation hence inadequate case findings	CF,CH,CH,RL,HW	KII		5
knowledge gap-poor documentation leading to communication on TCA	HW	KII		5
Poor program ownership	HW	KII		5
Adverse body reaction by the benefiries after consuming	CG	FGD		5
Women are not empowered to make decisions	PS,CH	KII		5
Poor health seeking behaviour-preference to THPs	CF	KII		5
Maternal workload especially during planting and harvesting seasons	CG,CF,CH,HW,RL,PS	KII,FGD,OE		5
		Total		70
				42

6.2 CONCEPT MAPS

Figure 39 OTP Concept Map for East Pokot

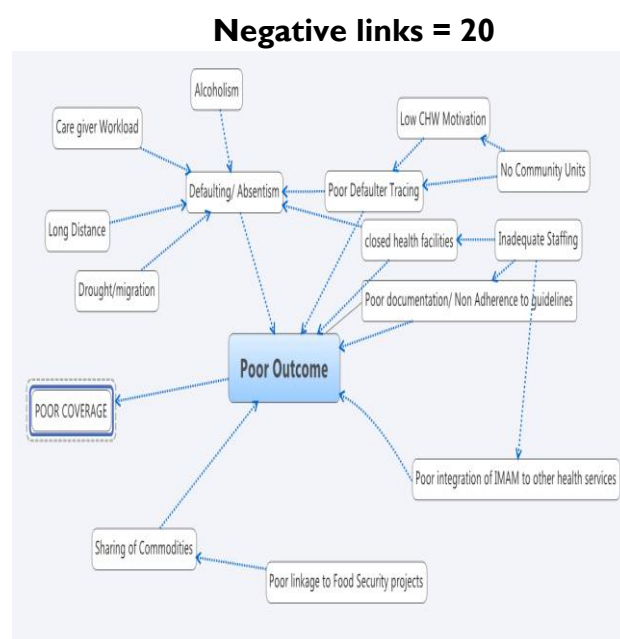
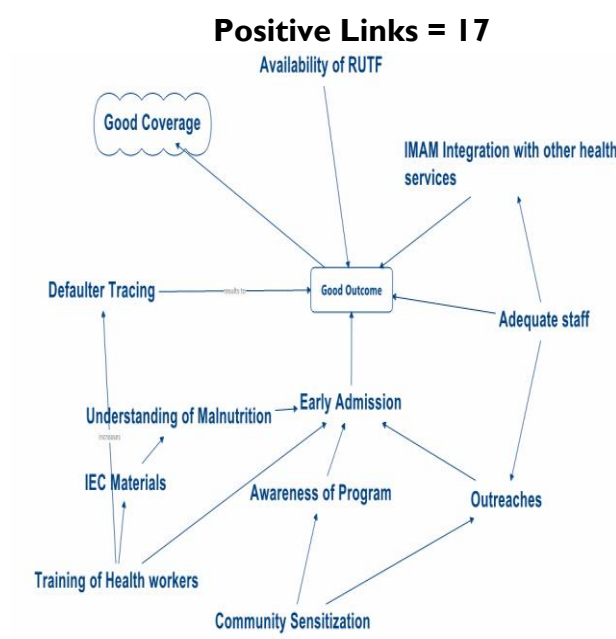
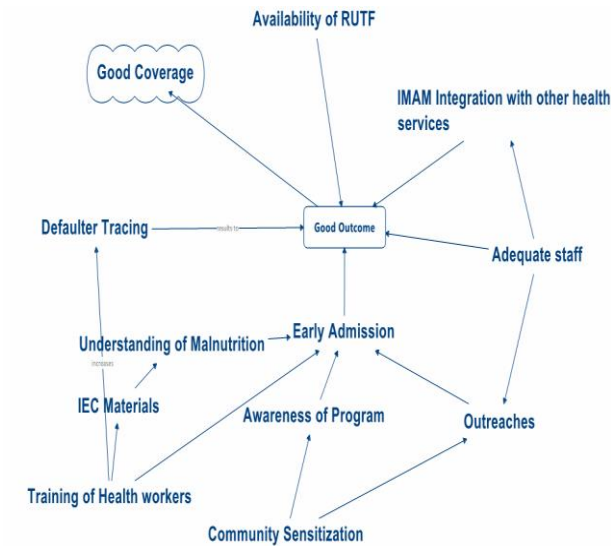


Figure 40 SFP Concept Map for East Pokot

Positive Links = 17



Negative links = 21

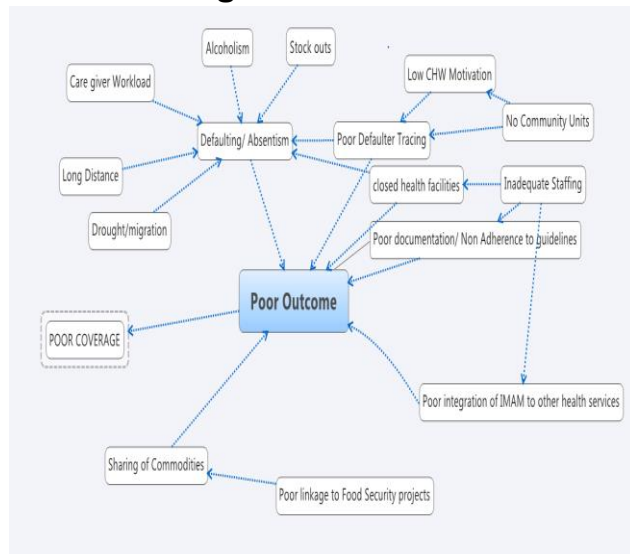
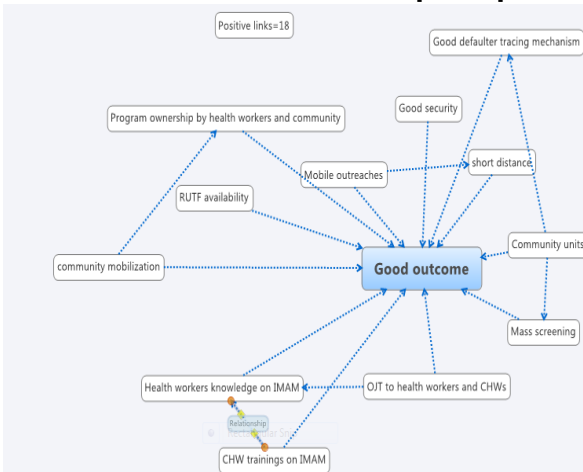


Figure 41 OTP Concept Map for Marigat

Positive links concept map

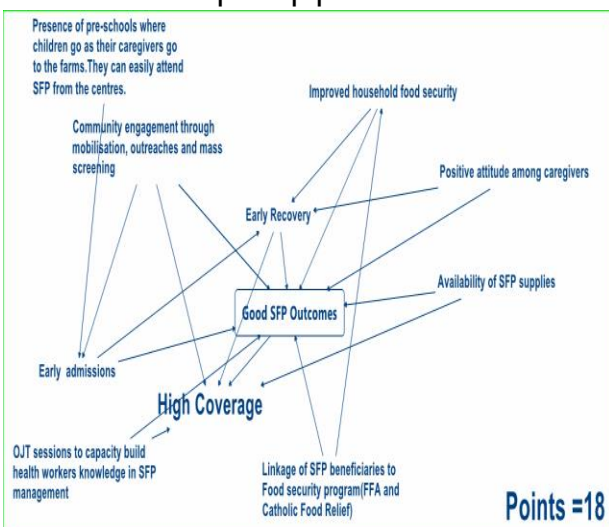


Negative links concept map



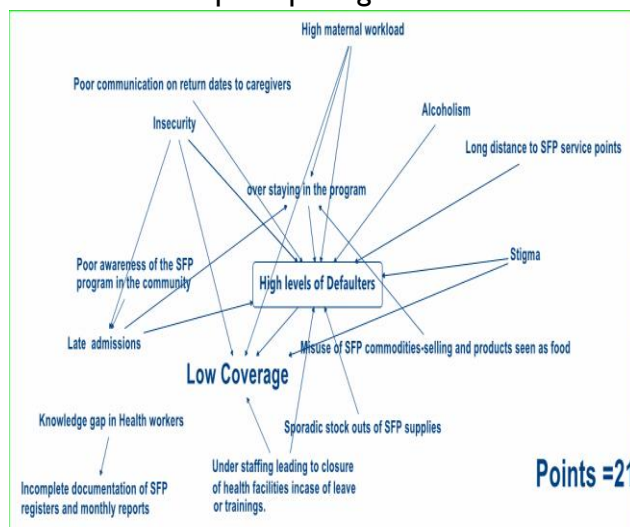
Figure 42 SFP Concept Mind Marigat Sub County

Concept map positive links



Points =18

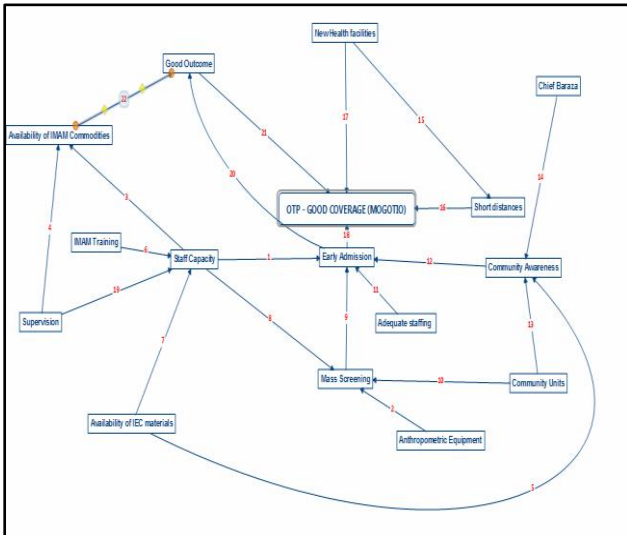
Concept maps negative links



Points =21

Figure 43 OTP Concept Mind Mogotio Sub County

OTP Positive links



OTP negative links

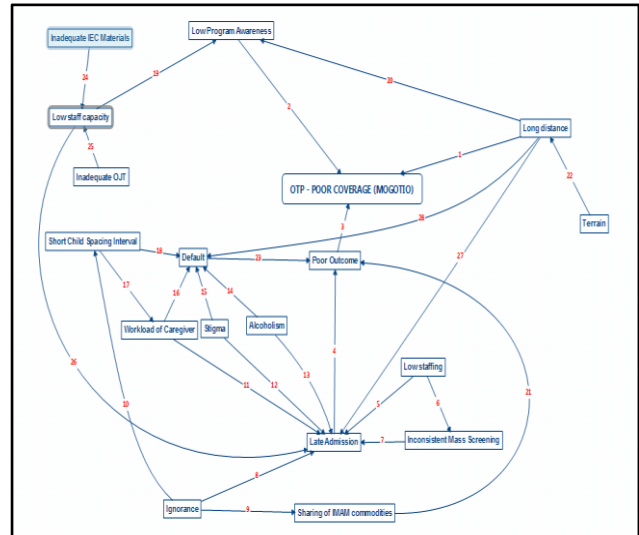
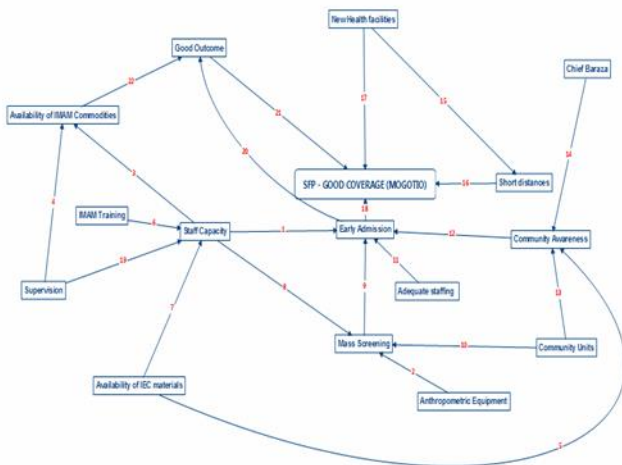
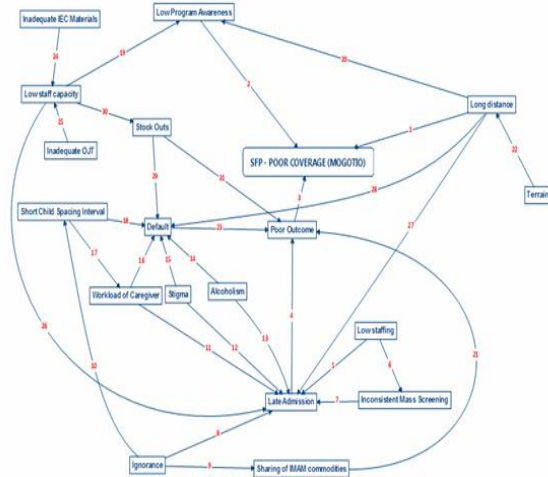


Figure 44 SFP Concept Mind Mogotio Sub County

Positive links=22



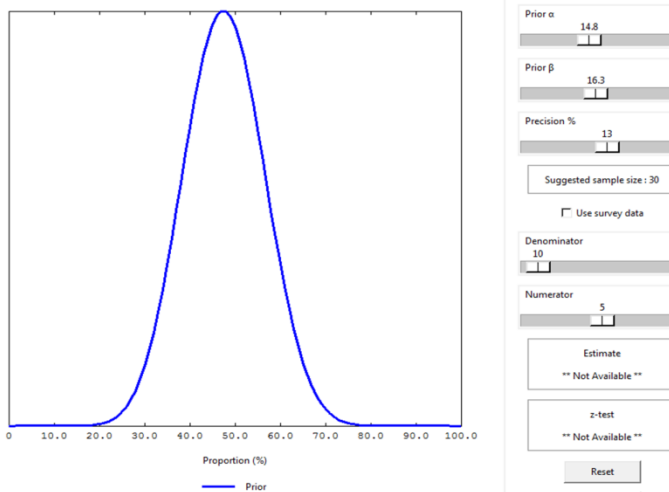
Negative links=31



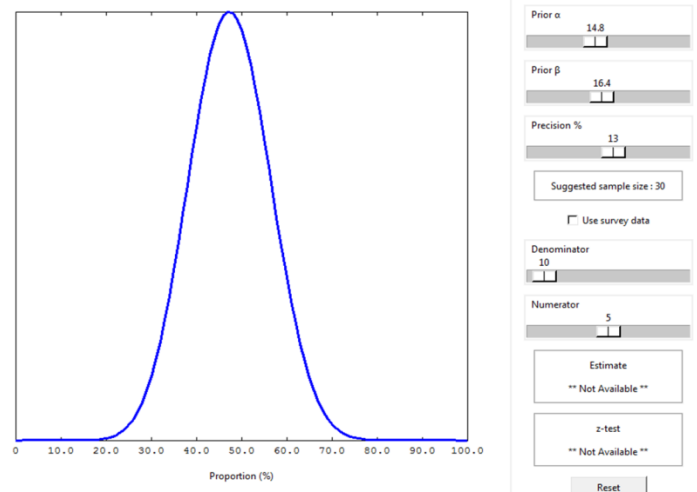
6.3 BAYES PLOT

Figures 45 OTP/ SFP Prior using Bayes calculator

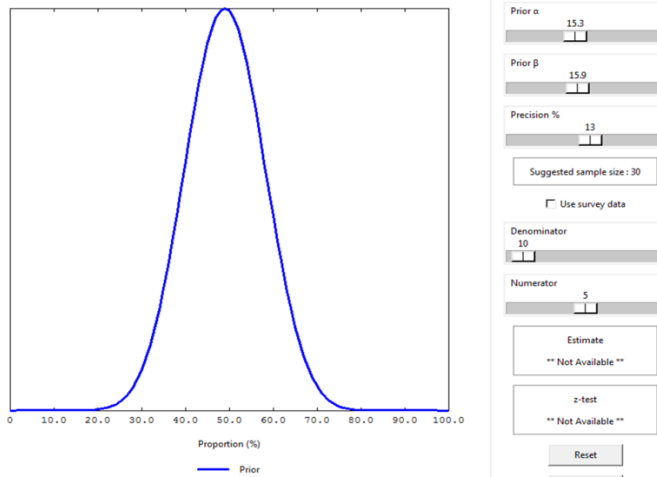
East Pokot OTP Prior using Bayes calculator



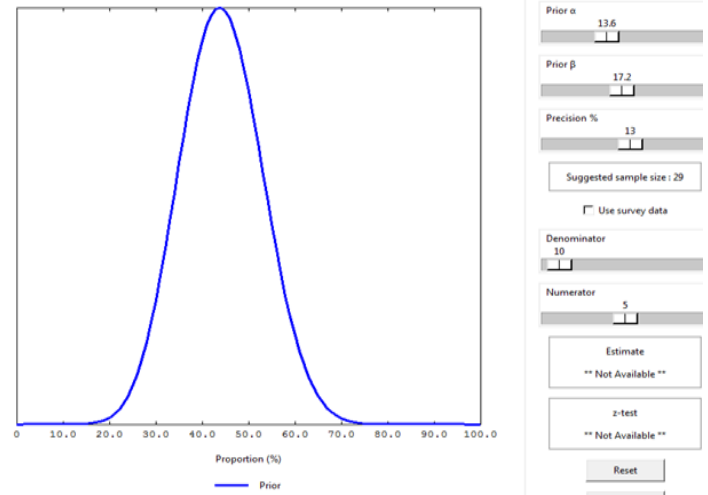
East Pokot SFP Prior using Bayes calculator



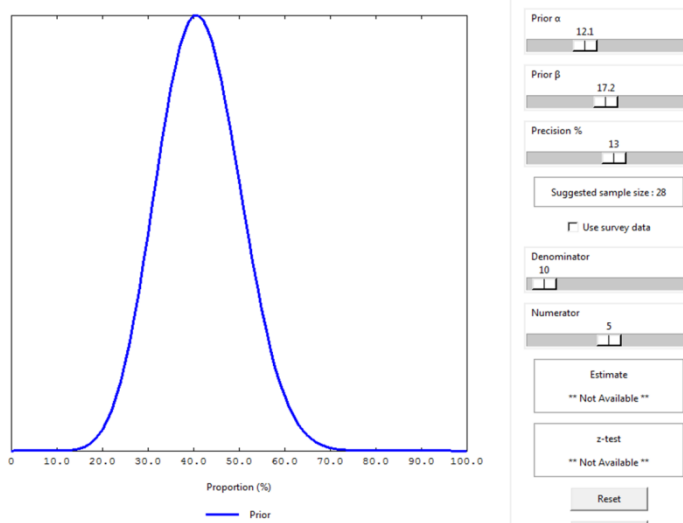
Marigat OTP Prior using Bayes calculator



Marigat SFP Prior using Bayes calculator



Mogotio OTP Prior using Bayes calculator



Mogotio SFP Prior using Bayes calculator

