

**SQUEAC REPORT
ISIOLO SUB COUNTY
NOVEMBER, 2013**



COVERAGE MONITORING NETWORK



ACKNOWLEDGEMENT

International Medical Corps is grateful for the support from different players for their active involvement during the entire SQUEAC process. IMC wishes to thank the following parties with whom without their contribution the exercise wouldn't have been a great success;

- UNICEF for their financial support
- The Isiolo CHMT and Sub County HMT for their active participation in the entire process and more so the CNC for his coordination throughout the data collection period
- The Isiolo County administration for granting permission to carry out the assessment.
- All village leaders who assisted the teams in collection of qualitative data and screening at the villages.
- IMC program staff for their active role in data collection.
- IMC logistics officer for timely and quality logistical support.
- Kenya SQUEAC team for their genuine inputs and support in reviewing of this document and guidance in data collection.

ACRONYMS

CHMT.....County Health Management Team

CNC.....County Nutrition Coordinator

GAM.....Global Acute Malnutrition

IMAM.....Integrated Management of Acute Malnutrition

GFD.....General Food Distribution

LOS.....Length of Stay

MUACMid Upper Arm Circumference

MUACMid Upper Arm Circumference

OJT.....On Job Training

OTP.....Outpatient Therapeutic Care

PR.....Protective Ration

RUTF.....Ready to Use Therapeutic Food

SCHMT.....Sub County Health Management Team

SAM.....Severe Acute Malnutrition

SFP.....Supplementary Feeding Program

THP.....Traditional Health Practitioner

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EXECUTIVE SUMMARY

International Medical Corps conducted a SQUEAC assessment in Isiolo Sub County between the 21st November and 11th December 2013. This was the first assessment to be done in the Sub County since the commencement of the OTP program in January 2011. The assessment was therefore seeking to determine the coverage of the OTP program, identifying the barriers and boosters to program coverage and giving recommendations which would help improve coverage in the Sub County. The assessment as well helped build the capacity of the participants (MOH staff and IMC program staff) in carrying out assessments in the future. By the use of the Bayesian technique, the assessment unveiled point coverage of **42.4% (31.0%- 54.8%)**

The survey identified some barriers which were of big significance to the program coverage. These were inadequate community screening and active case finding, Inconsistent outreaches and poor mobilization of the outreach sites, inadequate outreach coverage, Distance, Weak defaulter tracing mechanisms, Defaulting and Poor community mobilization

Defaulting was the main barrier identified, with the program consistently having high rates of defaulting (>15%). In depth interviews with caregivers of defaulting children indicated that distance and the nomadic way of life were the major contributors to defaulting. This was capped by the weak defaulter tracing mechanism, as some facilities didn't have any mechanism to trace defaulters back to the program.

The survey as well noted several boosters to coverage which include Good documentation as evidenced by the OTP registers, Program awareness by the community, Constant supply of RUTF stocks to the OTP sites, early admissions by MUAC and IMAM training which had been done to most of health workers in the Sub County

1. INTRODUCTION

1.1 Background information

Isiolo Sub-County is one of three sub-counties in Isiolo County and covers an area of 2,894 square kilometers with an estimated population of 110,683 people¹. The Sub-County borders Samburu County to the North, Merti and Garbatulla Sub-Counties to the East, Meru North County to the South and Laikipia County to the West. The Sub-county has three administrative divisions namely; Isiolo East, Central and Oldonyiro divisions. Isiolo Sub-County is mainly inhabited by the Borana, Somali, Turkana, Samburu and Meru communities.

The major economic activities for the people in the district are livestock-based, subsistence farming, and petty trade. The main livelihood zones in the district include pastoral (all species), agro pastoral, casual waged labor, and firewood/charcoal/pastoral².

International Medical Corps has been supporting the Ministry of Health in scaling up of High Impact Nutrition Interventions (HINI) for improved maternal and child health in Isiolo Sub-County since January 2011. This has included prevention and treatment of acute malnutrition. Since the inception of the program, 15 health facilities in the Sub County have been rehabilitated to offer OTP services. IMC has supported the health facilities with incentives for CHWs who help both at the health facilities and at the community with the screening and referral of malnourished cases as well as helping in defaulter tracing. Logistical support to the Sub County HMT has strengthened coordination by increasing the number of visits made to the OTP sites as well making OJT sessions consistent. There has been timely delivery of IMAM supplies in the health facilities, and observations at the facility and interviews with the facility in charges reported that the facilities haven't experienced significant stock outs.

IMC has partnered with the MOH in conducting nutrition surveys in the Sub County to determine the prevalence of malnutrition while still gauging the performance of several nutrition indicators. The latest survey conducted in May 2013 unveiled -a GAM rate of 7.2 % (4.9 - 10.5 95% C.I.) and a SAM rate of 0.6 % (0.2 - 1.9 95% C.I.)

¹ DHIS 2013

² NDMA monthly bulletin, October 2013

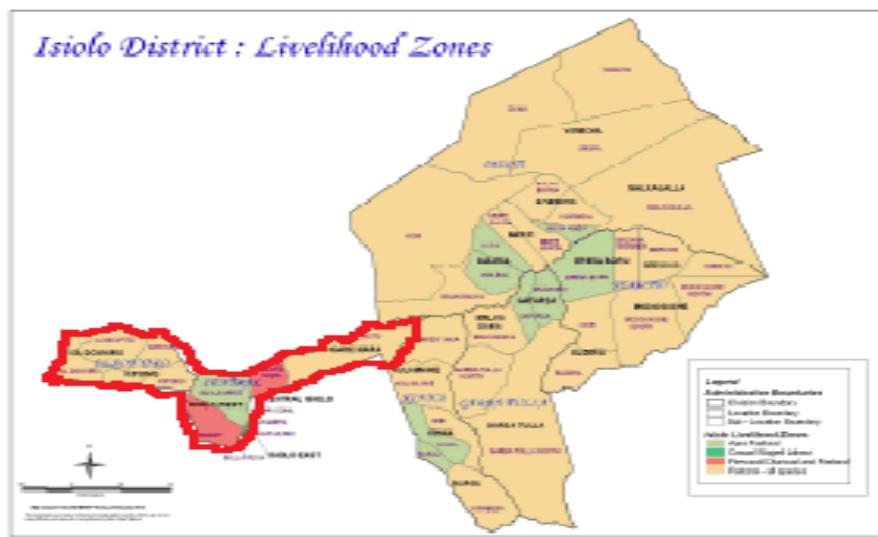


Figure 1: Map of Isiolo Sub County

1.2 Survey justification

No coverage assessment has been conducted in the Sub County since the start of the program in January 2011 and therefore it was important to determine the program coverage while identifying the boosters and barriers of significance to coverage. The assessment also sought to get the appropriate recommendations informed by the barriers identified.

There was a need to capacity build the MOH and program staff on SQUEAC assessment to enhance effective programming.

1.3 Survey objectives

The objectives of the survey were:

- To determine program coverage (Severe Acute Malnutrition)
- To determine boosters and barriers of significance to program coverage
- To capacity build MOH and IMC program staff on SQUEAC methodology
- To provide recommendations for programming

2. STAGE 1: IDENTIFICATION OF AREAS OF LOW AND HIGH COVERAGE

This involved collection of OTP data from the health facilities. The data collected was analyzed to help identify areas of low and high coverage. The data collected included monthly admissions, MUAC on admission, exit data (cured, deaths, defaulters & non response), visit of default and length of stay in weeks. The data was collected in the 15 health facilities offering OTP services. Analysis of health facilities showed a good coverage in east and central divisions which have 12 OTP sites unlike Oldonyiro

division with only 3 OTP sites. Four health facilities in Central don't offer OTP services due to the short distances to immediate OTP sites. This was a measure to reduce double registration of the IMAM beneficiaries.

Outreach sites have been established to supplement the health facilities in Oldonyiro and some parts of East divisions. There are a total of 15 integrated outreach sites in the Sub County. Logistical and financial constraints have however limited the frequency of visiting the outreach sites to only once in a month with others even missing a month without being visited. These have affected the management and follow up of the SAM cases that ought to be monitored on a weekly basis. There are several other outreaches conducted by other partners which only offer immunization services. With distance contributing immensely to defaulting, there needs to be a combined effort by all players in the health sector to have the outreaches integrated with screening and referral of malnourished cases being done.

Table 1: Analysis of health facilities and outreach sites in Isiolo Sub County

Division	HEALTH FACILITIES	OTP SITES	MAPPED OUTREACH SITES	SUPPORTED OUTREACH SITES
Isiolo East	6	4	13	6
Isiolo Central	11	8	4	2
Oldonyiro	3	3	20	18

1.1 Monthly admissions

The data on admission for Isiolo Sub County was analyzed for the entire period the program has been operational. Mass screening was done for all the program sites in the month of March 2011, which explains the high number of admissions in that period. The data shows high number of admissions when the program was in its first year with peaks in the months of June and September. The drought period in Isiolo starts in June which explains why the admissions are high in that period. The drop in the number of admissions in July and August can be related to movements in search of pasture in the pastoral areas. There are movements back to the areas in September in anticipation of the short rains hence the high admissions in the month of September. The effects of the drought seem to be felt most towards the end of the drought period as it's the period which records high admissions to the program.

The admissions in the Sub County are showing a decreasing trend with only few admissions towards the end of 2013. This can be related to the decrease in GAM and SAM rates in 2013 (7.2 % (4.9 - 10.5 95% C.I.) and 0.6 % (0.2 - 1.9 95% C.I.) compared to a GAM and SAM rate of 11.0 % (8.5 - 14.2 95% C.I.) and 3.4 % (2.2 - 5.3 95% C.I.) respectively in 2012.

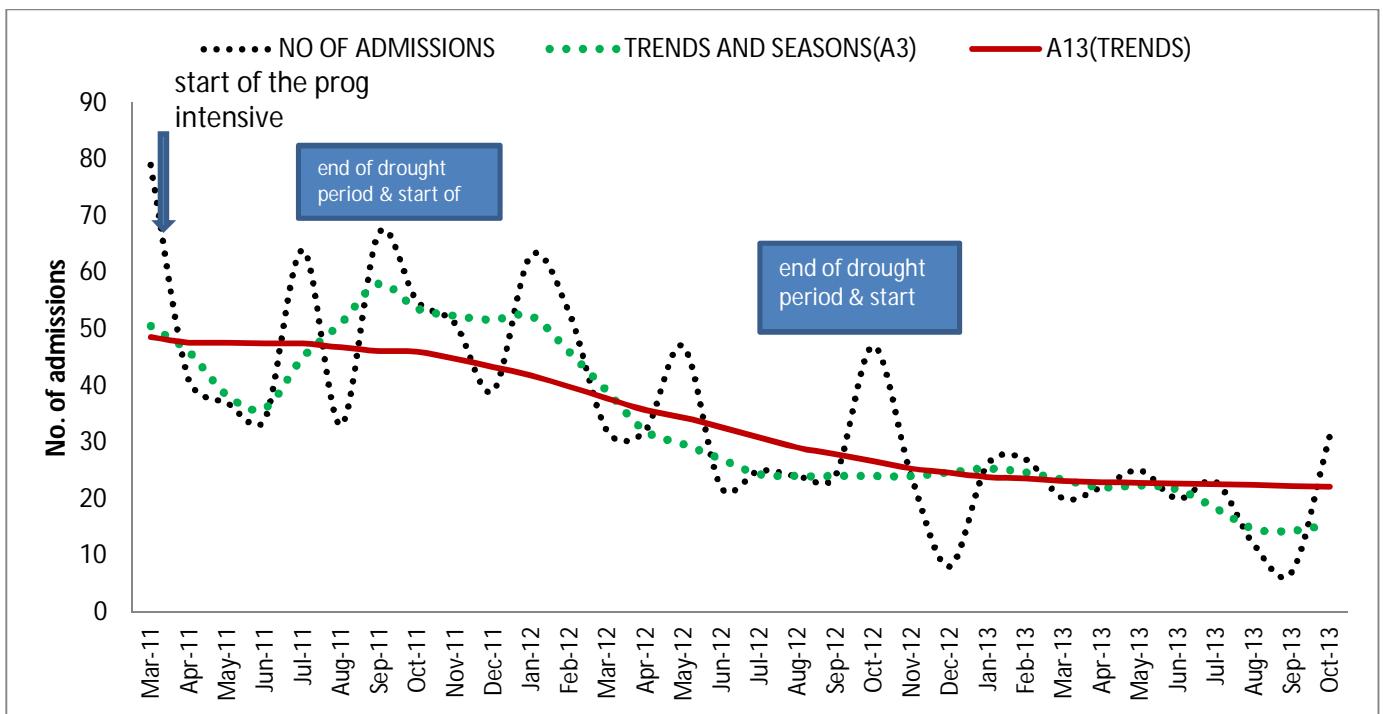


Figure 2: Monthly admissions and trends.

1.2 MUAC admissions

This data was analyzed to investigate at which stage the caregivers bring their children to the program when they become malnourished. This also helps understand the health seeking behavior of the caregivers as those children admitted with a MUAC measurement near the cutoff point illustrates early treatment seeking which transforms to short stay in the program, few or no complications in the management and less cost of management. Children admitted to the program with a MUAC far from the cutoff point might lead to the child staying for long in the program and possibly poor outcomes like defaulting and non-response due to the likelihood of complications. These children are likely to stay in the program for long which increases the cost of management and with instances of complications stabilization may be necessary³.

According to Iсиоlo data, most of the children were admitted near the cutoff point, with the median MUAC on admission being 110mm. only a few cases were admitted with a MUAC less than 100mm.

³ Kenya national IMAM guideline on malnutrition 2010

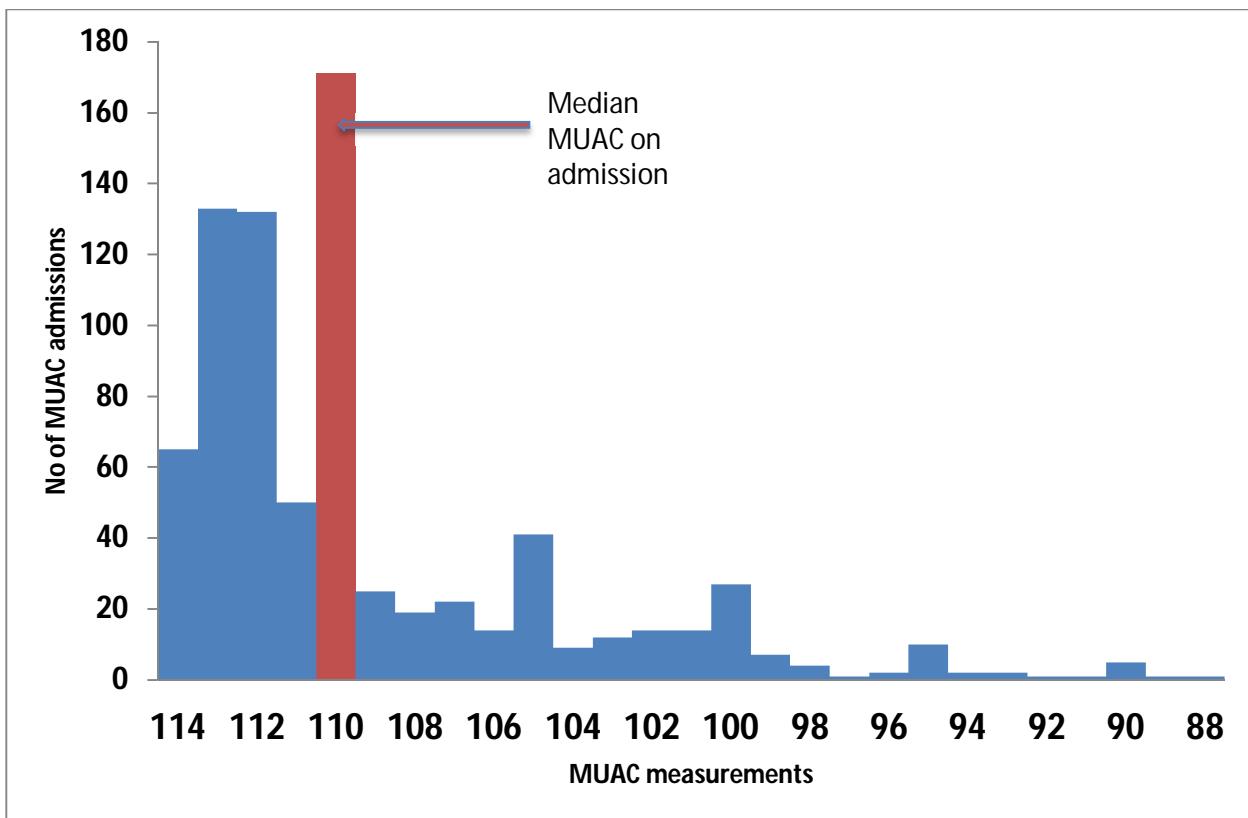


Figure 3: MUAC on admission.

1.3 Standard program indicators

These inform about the performance of the program. The program exits were analyzed based on the sphere standards of cured >75%, death <10% and defaulters <15%⁴. Coverage depends indirectly on compliance and thus an effective program should have good retention from admission to cure. This means minimal or no defaulting in the program⁵. The standard program indicator graph for Isiolo is as shown below;

⁴ Kenya national IMAM guideline on malnutrition 2010

⁵ Myatt, Mark et al. 2012. Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference.

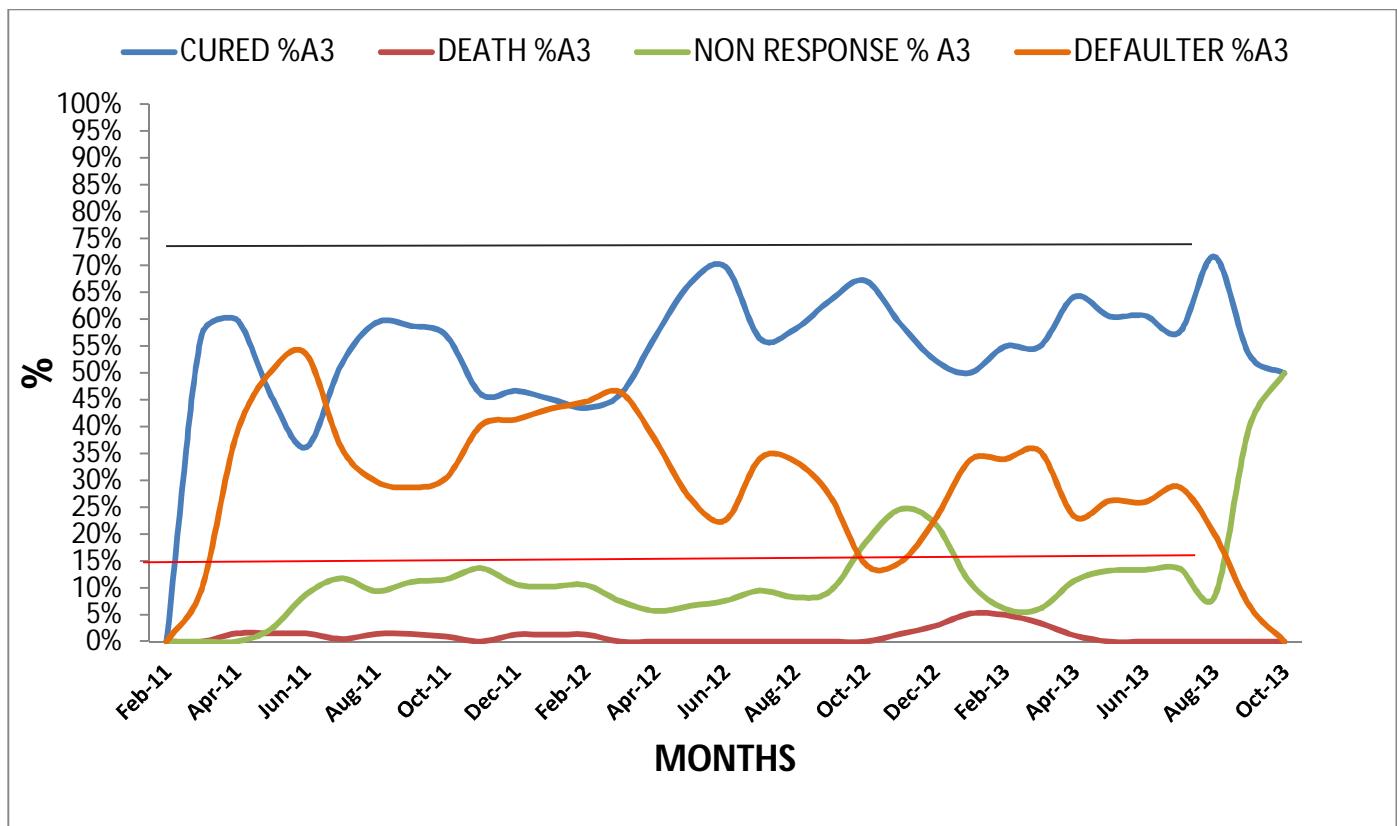


Figure 4: Standard program indicator graph

The Isiolo exits data shows that there is low retention in the program with consistently high rates of defaulting. The program has always performed below the sphere standards for cure rate and defaulting. These high rates have been due to migrations and long distances to the health facilities in the pastoral areas. Lack of a defaulter tracing mechanism in the facilities has hindered halting these trends.

Adherence to the IMAM protocols by the caregivers is poor leading to the sharing of RUTF at the household level (due to RUTF being seen as food and not medicine). There were also poor child care practices due to engagement by parents to alcoholism as well as involvement in other competing activities. There is also a possible mismanagement of the RUTF supplies at the facility level.

1.4 Visit of default

Time of default from the program has an indirect effect on the coverage in that beneficiaries that default early in the treatment episode are likely to be current cases (not covered) and beneficiaries that default later in the treatment episode are likely to be recovering cases in the community. The early defaulters are likely to come back in the program with the same episode of malnutrition or even with complications. This will later lead to a negative opinion of the program.

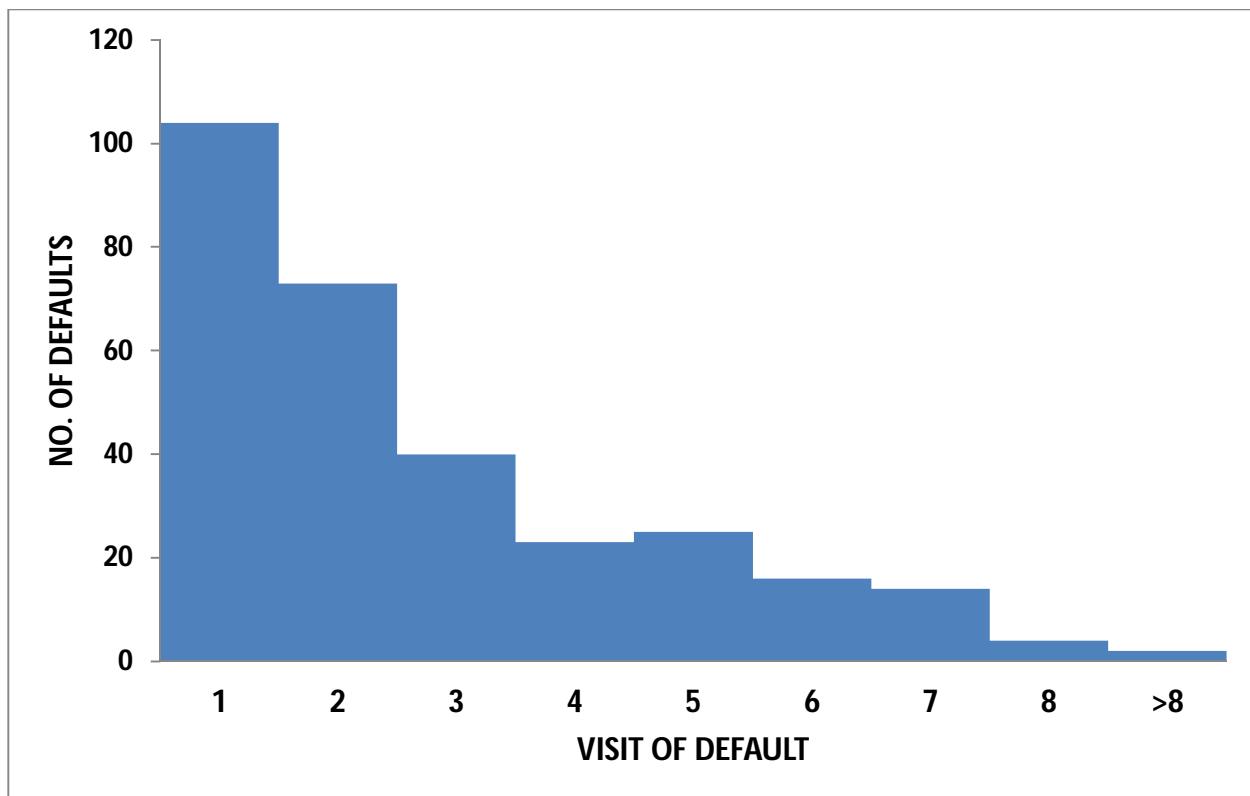


Figure 5: Visit of default

Analysis of Isiolo Sub County defaulters show that most of them default early in the program, between the 1st and the 4th visit. Poor mobilization in the outreaches and inconsistency of the outreaches are the likely contributors to the early defaulting, noting that the outreaches are visited monthly.

1.5 Length of stay

Time of admission (early vs. late admissions) and adherence to protocols and management are main elements to the length of stay in the program. Long stays in the program are associated with possible defaults and negative opinion about the program. There is also increased cost of management.

SAM cases admitted with a MUAC measurement near the cutoff point are more likely to have a shorter LOS than those admitted with a low MUAC measurement.

Analysis of length of stay for Isiolo Sub County data illustrates the ALOS at 7 weeks which is a considerable time for the SAM episode to be cured. There are however cases which have taken more

than the maximum time in the program to cure. SAM cases admitted by MUAC should take a maximum of 16 weeks in the program⁶.

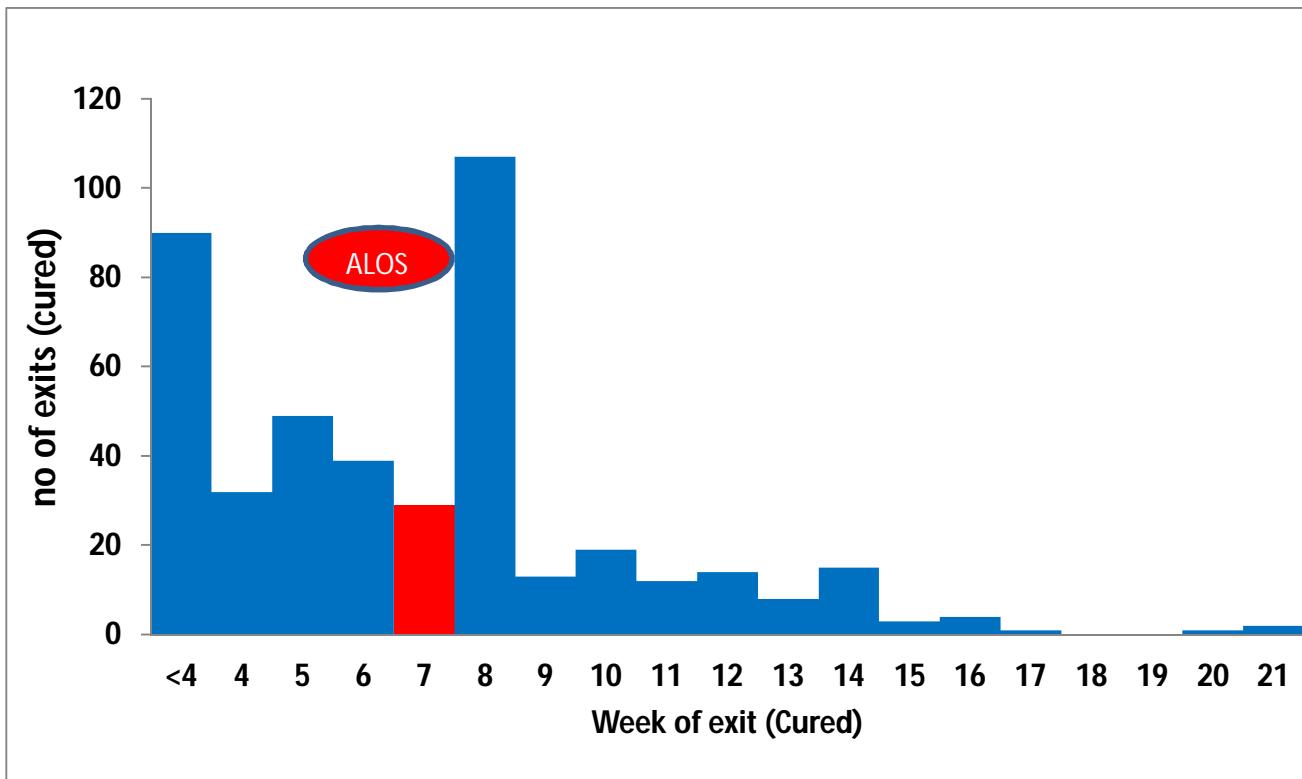


Figure 6: length of stay

1.6 Documentation.

Presence of updated management data is vital for the effective monitoring of the IMAM program. As part of the assessment, the teams had spot checks on the facility OTP registers whereby good documentation was noted with the monitoring visits in the registers and exit data well filled. Caregivers of children in the program and defaulting children could easily be traced from the registers by the villages they come from during qualitative data collection. This is as a result of the frequent OJT sessions held at the OTP sites and the quarterly supervisory visits by the Sub County HMT.

⁶ Kenya National IMAM guideline, 2010

HEALTH FACILITY REGISTRATION BOOK FORMAT: Out-patient Therapeutic Care Program											
District:		Name of the health facility: <i>Central Hospital</i>									
No	REG No	ADMISSION DETAILS			EXIT DETAILS			Length of stay in days ^a	Exit Outcome ^b	Remarks	
		Admission date (dd/mm/yyyy)	Name	Physical address/mobile	Age (months)	Sex (M/F)	In GFO (YES/NO)				Admission criteria ^c
1	154	14/10/2013	Kal Madzima	B/Ping	10m	M	NO	MUAC <105mm	New admission	16/10/2013	45 days (well)
2	158	14/10/2013	Tig Atieno	Kisumu	18m	F	NO	MUAC <105mm	New	23/10/2013	Discharged
3	159	14/10/2013	An Ken	Masagana	18m	F	NO	MUAC <105mm	New	06/11/2013	Discharged
4	160	14/10/2013	Ruth Goye	Kimuguru	10m	F	NO	MUAC <105mm	New	13/11/2013	Discharged
5	161	14/10/2013	Carissa Njeru	Kimuguru	24m	F	NO	MUAC <105mm	New	13/11/2013	Discharged

a well filled register, showing both admission and exit details

Outpatient Therapeutic Care Ration Card for Children less than five years											
Serial No.	160	Branch	Circle	Division	Central	Location	Village	Vivengere	Health Facility	Central Hospital	
Child Clinic No.		General Information									
Child Name:	Roxia Gayo	Age (months):			Date of Admission (dd/mm/yyyy): 13/11/2013						
Type of Admission:	New	Sex: Male/Female:			Female						
Mother/Caregiver Name:	Holins Alaki	Mother/Caregiver ID:			05827538						
Physical Address:	0714533507	Total Number of Household Members:			10						
Telephone Number:		GFO/FFA Point:									
Follow up											
Distribution	Height	Weight	MUAC	Oedema	Date (dd/mm/yyyy)	Iron/Helic	Date (dd/mm/yyyy)	Date (dd/mm/yyyy)	Client signature	Date of next visit (dd/mm/yyyy)	
Admission	68	6.3	10.5	-	18/10/2013	Received	Received	Received		13/11/2013	
2	68	6.8	11.1	-	18/10/2013					20/11/2013	
3											
4											
5											
6											
7											
<i>A sample of a beneficiary ration card</i>											

Figure 7: A Sample of a facility register and a beneficiary ration card with caregiver contacts.

1.7 Collection of qualitative data

This data was collected by the survey teams which consisted of MOH and IMC program staff. This information was to help the assessment further identify possible areas of high and low coverage. The qualitative data collected helped in identifying the barriers and boosters in the Sub County. The tools used were informal group discussion guides (village elders, TBAs/THPs, caregivers of children not in the program, pastoralists, and religious leaders) semi structured interview guides (facility staff and CHWs) and in depth interviews (caregivers of defaulting children and caregivers of children in the program). Observation checklists were used at the OTP sites to check for the presence of OTP supplies, IEC materials, organization of the OTP program and waiting time for the OTP clients during feeding days.



Handbook on the Integrated Management of Acute Malnutrition

Step 6: Conduct an appetite test for severely malnourished

How to conduct the Appetite Test

- Explain to the caregiver the purpose of the Appetite Test and how it will be carried out.
- Ask the caregiver to wash her hands, and the child's hands and face, with soap and water.
- Ensure the caregiver sits comfortably with the child on her lap and either offers the RUTF from the packet or puts a small amount on her finger and gives it to the child.
- Observe that the caregiver offers the child the RUTF gently, encouraging the child all the time. If the child refuses, the caregiver should continue to quietly encourage the child and take time over the test. DO NOT force the child to take the RUTF.
- Offer the child plenty of clean water to drink from a cup while he/she is taking the RUTF.

Results of the Appetite Test

- Pass Appetite Test**
- If child takes at least the minimum amount of RUTF for their weight in Table 3,
- Send the patient to the nurse for assessment of any major medical complication. If there is no medical complication, treat the patient as

IEC material explaining how to conduct an appetite test

Figure 8: pictures of qualitative data collection

2. STAGE 2: CONFIRMING HYPOTHESIS FOR AREAS OF LOW AND HIGH COVERAGE

The purpose of stage 2 was to confirm the areas of high and low coverage as informed by the data collected in stage 1. The hypothesis; Program coverage is high (>50%) among farmers and low (<50%) among pastoralists was formulated due to the following reasons:

- Pastoralists living far from the health facilities (long distance) and regular movements in search of pastures and water contributing to high defaulting.
- Malnutrition cases presented mostly to traditional health practitioners before the health facility treatment in pastoral areas.
- Few and poorly mobilized outreaches in the pastoral areas.

This was tested through a small survey in villages which were purposively sampled. Exhaustive screening was done in the sampled villages with the help of the village elders who acted as guides and helped identify the village boundaries.

Table 2: Results of small survey

Purposively Sampled Villages	No. of SAM cases in program	No. of SAM cases not in program	No. of recovering cases in program	Total
Areas inhabited by farmers: (Elsa, Kiwanja ndege)	0	1	0	1
Areas inhabited by pastoralists : (Chokaa, Iowangila, Ltungai)	1	2	0	3

The hypothesis was tested by applying the simplified LQAS formula $d = (n/2)$ against the 50% sphere standard for coverage for rural areas.

Table 3: Results of small survey

Areas inhabited by farmers: (Elsa, Kiwanja ndege)	Program coverage Standard (p)	50%	insignificant number of SAM cases found in the farming villages hence hard to make a conclusion
	Decision Rule (d)	$d = \frac{1}{2} = [0.5]=1$	
	Number SAM cases in program	0	
Areas inhabited by pastoralists : (Chokaa, Iowangila, Ltungai)	Program coverage standard (p)	50%	Number of SAM cases in program (1) is <
	Decision Rule (d)	$d = \frac{3}{2} = [1.5]=1$	

Iowangila, Ltungai)	Number of SAM cases in program	1	50%
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Reasons for non-attendance (small survey)

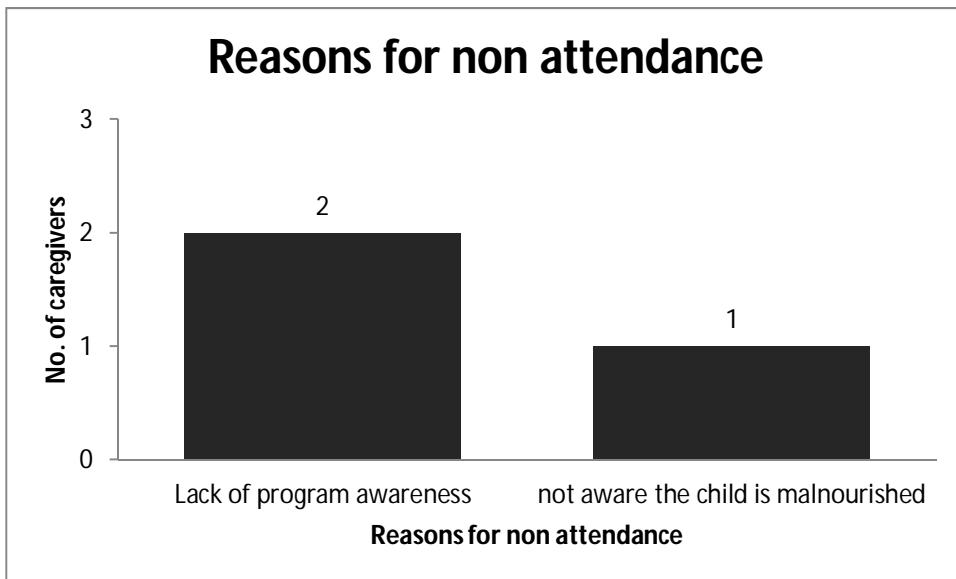


Figure 9: Reasons for non-attendance

3. STAGE 3: DEVELOPING THE PRIOR

By applying the principle of triangulation by source and method, the survey came up with barriers and boosters to program coverage. These were organized and weighted with the boosters being given a positive score of (1-5) and the barriers being given a negative score of (-1-5). The weighting was informed by how positively or negatively a booster or barrier contributed to coverage giving an average of the boosters score (based on the lower value anchor (0) and the barrier score (based on the upper value anchor 100%). This is as shown in the table below.

Table 4: Ranking of boosters and barriers (See appendix 5 for more details)

NO	BOOSTER	WEIGHT
1	Monthly OJT sessions	+3
2	Good documentation	+3
3	Program awareness	+4
4	Positive opinion of the OTP program	+4
5	Constant supply of RUTF stocks	+4
6	IEC materials	+3
7	Knowledge of malnutrition	+4
8	IMAM training done to health workers	+3
9	Integrated outreach services	+3
10	Availability of OTP ration cards	+2
11	OTP linkage to PR and GFD	+2
12	Early admissions	+4
13	Scaled up health education in health facilities	+3
Sum		42
Lower value anchor		0%
Total		42%

NO	BARRIER	WEIGHT
1	Health seeking behavior first from the herbalists	-3
2	Inadequate community screening and active case finding	-5
3	Inconsistent outreaches and poor mobilization at the outreach sites	-4
4	Inadequate outreach coverage	-2
5	Nomadic lifestyle leading to defaulting	-3
6	Insecurity/tribal clashes	-1
7	Distance	-3
8	Stigma	-1
9	Poor GFD –OTP linkage	-2
10	Alcoholism	-1
11	Poor child care practices	-1
12	Weak defaulter tracing mechanisms	-5
13	Defaulting	-5
14	Poor community mobilization	-3
15	Mismanagement of RUTF	-1
16	Sharing of RUTF among the household members	-2
17	Competing activities	-3
18	Long length of stay in the program	-1

Prior mode = 42% +54% = 48%

2

Sum	-46%
Upper value anchor	100%
Total	54%

This prior mode (48%) was used to plot the coverage estimate on the Bayes SQUEAC Coverage Estimate Calculator (version 3.01)⁷. The curve was derived by adjusting the prior α and prior β values to get a curve at approximately 48% while having an uncertainty level of ± 25 . This is the first time a coverage assessment was being done in Isiolo Sub County and thus there was a high uncertainty about the coverage⁸. The plot is as shown below;

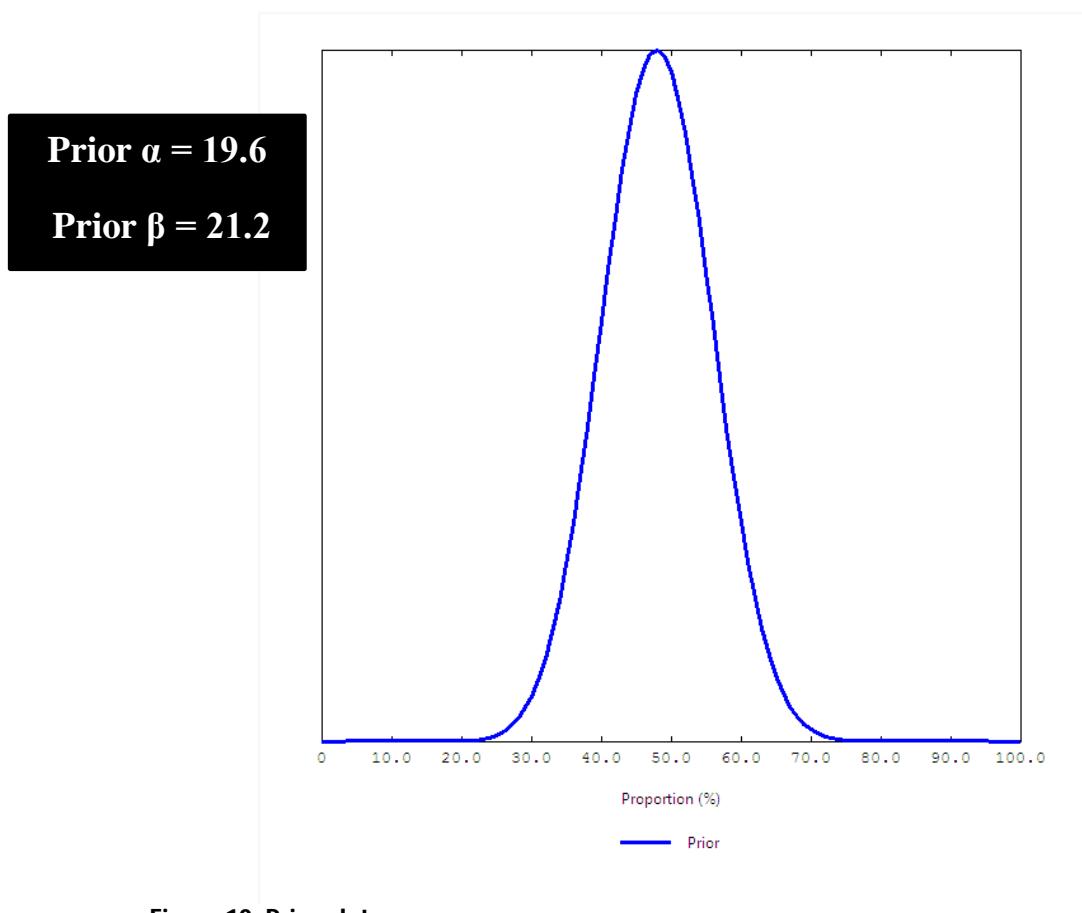


Figure 10: Prior plot

⁷ The Bayes estimate calculator available freely at www.brixtonhealth.com

⁸ FANTA SQUEAC/SLEAC Technical reference – Aug 2012

3.1 Wide area survey

3.1.1 Sampling

The sample size for wide area Survey (SAM cases sample size) was calculated using the formula below;⁹

$$\begin{aligned} &= \frac{\text{mode}(1 - \text{mode})}{(\text{precision} \div 1.96)2} - (\alpha + \beta - 2) \\ &= \frac{0.48(1-0.48)}{(0.13 \div 1.96)2} - (19.6 + 21.2 - 2) = 18 \end{aligned}$$

With a prior mode of 48%, a prior $\alpha = 19.6$, prior $\beta = 21.2$ and a precision of 13%, the sample size for the wide area survey was **18 SAM** cases.

When sampling for the villages, an average village size of 469¹⁰, the percentage of children 6-59 months 16.6%¹¹ and a SAM prevalence of 0.8% were used to get a total of **29 villages** to be visited. These were derived using the formula below;

$$\begin{aligned} n \text{ villages} &= \frac{n}{\text{average villages population} \times \frac{\% \text{population of } 6-59m}{100} \times \frac{\text{Prevalence}}{100\%}} \\ n \text{ villages} &= \frac{18}{469 \times \frac{16.6}{100} \times \frac{0.8}{100}} = 29 \end{aligned}$$

These villages were selected using systematic random sampling from the comprehensive list of villages due to lack of a clear map indicating all villages

3.2 Data collection

Data collection was done for 6 days by 5 teams which comprised of MOH staff as team leaders and IMC field staff. Exhaustive screening was done in all the sampled villages in search of the SAM cases. This was ensured by involving the village heads who provided a guide to show the village boundaries and ensure all the children 6-59 months in all households within the sampled villages were screened. A MUAC tally sheet was used to record the findings for each village. All non-covered cases for both MAM and SAM were referred to the nearest management center (Issued with a MUAC referral slip). A standard questionnaire for non-covered cases was administered for all the SAM non covered cases. The findings for the wide area survey are as analyzed below;

⁹ FANTA SQUEAC/SLEAC technical reference – Aug 2012

¹⁰ 2009 population and housing census

¹¹ DHIS 2013 populations

Table 5: Wide area survey results

SAM Cases in Program	8
SAM case not in Program	16
Total Active SAM cases	24
Recovering Cases in Program	2
Total Cases	26
Point Coverage	42.4% (31.0%- 54.8%)

The assessment recorded point coverage of **42.4% (31.0%- 54.8%)**. Point coverage was appropriate to use owing to Inadequate active case finding noted during the assessment, inadequate community screening and inadequate outreach services especially in the lower parts of Isiolo Sub County.

The plot on the overall program coverage shows a considerable overlap between the prior and the likelihood (prior and likelihood do not conflict). This indicates reliability in setting the prior and thus the qualitative data collected and thus the survey results can be used assertively. The posterior is narrower than the prior showing that the likelihood survey has reduced uncertainty on the coverage.

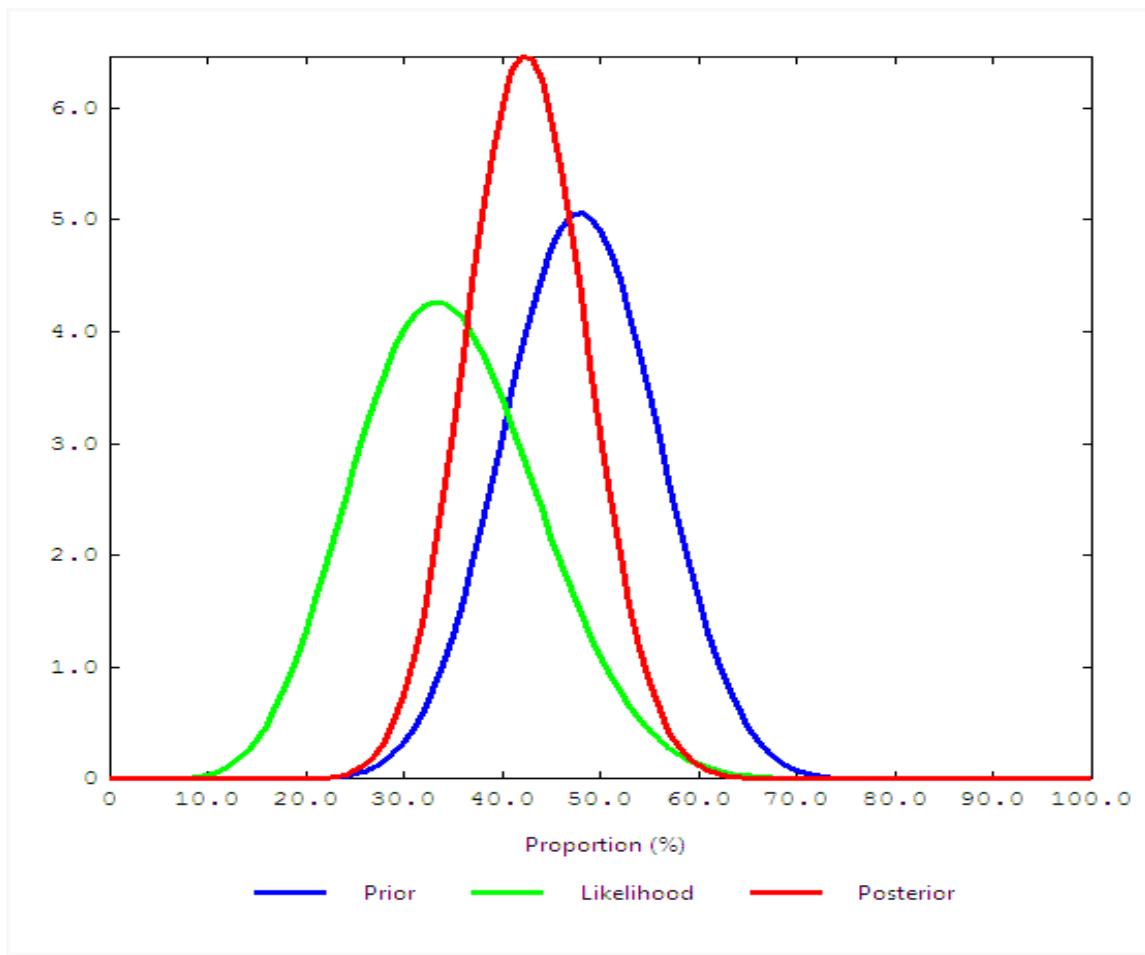


Figure 11: Coverage estimate plot

3.3 Reasons for non-attendance

The assessment sought to get reasons why some SAM cases were not covered by the OTP program. This was by administering a standard questionnaire to the caregivers of all non-covered cases. Below is a graphical representation of the reasons as given by the care givers;

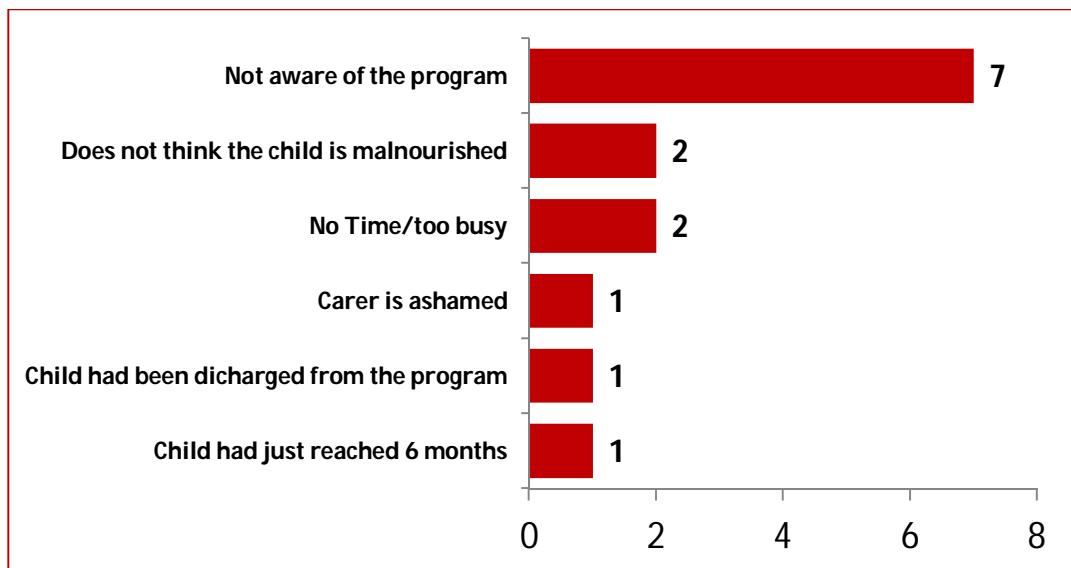


Figure 12: Reasons for Non-attendance, wide area survey.

Note: in 2 incidences, the caregivers were unavailable for interviewing

4. DISCUSSION

The assessment in Isiolo Sub County recorded point coverage of **42.4% (31.0%- 54.8%)**. The OTP program performed below the SPHERE standards of >50% for rural set up. This shows that the program is not adequately meeting its intended need. Meeting need requires both high effectiveness and high coverage. The program data revealed high defaulting rates which negatively affect the effectiveness of the program as well as lowering the program coverage.

The study identified several barriers which greatly lower the coverage of the OTP program. The program has consistently reported high rates of defaulting which are directly related to other barriers. Distance as a barrier contributes to defaulting coupled up by the nomadic lifestyle in some parts which further amplifies the distance. Mothers are the main bread winners in the pastoral communities and in regard to OTP program they prioritize activities which bring food for the other family members at the expense of the OTP client. Inadequate and inconsistent outreaches have also contributed to defaulting. This is in instances whereby it can take over a month without the sites being visited.

There is inadequate community screening and case finding, a major reason why there are so many cases uncovered within the Sub County. 7 out of the 16 non-covered cases cited lack of program awareness as the reason for not being in the program. The community is also poorly mobilized on the OTP program with more men not aware of the OTP program.

Summary of findings

BOOSTER	FINDINGS
Monthly OJT sessions	Interviews with the facility staff(HWs and CHWs) who confirmed monthly sessions
	Observations at facility records showed consistent sessions
Good documentation	Observation at the registers showed good documentation
	Interview with the facility/program staff who reported not to have problems with documentation
Program awareness	Awareness of the program is high among the mothers as evidenced by the IGDs with them
	IGDs with community leaders who reported high awareness of the program
Positive opinion of the OTP program	IGDs with caregivers of children not in the program who appreciate the program
	Interviews with caregivers of children in the program who reported the program has been helpful to their children
	Interviews with facility staff reported that caregivers appreciated the program
Constant supply of RUTF supplies	Observation at the RUTF stores at the facilities showed presence of adequate stocks
	Interviews with the program staff who reported constant supplies
	Interviews with caregivers of children in the program who reported presence of supplies at every visit.
IEC materials	Observations at the health facilities showed presence of IEC materials relevant to the OTP program.
Knowledge of malnutrition	Interviews with caregivers of children not in the program shows mothers are aware of malnutrition
	IGDs with TBAs and THPs with all having knowledge on malnutrition
	IGDs with community leaders indicated knowledge on malnutrition
IMAM training done to health workers	Interviews with health workers who reported to have attended classroom training on management of malnutrition.
Integrated outreaches	The few outreaches carried out are integrated according to the IMC program staff
	Interviews with the CHMT indicated integrated outreaches
	Interviews with facility staff of the link facilities who reported on integrated outreaches
Availability of OTP ration cards	Observation at the program site where the ration cards were present
	Interviews with program staff who said every beneficiary has a ration card
OTP linkage to PR and GFD	Interviews with program staff who link beneficiaries to PR and GFD
Early admissions	Analysis of program data showed early admissions to the program (MUAC near 115mm)
Scaled up health education in health facilities	Observations at the health facilities showed health education schedules made by health workers and CHWs

BARRIER	FINDING
Health seeking behavior first from the herbalist	IGDS with the THPs and TBAs who reported to be treated U5s for minor ailments
	IGDs with community leaders on pathway to care reported treatment of childhood diseases by THPs especially in far distances.
	Interviews with caregivers who reported to take children to THPs for treatment.
Inadequate community screening and active case finding	Interviews with facility staff showed there was no active case finding or community screening
	Observations at the health facilities didn't show records of community screening or active case finding.
Inconsistent outreaches and poor mobilization of the outreach sites	Interviews with program staff who reported inconsistent outreaches due to logistical challenges
	IGDs with caregivers and community leaders who said they never know when outreaches are conducted.
	Interviews with facility staff of the link facility who reported inconsistent outreaches.
Inadequate outreach coverage	Only 26 out of 37 mapped outreach sites are covered.
Nomadic lifestyle leading to defaulting	Interviews with some caregivers of some defaulting children showed movements as the reason for defaulting.
Distance	Mapping out of the distances showed some villages are far (>5kms) from OTP sites.
	Interviews with caregivers showed they took children to THPs due to long distance to the health facilities.
Stigma	Interviews with caregivers indicated they associated malnutrition with HIV/AIDs especially in areas near the towns.
Poor GFD-OTP linkage	Interviews with program staff showed poor linkage in areas with GFD and good linkage in areas with PR
Alcoholism	Program staff cited alcoholism as a major reason for defaulting.
Poor child care practices	Interviews with care givers in urban set up who associate malnourished children with careless mothers who leave children to be taken care of by others.
Weak defaulter tracing mechanisms	Few CHWs hence too busy to do defaulter tracing
	No records of traced defaulters at the facility/OTP sites
Defaulting	Analysis of program data showed high defaulting (>15%)
	Interviews with program staff who said defaulting is a challenge to the program.
Poor community mobilization	IGDs with community leaders and caregivers who said they were not mobilized at times when community screening was being done.
Mismanagement of RUTF supplies	Interviews with the SCHMT indicated that some health facilities had reported poor management of the RUTF supplies.
Sharing of RUTF among the household members	Interviews with caregiver's f children in the program showed that RUTF is shared amongst all children in the household with a malnourished child.
Competing activities	Informal group discussions with caregivers showed that activities to earn a living and the daily meal, e.g. herding and charcoal burning as well as casual labor are prioritized at the expense of the OTP client. This was also confirmed by community leaders and facility staff interviews
Long length of stay in the program	Analysis of exit data showed some beneficiaries have stayed beyond the maximum stay of 8weeks in the OTP program.

5. RECOMMENDATIONS

BARRIERS/ISSUES	RECOMMENDATIONS
Defaulting	<ul style="list-style-type: none"> • Strengthen the defaulter tracing mechanism by actively involving community volunteers and CHWs • Incorporate the MTMSGs in defaulter tracing • Establishment of a master register and circulate it to all health facilities • Involve the local authorities in defaulter tracing • Advocate for better recognition of CHWs
Health seeking behavior first from the herbalist	<ul style="list-style-type: none"> • Scale up health education in the community. • Scale up advocacy to create awareness on child care through barazas, MTMSGs and through the health facilities.
Inadequate and inconsistent outreaches	<ul style="list-style-type: none"> • Mobilization of resources to support more outreaches in hard to reach areas. • Joint planning by partners to ensure outreaches visited are integrated and scaled up while ensuring they are visited regularly.
Inadequate community screening and case finding/poor community mobilization.	<ul style="list-style-type: none"> • Train and involve lead mothers on screening and empower them to do active case finding. • Mobilization of the community on nutrition services.
Distance/nomadic lifestyle.	<ul style="list-style-type: none"> • Scale up of outreaches sites and remapping of the outreach sites. • Engage to local leaders in defaulter tracing in far villages as well as tracing defaulters through the phone.
Stigma	<ul style="list-style-type: none"> • More awareness on malnutrition through community mobilization which will also improve the uptake of nutrition services. This can also be done through the MTMSGs
Poor GFD-OTP linkage	<ul style="list-style-type: none"> • Involve the lead partner in management of the OTP program to ensure good linkage and adequate GFD supplies with a contingency stock for newly linked clients.
Alcoholism/poor child care practices	<ul style="list-style-type: none"> • Establishment of MCG to involve all mothers within the child bearing age in child care and health education.
Mismanagement of RUTF	<ul style="list-style-type: none"> • Proper monitoring by the SCHMT of the RUTF stock supplied to the health facilities. • Emphasizing on proper stock management and stock reporting by each OTP site.
Competing activities	<ul style="list-style-type: none"> • Health education and counseling to mothers on importance of the IMAM program to the child's health • Men involvement in the program to allow mothers time to take children to the facility while carrying out other activities

6. APPENDICES

Appendix 1: Findings of the wide area survey (Isiolo)

#	Village Name	SAM cases in Program	SAM cases NOT in Program	Total SAM Cases	Recovering cases IN program	TOTAL	SFP CASES
1	RAAP	0	1	1	0	1	5
2	NARACHA	1	0	1	0	1	1
3	MLIMA CHUI	0	0	0	0	0	3
4	LEBARSHEREK	0	0	0	0	0	0
5	LOTURO	0	0	0	0	0	2
6	LUPUSI	0	0	0	0	0	0
7	KAWALASH	0	1	1	1	2	3
8	NANTUNDU	0	2	2	0	2	3
9	KIPSING TC	0	0	0	0	0	0
10	NAINGURA	0	0	0	0	0	0
11	KAMPI ZEBRA	0	2	2	0	2	3
12	KISILE	0	0	0	0	0	4
13	AREGAE	0	0	0	0	0	0
14	EPIDING	0	0	0	0	0	2
15	ATIR	0	1	1	0	1	9
16	DAABA CENTRE	0	0	0	0	0	2
17	KAMPI TURKANA	1	0	1	0	1	3
18	MAILI TANO	0	0	0	0	0	2
19	GAME	1	2	3	0	3	4
20	SHAMBANI	0	1	1	0	1	6
21	BULLA WASO	1	3	4	0	4	3
22	BULLA ZAMANI	1	0	1	0	1	0
23	MARILE	0	1	1	0	1	1
24	OLLA JALOLE	0	0	0	0	0	3
25	SLAUGHTER	0	1	1	0	1	5
26	NOMADS	1	0	1	0	1	2
27	KIWANJA NDEGE	1	0	1	0	1	2
28	BULLA SHARIF	0	0	0	0	0	1
29	CHECHELESI	1	1	2	1	3	1
TOTAL		8	16	24	2	26	70

Appendix 2: list of participants

LIST OF PARTICIPANTS			
#	NAME	DESIGNATION	DUTY STATION
1.	Nicholas Musembi	Program manager- IMC	Isiolo
2.	Stephen Kimanzi	M&E Officer	Samburu
3.	Kennedy Musumba	M&E Officer	Nairobi
4.	Leah Ng'aari	Nutritionist	Isiolo
5.	Lucy Akoritsa	Nutritionist	Isiolo
6.	Lydia Otiso	Nutritionist	Isiolo
7.	Mercy Mutua	Community Mobilizer	Isiolo
8.	Jane Mulinge	Nutritionist	Isiolo
9.	Joseph Ogola	WASH officer	Isiolo
10.	Tom Hongo	County Nutrition Coordinator	Isiolo
11.	Wilson Aketch	DHRIO	Isiolo
12.	Saida Abdirahman	District Nutrition Officer	Isiolo
13.	Zahara Hassan	County Lab Coordinator	Isiolo
14.	Claver Kimathi	County Pharmacist	Isiolo
15.	Richard Luusa	DPHO	Isiolo

Appendix 3: Isiolo seasonal calendar.

	Jan	Feb	March	April	May	June	July	Aug	Sep	Oct	Nov	Dec									
Rains season			Long rain period									Short rain period									
Temprature		High temperatures			High temperatures																
Farming		plants all types of plants																			
Labour Men	Available			Available																	
Labour Women	Available			Available																	
Herding	demand for herders is high during long dry periods																				
Migration	High			High																	
Food availability																					
Food prices	High			High																	
Livestock prices	Low			Low																	
Raids	No specific season																				
charcoal	Throughout																				

Appendix 4: SQUEAC guides.

Informal group discussion guide (TBAs, THPs, community leaders, pastoralists, religious leaders &caregivers of children not in the program)

Respondent _____

Village/outreach name: _____ **District** _____ **Date:** _____

1. Knowledge on malnutrition/ case definition/ etiology

2. How do you identify malnutrition

3. How do you treat malnutrition

4. Do you know where malnutrition can be treated/ are you aware of a program which treats malnutrition?

5. How far is the program site from the village?

6. In your opinion, how do you rank the distances (from the village to the OTP site)

Name of the village	Distance in kms	Distance in time(hrs)	Perception of the distance

In- depth interview for caregivers (children in the program)

Facility Name: _____ **District** _____ **Date:** _____

1. Do you know of malnutrition? Probe to get local terms
2. What do you think causes malnutrition? (use the local term for malnutrition)
3. When your child was sick, where did you seek treatment first?
4. How did you know about the program that treats malnutrition?(use the local term)
5. Has the program been beneficial to your child?
6. What would you like to be improved about the OTP program?
7. What would make you not to attend the OTP program promptly/on a weekly basis?(probe for any competing activity, find out if the mother has been attending on every visit)

In depth interview to caregivers of defaulting children

Facility/Village: _____ **District** _____ **Date:** _____

1. What were the reasons for defaulting?(probe for the reasons)

2. What would you like improved to avoid your child and others from defaulting?

Informal group discussions for community leaders (head men, chiefs & assistant chiefs), caregivers on community screening and active case finding

Respondent: _____

Village/Outreach: _____ District _____ Date _____

1. Show the MUAC tape and probe if they have seen it.
 2. Where did you see it and with who.
 3. When did you see it (MUAC) and what was it being used for?
 4. Are there people in this village who use this (MUAC) on your children?
 5. If yes, how often do they come to the village?

Semi structured interview for facility in charges/program staff and CHWs

Respondent: _____

Facility Name: _____ **District** _____ **Date** _____

1. In your opinion, what is the perception of the beneficiaries/community towards the OTP program?
2. Do you have any defaulters in your program?
3. How is defaulting a challenge to the program?
4. When does defaulting occur most and what are the probable reasons for defaulting?
5. How is the defaulter tracing mechanism in this facility?
6. How often do you conduct community screening/ active case finding? (probe when the last one was done)
7. Are there occasions when Plumpy nuts are out of stock?
8. What other programs are linked to the OTP program?
9. Have you attended any IMAM training?
10. What challenges do you find with documentation? (Specify)
11. How often are OJT sessions?
12. How useful are the OJT sessions
13. Does the facility have enough human resource to deliver OTP services? (how many staff serve the OTP clients)

Facility Name: _____ District _____ Date: _____

Observation checklist

Observe at the facility:

1. OTP stocks(if they are available)
 2. Presence of IEC materials
 3. OTP register(if well filled) and take snaps of the register
 4. Beneficiary ration cards (with beneficiaries and blank cards)
 5. Organization of the OTP program
 6. Waiting time(from the time the client gets to the facility to the time she leave)

Appendix 5: Boosters & Barriers (triangulation by source and method)

NO	BOOSTER	SOURCES
1	Monthly OJT sessions	*□€
2	Good documentation	*□€%H
2	Program awareness	*□@ΔCT
4	Positive opinion of the OTP program	*□@
5	Constant supply of RUTF stocks	*□€
6	IEC materials	*□€
7	Knowledge of malnutrition	*O@C+T
8	IMAM training done to health workers	*□
9	Integrated outreach services	@ΔCT
10	Availability of OTP ration cards	*□€
11	OTP linkage to PR and GFD	*□@
12	Early admissions	%€
13	Scaled up health education in health facilities	*□H

NO	BARRIER	SOURCES
1	Health seeking behavior first from the herbalists	ΔO C@
2	Inadequate community screening and active case finding	*□ΔC
3	Inconsistent outreaches and poor mobilization at the outreach sites	ΔO C
4	Inadequate outreach coverage	*ΔC D€
5	Nomadic lifestyle leading to defaulting	*Δ□ D€
6	Insecurity/tribal clashes	Δ□@ C*
7	Distance	*Δ C D€ O□@
8	Stigma	□Δ
9	Poor GFD –OTP linkage	*□
10	Alcoholism	*€
11	Poor child care practices	□Δ C+€
12	Weak defaulter tracing mechanisms	* D€
13	Defaulting	% D€
14	Poor community mobilization	D*Δ CT
15	Mismanagement of RUTF	H□*€
16	Sharing of RUTF among the household members	Δ@*
17	Competing activities	*Δ@CT
18	Long length of stay in the program	%€

KEY/LEGEND	
*	Facility Staff
Δ	Community leaders
O	TBAs/THPs
□	CHWs in the facility
@	Caregivers of children in program
C	Caregivers of children not in the program
D	Caregivers of defaulters
€	Observation
%	Program data
H	DHMT/CHMT
+	Religious leaders
T	Headteacher