



Semi Quantitative Evaluation of Access & Coverage Final report

Kandahar City, Kandahar Province

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Action Contre la Faim

ACF is a non-governmental, non-political and non-religious

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ACRONYMS

ACF	Action Contre La Faim
AHDS	Afghanistan Health and Development Services
BBQ	Booster Barrier and Questions
BPHS	Basic Package for Health Services
C.I	Confidence Interval
CHEWs	Community Health Extension Workers
CHF	Common Humanitarian Fund
CMAM	Community Management of Acute Malnutrition
IDP	Internally Displaced Persons
IED	Improvised Explosive Device
HIS	Health Information Systems
IMAM	Integrated management of Acute malnutrition
LQAS	Lot Quality Assurance Sampling
MUAC	Mid Upper Arm Circumference
OTP	Outpatient Therapeutic Program
PNO	Provincial Nutrition Officer
RUSF	Ready to Use Supplementary Food
RUTF	Ready to Use Therapeutic Food
SAM	Severe Acute Malnutrition
SCI	Save the Children International
SFP	Supplementary Feeding Program
SMART	Standardized Methodology for Assessment of Relief and Transitions
SQUEAC	Semi Quantitative Evaluation of Access and Coverage
WHO	World Health Organization
WHZ	Weight for Height Z Scores

TABLE OF CONTENTS

ACKNOWLEDGEMENTS.....	II
ACRONYMS.....	III
TABLE OF CONTENTS	IV
LIST OF TABLES.....	V
LIST OF FIGURES.....	V
LIST OF ANNEXES	V
EXECUTIVE SUMMARY.....	1
1. INTRODUCTION.....	3
1.1 BACKGROUND INFORMATION.....	3
1.2 SURVEY JUSTIFICATION	5
1.3 SURVEY OBJECTIVES	5
1.4 METHODOLOGY	6
1.5 CHALLENGES AND LIMITATIONS.....	6
2. INVESTIGATION PROCESS	8
2.1 STAGE 1:	8
2.2 STAGE 2	22
2.3 STAGE 3	29
3 CONCLUSION AND DISCUSSION	35
4 RECOMMENDATIONS	31
5. ANNEXES	34

LIST OF TABLES

TABLE 1 MAP OF KANDAHAR	3
TABLE 2 QUALITATIVE DATA ANALYSIS AND DISCUSSION.....	19
TABLE 3: LIST OF VILLAGES FOR HYPOTHESIS TESTING AND RESULTS.....	23
TABLE 4: HYPOTHESIS RESULTS ON PROGRAM AWARENESS.....	23
TABLE 5: FINDINGS OF THE HYPOTHESIS ON COVERAGE.....	24
TABLE 6: HYPOTHESIS RESULTS	25
TABLE 7: BOOSTERS AND BARRIERS (SIMPLE AND WEIGHTED SCORES).....	26
TABLE 8: WIDE AREA RESULTS	31

LIST OF FIGURES

FIGURE 1 ADMISSIONS OVER TIME WITH CONTEXTUAL DATA (DATA FROM 8 MOBILE SITES)	10
FIGURE 2: SC REFERRALS FROM THE 8 MOBILE SITES (N=8)	11
FIGURE 3: ADMISSIONS BY MOBILE SITE (SEPTEMBER 2014 - APRIL 2014).....	12
FIGURE 4: RANDOMLY SELECTED NEAR AND FAR VILLAGES	12
FIGURE 5: MUAC ON ADMISSION (N=1343)	14
FIGURE 6: STANDARD PROGRAM INDICATORS (DATA FROM THE BENEFICIARY CARDS)	16
FIGURE 7: VISIT OF DEFAULT (DATA FROM THE BENEFICIARY CARDS, N=458)	17
FIGURE 8: AVERAGE LENGTH OF STAY BASED ON 1286 CURED CASES FROM THE BENEFICIARY CARDS	18
FIGURE 9: REASONS FOR NON-COVERAGE	25
FIGURE 10: HISTOGRAM.....	28
FIGURE 11: PRIOR PLOT	29
FIGURE 12: COVERAGE ESTIMATE	33
FIGURE 13: REASONS FOR NON-ATTENDANCE (WIDE AREA SURVEY)	34

LIST OF ANNEXES

ANNEX 1: KANDAHAR SQUEAC ASSESSMENT PLAN	34
ANNEX 2: QUALITATIVE DATA COLLECTION VILLAGES	35
ANNEX 3: SOURCES OF QUALITATIVE DATA.....	36
ANNEX 4: BOOSTERS AND BARRIERS WITH SOURCES	37
ANNEX 5: WIDE AREA RESULTS TEMPLATE.....	38

EXECUTIVE SUMMARY

ACF- Afghanistan supported Medair to conduct a SQUEAC assessment in Kandahar city of Kandahar province. This was conducted between 4th -25th May 2015 covering the mobile sites which are supported by Medair to supplement the existing services under the BPHS. The assessment had the objective of determining the coverage estimate for the program and the factors affecting the program implementation (boosters and barriers) and recommending actions for improvement of the coverage in the outreach program. The assessment also targeted building the capacity of the program staff on coverage assessment using the SQUEAC methodology and also on the use of the SQUEAC tools in the routine evaluation of the program. By use of the Bayesian technique, the assessment reported coverage estimate of **48.2% (40.9% - 55.8%)** using the single coverage estimator¹.

The assessment employed the three stages of SQUEAC namely stage 1 (**identification of areas of high and low coverage**), **Stage 2 (hypothesis setting and testing)** and **stage 3 (wide area survey)**. Several factors were identified as barriers to program coverage. The major issues identified were defaulting, which included defaulters in the early visits, distance from some villages to the mobile sites and lack of awareness about the program in the community. Other negative factors were the regular movements of the population mostly caused by insecurity, a strict culture hindering access, limited community activities by the CHEWs and little engagement of community leaders in programming among others. The positive factors identified were early admissions to the program, short length of stay in the treatment, which in turn enhanced a positive opinion of the program; some villages had heightened community activities enhancing knowledge which made the caregivers to be able to identify a malnourished child leading to early admissions to the program. There was proper management of RUTF which was a key factor in avoiding defaulting related to stocks despite a reported two months stock out period.

Based on the identified factors, several recommendations to improve programming were made: 1) It was recommended that mapping of all the villages be done to ensure effective targeting. the BPHS partner (AHDS) needs to be involved to ensure the mapping is effectively and objectively done. 2) Initiation of transfer cards was recommended as a measure to control defaulting, as well as enhancing sensitization to the beneficiaries on the use of the cards in

¹ Safari Balegamire, Katja Siling, Jose Luis Alvarez Moran, Ernest Guevarra, Sophie Woodhead, Alison Norris, Lionella Fieschi, Paul Binns, and Mark Myatt (2015). A single coverage estimator for use in SQUEAC, SLEAC, and other CMAM coverage assessments. Field Exchange 49, March 2015. p81. www.enonline.net/fex/49/singlecoverage

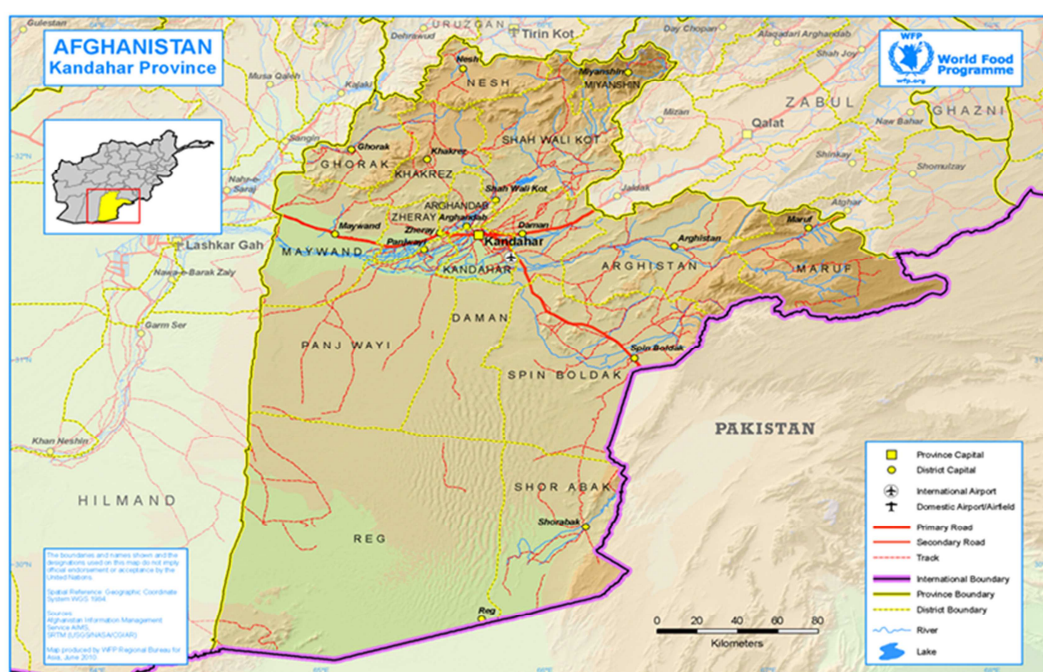
case one has to move away from the program area. 3) Enhance community mobilization by involving the community leaders in the program. The key persons in the community need to be mobilized on the importance of the program, the target beneficiaries and their role in the program in ensuring the entire community knows about the program and owns it. 4) There is a need to review the CHEWs targets of household to ensure each has got a target achievable in a month putting into consideration the logistical facilitation available. Where possible, more CHEWs can be engaged with improved logistical and remuneration support to ensure better motivation for better delivery of services.

1. INTRODUCTION

1.1 Background information

Kandahar province is located in the southern region of the country and has borders with Zabul in the East, Uruzgan in the North, Helmand in the West and an international border with the Balochistan Province of Pakistan in the South. The province covers an area of 47676 km². More than four-fifths of the area is made up of flat land (84.5%) while nearly a tenth of the province is mountainous or semi mountainous terrain (7.6%).

Table 1 Map of Kandahar



Kandahar has a total population of 990,100². There are approximately 144,450 households in the province, and households on average have 7 members. Around 68% of the population of Kandahar lives in rural districts while 32% lives in urban areas. Around 51% of the population is male and 49% is female. The major ethnic group living in Khandahar province is Pashtoons. This includes major tribes such as Barakzai, Popalzai, Alkozai, Noorzai and Alezai. Pashtu is spoken by more than 98% of the population and in more than 98% of villages³.

² CSO population statistics 2012.

³ UNAMA (United Nations Assistance Mission in Afghanistan)

The main source of income in the province is agriculture - with the better-off depending on the sale of fruit, vegetable and staples, and the poor primarily depending on work on the farms of the better-off. Poor households sell a portion of the wheat, maize and vegetables they receive from in-kind payment immediately after harvest to cover pressing food and non-food needs. Livestock is sold throughout the year with peak sheep and goat sales happening from November to February.

Kandahar city is the capital of Kandahar province, which is located in the southern region of Afghanistan. The city has an estimated population of 1, 06,863⁴ persons with 16% of the population being children under five years. Data on the number of villages is not clear in the city due to the frequent movements in some areas. The majority of the villages are named after a mosque, market, a street or after a prominent person or market. Based on this classification, there are 1119⁵ villages in Kandahar city. A Malek heads the major villages, with the small villages headed by a 'small' malek. There is a deeply rooted culture in the entire province with the city set up where no females are allowed out of the home without being accompanied by a male member of the family (maharam). Married women are not allowed out of their homes for three consecutive hours, becoming one of the biggest hindrances to access of services.

The assessment-sampling frame included 57 villages, which are the villages within the coverage area of the mobile sites with an estimated population of 77,730. The final sampling frame had 53 villages after 4 were excluded from the sampling due to security reasons. These are the coverage areas of the eight (8) mobile sites currently supported by Medair for IMAM services.

The National nutrition survey conducted in 2013⁶ identified a SAM rate of 8.4% (4.7- 14.7 95% C.I) by WHZ in the entire Kandahar province. Another SMART survey was conducted in July 2014⁷ Kandahar City, Daman and Spinboldak districts of Kandahar Province, which showed a SAM, rate of 3.3 % (1.8 - 6.2 95% C.I.) WHZ while the prevalence of SAM by MUAC was 6.4 % (4.0 - 10.1 95% C.I.). This indicates a serious nutrition situation in the province at large; a high number of SAM cases were found in the wide area survey even after calculating the sample size with the lowest interval of the prevalence.

⁴ No reliable population figures in the province

⁵ WHO population projections 2015

⁶ Afghanistan National Nutrition Survey, July 2013

⁷ Kandahar SMART survey, July 2014 by Save the Children International

Medair has been supporting the treatment of acutely malnourished children in Kandahar city, by running mobile clinics in hard to reach areas where population are not reached by the BPHS services offered by AHDS, the BPHS partner. Distance to the health facilities, strict culture limiting women's time out of the home and the frequent insecurity incidences in the area are the key factors, which hinder access to the health facilities and thus the need to offer outreach services in the area to supplement the BPHS services.

There are three different nutrition programs running in Kandahar city. AHDS under the BPHS program offers the BPHS package in the health facilities in the city. SCI has also been running a program under the ECHO funding targeting the IDP population in the district. Medair has been offering IMAM services in villages far from the Static Health facilities through Mobile clinics. This program is run independently, with the only link with the BPHS being the referral of SAM inpatient cases to the provincial hospital. Currently in the program, there are eight supported nutrition mobile clinic sites. The program has engaged the services of Community Health Extension Workers who are attached to the villages with their main role being passing nutrition messages, screening and referral of malnourished children. Trained nurses employed by Medair who offer treatment of both SAM and MAM visit each clinic site once in a week. There are two supervisors in the program, who oversee the program activities in all the sites and report to the nutrition manager. All the data about the beneficiaries is uploaded to an existing database by the data entry staff that also uploads it to the MOPH his portal.

1.2 Survey Justification

Medair has been running nutrition mobile clinics in eight (8) sites within Kandahar city. Distance to the static facilities and the large coverage population per facility have necessitated the outreach programs as a significant population cannot be reached by the BPHS services. As much as the services are to supplement the services offered under the BPHS program, the Mobile clinics are run independently from the BPHS clinics. It was therefore important to assess the coverage of the outreach programs and give recommendations to improve the coverage of the IMAM program in Kandahar city outreach program which would be advised by the factors identified in the assessment. There was also need to train the program staff and build their capacity on the use of the SQUEAC methodology.

1.3 Survey objectives

The objectives of the survey were:

- To determine program coverage for SAM program in the outreach program

- To determine boosters and barriers which are relevant to the program coverage
- To strengthen the capacity of the IMAM program staff on SQUEAC methodology
- To provide recommendations for future programming

1.4 Methodology

The assessment employed the SQUEAC methodology which involves three stages⁸

- Stage 1: Analysis of routine program data to identify possible areas of low and high coverage and qualitative data collection from the key persons in the community to help build the hypothesis on high and low coverage.
- Stage 2: building the hypothesis and testing the hypothesis through a small area survey.
- Stage 3: Estimating the overall coverage by use of Bayesian technique.

1.5 Challenges and limitations

Likely Duplication of Services

The assessment covered the villages, which were the catchment area swept by the mobile clinics. The mobile program is however run parallel with the BPHS program with the target population being almost the same; therefore, it is highly likely that there is duplication of the IMAM services. Some of the beneficiaries were IDPs despite a program specifically for IDPs being in existence in the same area. There are currently three programs in the city; the mobile sites run by Medair, the static health facilities offering the BPHS package supported by AHDS and the mobile sites targeting the IDP population run by Save the Children International.

Hot Weather

The assessment was done during a season when the temperatures were high. It is a norm in the area that all the men sleep before mid-day during the hot weather and this made it impossible to get authorization to enter the households to collect the required data from the

⁸ M Myatt et al 2012 Semi-Quantitative Evaluation of Access and Coverage (SQUEAC)/Simplified Lot Quality Assurance Sampling Evaluation of Access and Coverage (SLEAC) Technical Reference. Washington, DC: FHI 360/FANTA

men and also authorization to speak to other family members. Data collection time was therefore limited to between 7:30 am to 11:30 am including travelling time to the field.

Insecurity

Kandahar city and the province at large are known for frequent attacks by Taliban and other insurgencies. The local community lives in fear with movement within the city being limited. Even though all villages in the survey area were validated for assessment, movement was done cautiously and teams would only work comfortably in the field for few hours. Four villages were excluded from sampling in the wide area survey owing to security reasons. Supervision and mentoring of the teams in the field was completely not possible due to the danger exposed to the teams. There were several security incidences during the month which threatened the success of the assessment.

2. INVESTIGATION PROCESS

The survey employed all the three stages of the SQUEAC methodology. This was the first SQUEAC assessment to be conducted in the area and therefore it was important to evaluate the overall coverage estimate of the program in addition to the boosters and barriers affecting the program.

Stage 1: In this stage, quantitative data about the program was analyzed with all the admission cards being analyzed to give information on admissions and outcomes. Qualitative data was also collected from several key informants within the survey area to give the perceptions of the program actors on the program.

Stage 2: This stage confirmed the qualitative information which was collected in stage one by coming up with a hypothesis and testing it through a small area survey in some purposively selected villages. A hypothesis on program awareness together with a hypothesis on program coverage were formulated and tested.

Stage 3: An estimate of the coverage of the program was achieved by use of the Bayesian technique. This involved getting an ideal sample size of SAM cases to be looked for in the selected villages, where the SAM cases were categorized into SAM in program (MUAC <115mm) SAM not in program (MUAC <115 mm) and recovering SAM in program (MUAC >115mm).

2.1 STAGE 1:

2.1.1 Identification of Possible Areas of Low and High Coverage

This being the initial stage of the SQUEAC assessment involved collection and collation of nutrition information together with other contextual information which could have an impact in the nutrition situation of the surveyed area. Both quantitative and qualitative data were collected and analyzed to get a better understanding of the program.

2.1.1.1 Quantitative Data Analysis

During the quantitative data analysis, all the beneficiary cards since the program became operational were analyzed (Sept 2014). Analysis of the data from the existing database was

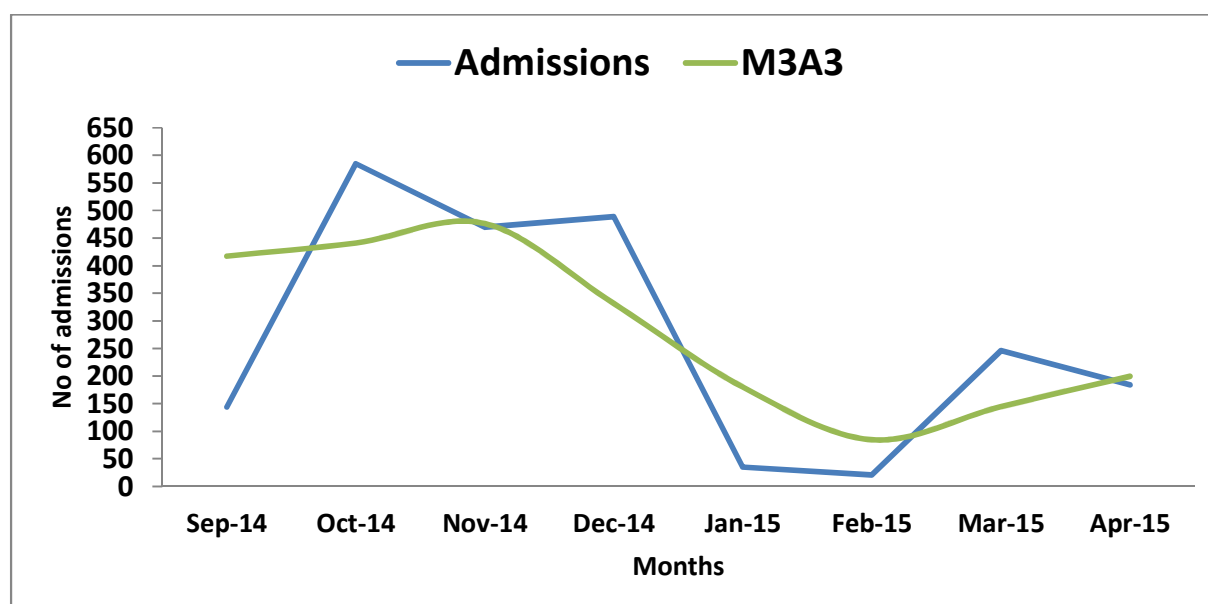
also done to identify any possible discrepancies with program reporting and identify errors in documentation in the beneficiary cards. Data analyzed involved admissions over time (all admissions by WHZ, MUAC and Oedema), MUAC measurement on admission (for children admitted with MUAC), admissions by village, program exits (cured, deaths, defaulters and non-response), the visit of defaulter and average length of stay in the program. Contextual data including morbidity patterns of common childhood diseases, weather patterns, labor demands, RUTF supply and security patterns were used to relate with the program admissions and the performance. As shown in the program data analysis, some of the contextual data had a clear impact on the program.

Monthly Admissions

Monthly admissions can be an outcome of several factors, both positive and negative factors. An increasing trend of admissions may indicate heightened nutrition activities leading to admissions or a good treatment seeking behavior from the caregivers. This can as well be as a result of a worsened nutrition situation, leading to more malnourished cases and also can indicate poor program management leading to poor admissions in the program.

Admissions data from the mobile sites were analyzed to see the admissions trends and try to understand them. These data have been related to the context of the period out of stock of RUTF from December 2014 to February 2015. This disturbance played a major part in having very few admissions in the month of January and February. Interviews with the program nurses on the actions taken when there were stock outs showed that the available stocks were preserved for the existing beneficiaries and no new admissions were done. Migrations in the program area also seemed to have a likely impact on the admissions. It is however noting that the likely increase in admissions in the month of March can be highly attributed to the resumed supply of RUTF other than the migrations to the program area. The moving averages (M3A3) show the admissions having a decline.

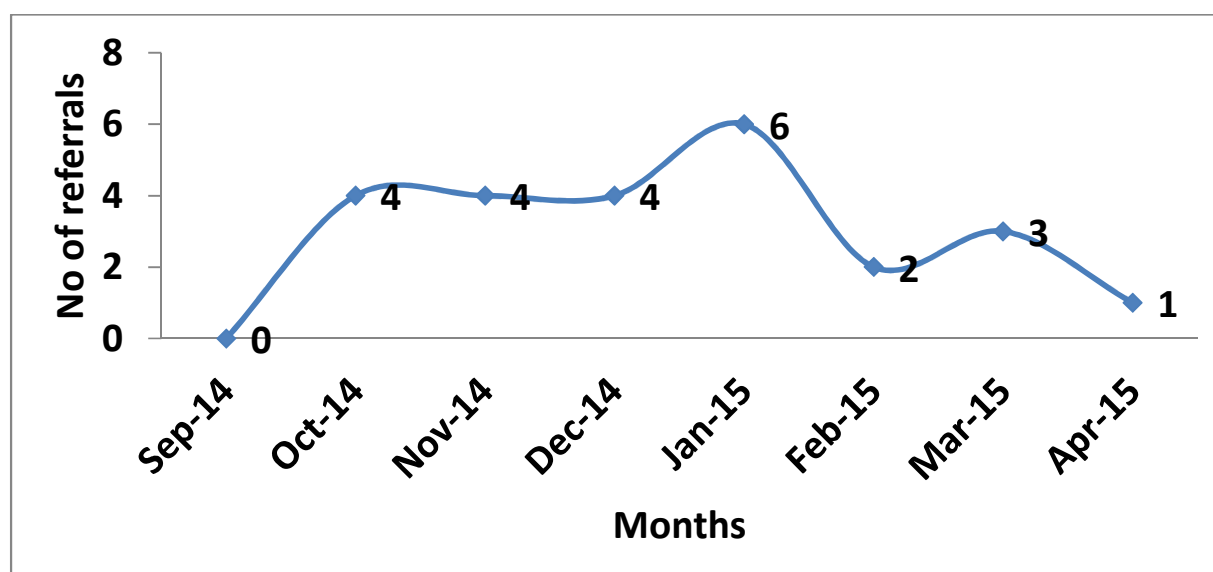
Figure 1 Admissions over time with contextual data (data from 8 mobile sites)



	Sep-14	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
Medair Support								
RUTF supply	Present	Present	Present	Start shortage	No RUTF	No RUTF	Present	Present
Weather patterns	Cold	Cold	Very cold	Very cold	Very cold	Warm	Warm	Hot
Migrations	Normal movements					Migrations in		
Fever	High incidence							
URTI				High incidence				

The program does not have the logistical capacity to stabilize SAM cases with complications, and therefore they are referred to the provincial hospital for management. There were few cases referred for stabilization over the program period. There is however a gap in monitoring or follow up of the referred cases in way to assess their progress in the stabilization center and the outcomes, or even whether they were admitted in the stabilization center.

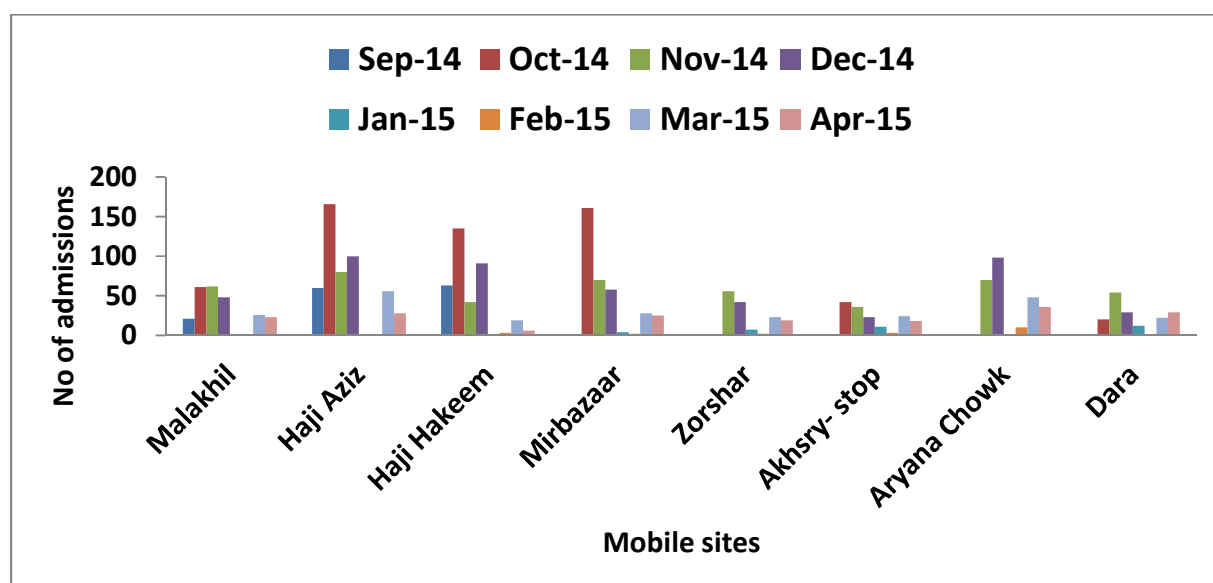
Figure 2: SC Referrals from the 8 Mobile sites (N=8)



Admissions per Mobile Site and Villages

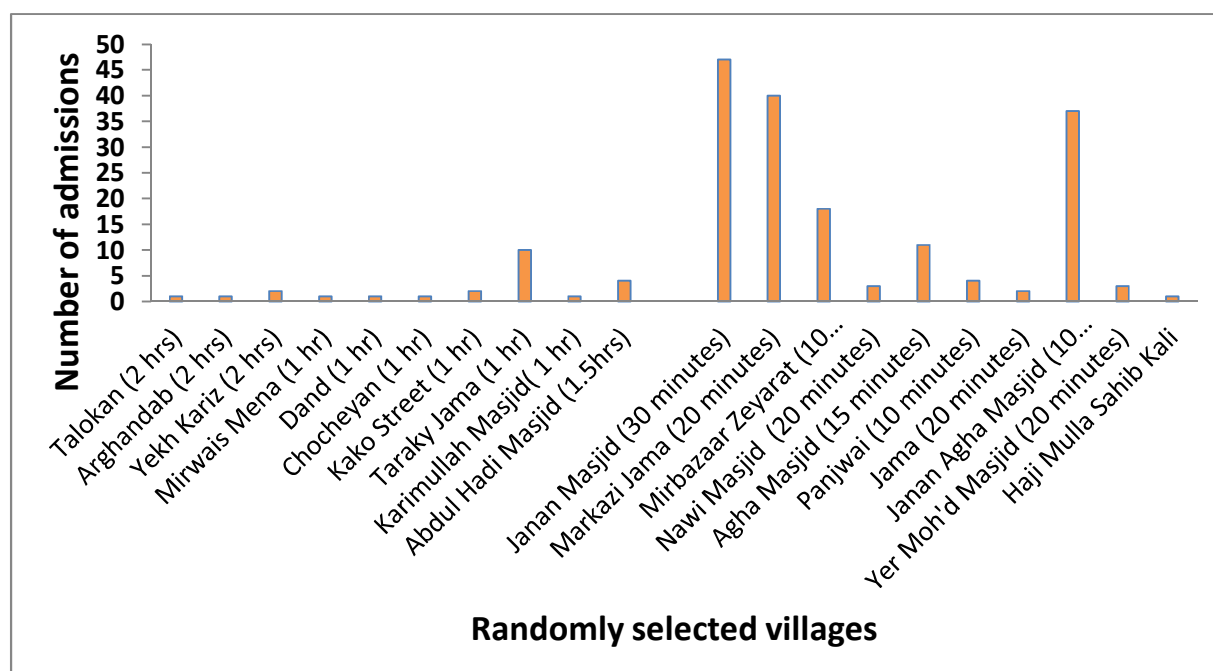
Analysis of the admission data was also done per the mobile sites and per villages. This was to identify if there was a likely difference in coverage (admissions) in the specific sites and villages. This was assessed based on the possible impact distance to the service delivery point can have on admissions and on coverage of the program. The sites covering villages from far distances had low admissions as compared to the facilities with a coverage population around the mobile site. As shown in the figure below, Haji Aziz, Haji Hakeem and Mirbazaar which were situated in the midst of one big village had the highest admissions as the average distance to the farthest household was 30 minutes' walk.

Figure 3: Admissions by Mobile site (September 2014 - April 2014)



A random selection of the villages both far and near showed that distance was a notable factor in the admissions. There were however near villages with notable low admissions, concluding that villages with low population figures are however likely to record low admission numbers even with their proximity to service delivery points.

Figure 4: Randomly selected near and far villages



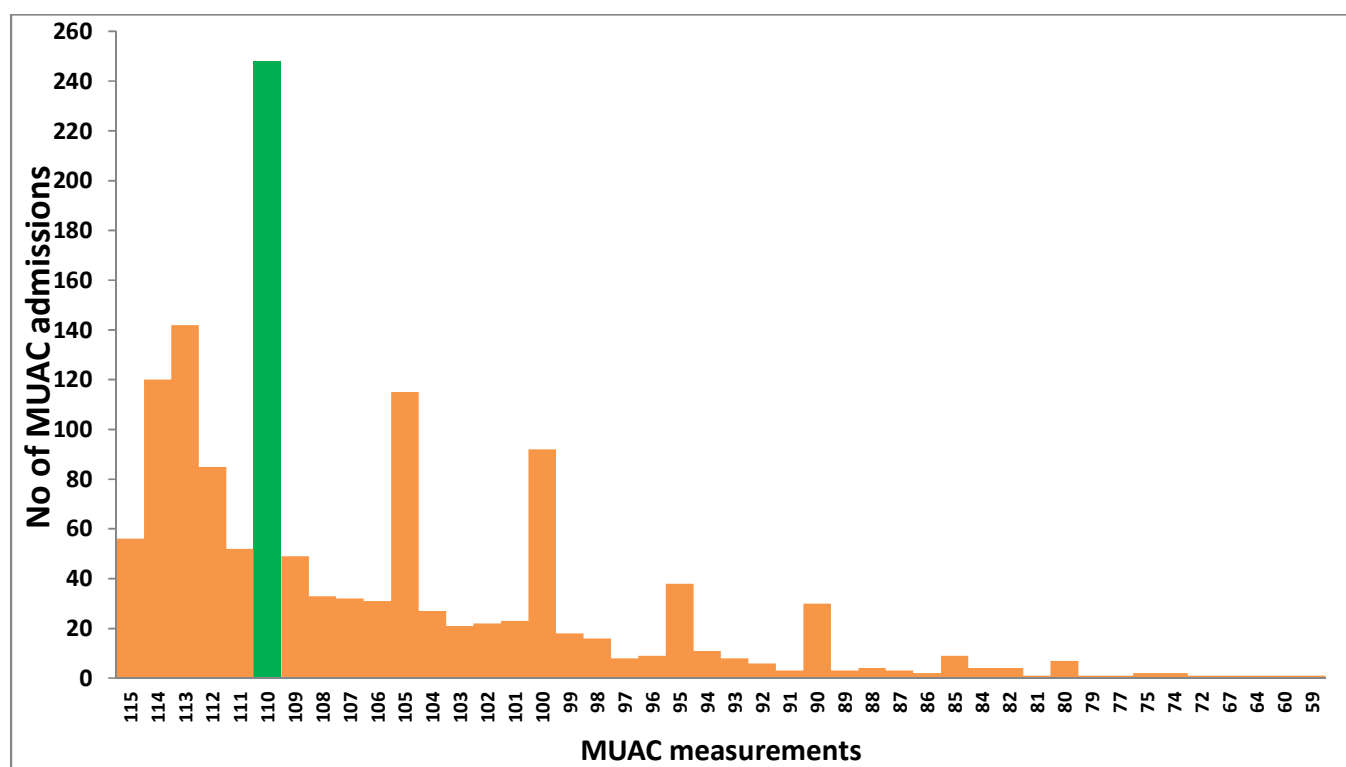
MUAC on Admission

MUAC measurement on admission can be used to determine if there is prompt treatment seeking by caregivers in not only malnutrition but also when their children fall sick. Mothers with good care practices will take their children for treatment immediately they become sick and vice versa. Program activities like awareness creation, community screening and active case finding contribute to early admission whereas lack of such activities and a negative opinion of the program will delay the admissions to the program.

Analysis of the MUAC measurements can also help identify possible errors in the measurement taken and wrong admissions whereby admissions can be seen to crowd at preferred rounded measurements with .0 or .5.

There were remarkable early admissions in the program, with the median MUAC being 110mm. there were evident measurement preferences of 110mm, 105mm, 100mm, 95mm and 90mm suggesting there were wrong measurement taking or poor reading of the measurements. There are also extremely low measurements recorded in the OTP program which is very unlikely. A child with a MUAC measurement of 59mm for instance is extremely wasted and with likely malnutrition related complications hence very low likelihood that the child will be an OTP case but a case for inpatient management.

Figure 5: MUAC on Admission (N=1343)



Standard Program Indicators

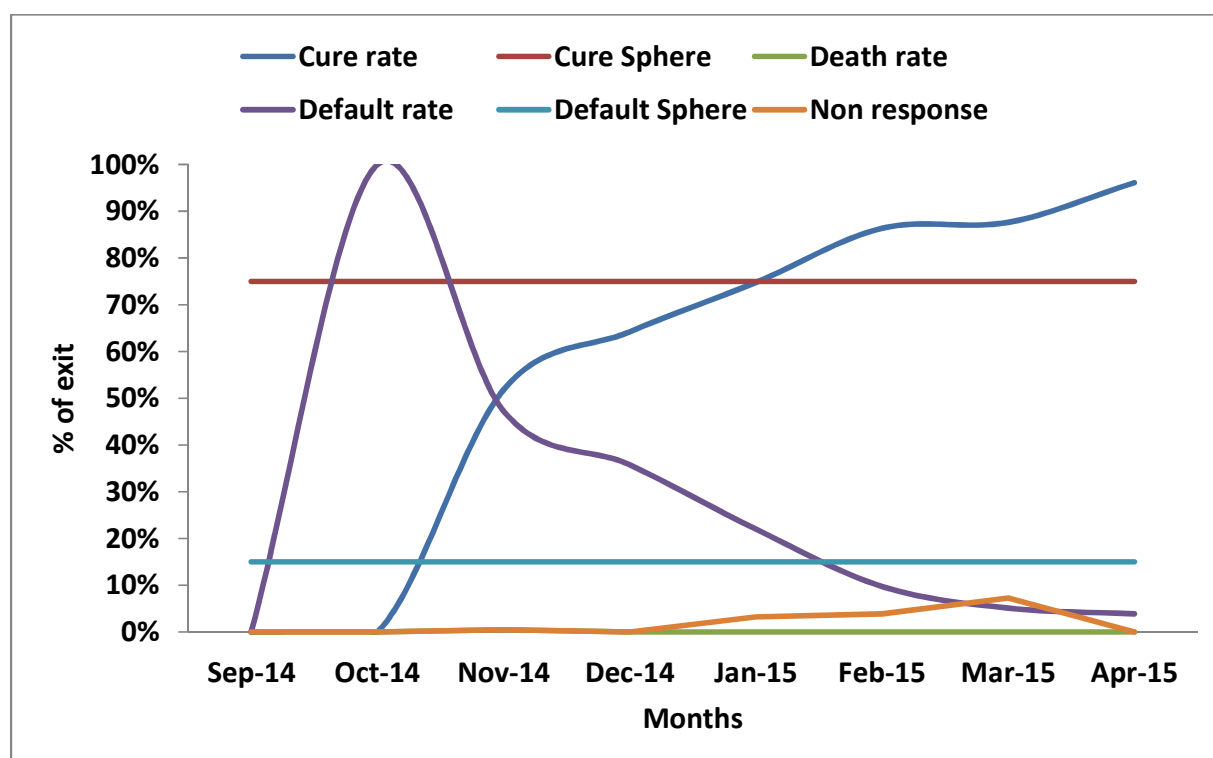
Program performance indicators, which include the cure rate, the default rate and the death rate, are important indicators when evaluating the coverage of a nutrition program. A program with a high coverage is expected to have consistently high cure rates and low defaulting with few or no deaths as children admitted to the program need to be retained in treatment until they are cured. For the CMAM protocol, the cure rate is close to 100% in uncomplicated incident cases (i.e., incases with mid-upper arm circumference [MUAC] at or just below the admission criteria and cases with mild edema). Adherence to treatment protocols by both the caregivers and the treatment staff highly determines the outcome of the SAM management where the caregivers need to avoid practices like intra household sharing of RUTF whereas the treatment staffs need to ensure they offer quality treatment as per the guidelines. This includes timely follow up monitoring sessions at the OTP sites, preferably weekly visits.

The exit indicators analyzed in the assessment included the cure rate, default rate, death rate and non-response in the program. The death rate in the program was way below the

sphere standard of <10% for the entire program period. The cure rate and the default rate were therefore compared with the sphere standards. There are notable high rates of defaulting (>15 %) for much of the program period. Cure rates were also low (<75%) from September to January. One of the factors noted during the assessment was the use of different exit criteria's in the program. Between September and February, the SFP program was not running and so the exit criteria used was a MUAC >125mm for two consecutive visits. This explains why there were few cured cases in the first three months of the program as the child admitted with a MUAC <115mm will take a considerable length of time to reach 125mm. The SFP program was initiated in the month of February and then the exit criteria in the OTP program changed to >115mm for two consecutive visits. Despite the confusion brought by using two different exit criteria, defaulting was identified as a barrier to the program. According to the latest IMAM guideline for Afghanistan, the exit criteria for both SFP and OTP where MUAC is used as the admission criteria should be MUAC equal or greater than 12.5 cm for 2 consecutive visits⁹. This therefore indicates there is a gap in implementing the guidelines and an IMAM training using the new guidelines may be necessary to all the staff involved directly or indirectly in the management of the malnourished children.

⁹ IMAM guidelines for Afghanistan, January 2014

Figure 6: Standard program indicators (data from the beneficiary cards)



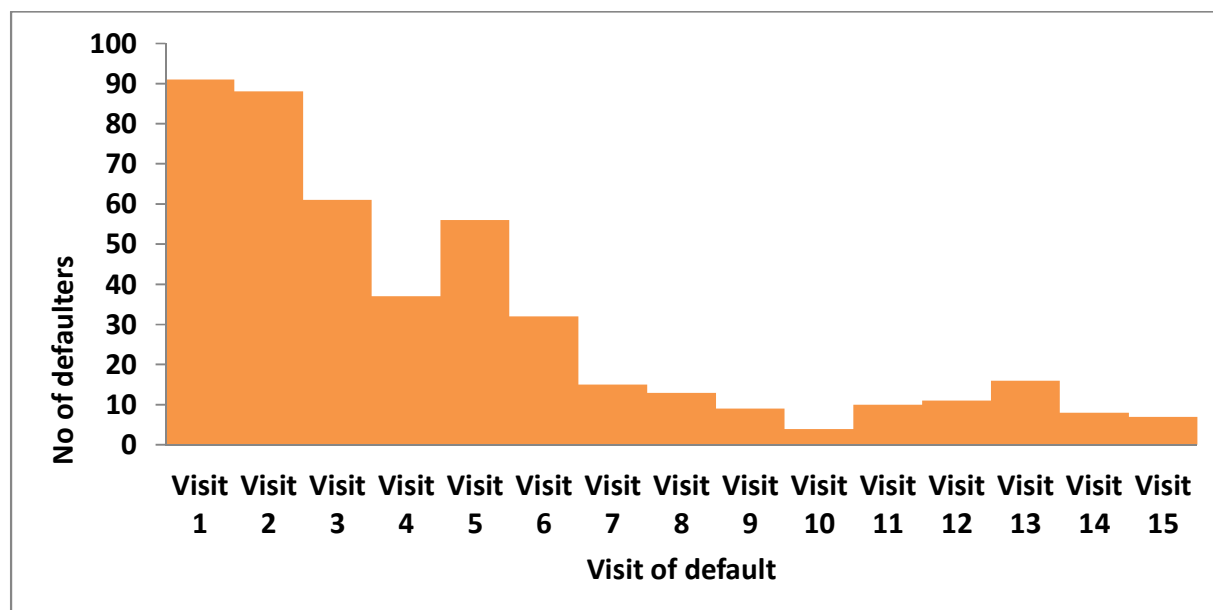
Time of Default

This was the analysis of the last visit the SAM child was attended to (last seen) at the OTP site to identify the quantity and quality of treatment the child received before defaulting. Early defaulting (less than 4 weeks) in the program can be an indicator of a low coverage program and as a result a program with a negative opinion. Children who default early receive treatment of no significance and hence end up with the same episode of malnutrition and more likely to deteriorate out of management. Late defaulters usually get out when they have progressed in the recovery process and so they are highly likely to be ongoing with recovery or even recovered of malnutrition. Children who are not progressing well in the program are likely to default when the caregivers don't see the importance of the treatment as compared to the children progressing well.

The below analysis from the program data shows that there was early defaulting. The data included the unmarked defaulters identified in the beneficiary cards. In reference to the trends in defaulting, high rates of defaulting were noted in the early months of the program. It is highly likely that defaulting occurred due to lack of adequate mobilization about the

program and defaulting reduced as awareness increased. There is also a possibility that most of the defaulters in the program are continuing beneficiaries in the other programs running in the same location. The graph below puts a further emphasis that defaulting is a serious challenge to the program with the trends being high and occurring early in the program.

Figure 7: Visit of Default (data from the beneficiary cards, N=458)



Average Length of Stay

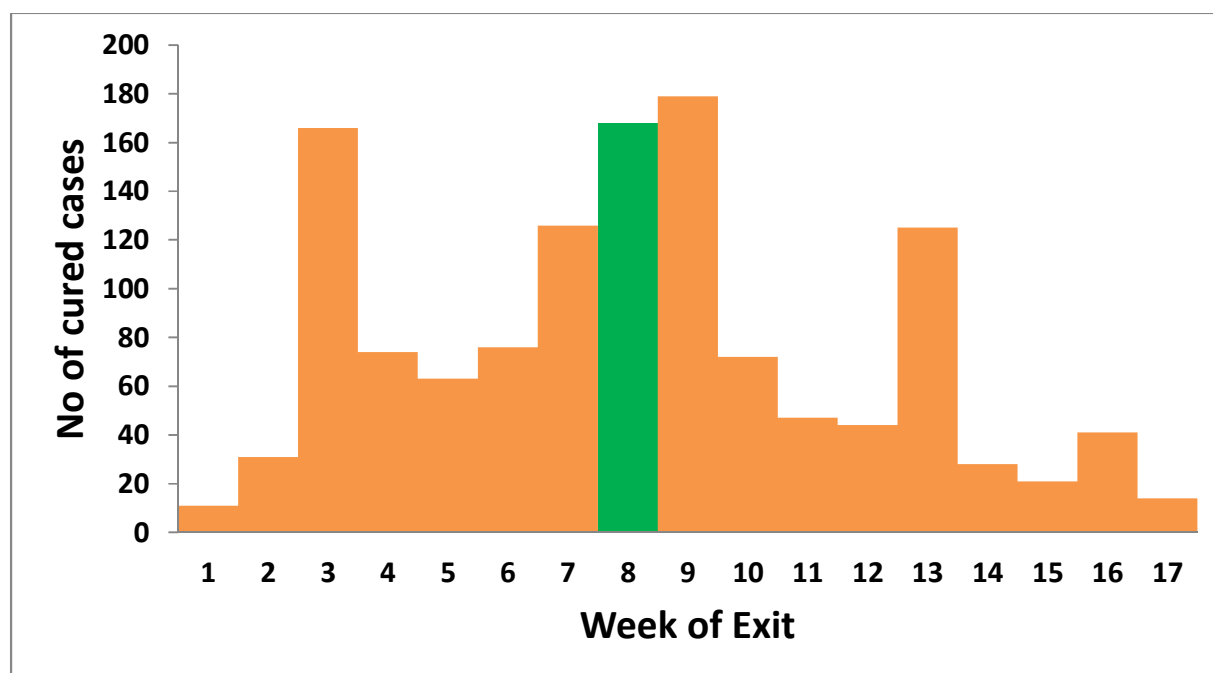
Analysis of the length of stay was done for all the cured cases. The length of stay was calculated in weeks to ascertain on average the duration taken to cure a child of an episode SAM. The maximum stay in the program is 4 months¹⁰, but a child who is admitted early (immediately after becoming malnourished) will stay for a shorter period since they will have a likely quick recovery with good observation of the treatment protocols.

The average length of stay as per the program data was 8 weeks. It's worth noting that two exit criteria were used at different stages of the program. There were children who were recorded to have cured with less than four visits, which is unrealistic for a child to have cured. Once admitted, a child has to reach the exit criteria for two consecutive visits. The “early” discharges may indicate an error in the documentation where some absenteeism was

¹⁰ Afghanistan national IMAM guideline , January 2014

not recorded. With the maximum stay being 16 weeks, there were a few overstay in the program noted.

Figure 8: Average Length of stay based on 1286 cured cases from the beneficiary cards



2.1.1.2 Qualitative Data Collection

As part of the SQUEAC process, qualitative data was collected to supplement the quantitative data and try to identify further possible areas with low and high coverage. A total of 15 villages were visited for the qualitative data collection whereby meetings were held with key people including the maleks, mullahs, community members, program beneficiaries, and school and madrassa teachers amongst other community leaders¹¹. Program nurses were also interviewed as well as the CHEWs working in the program. The villages visited were selected based on their varying characteristics. Villages far and near, high admission and low admission, villages with nomadic lifestyles, villages with evident high defaulting, villages with low or no defaulting were selected¹². The methods used to collect the data were informal group discussion, semi structured interview, in depth interviews and observation at the mobile site.

¹¹ See annex 3 on sources of qualitative data

¹² See annex 2 for list of villages for qualitative data collection

After each day's data collection, all teams converged and with the help of the SQUEAC officer discussed all the findings. The process ensured that all the information was triangulated by source and method. This involved daily organization of data using the BBQ approach (Barrier, Booster and Question) where the information was analyzed to a booster, a barrier or advised on more information to be collected. A summary of the sources of information are as shown in the table below.

Table 2 Qualitative data analysis and discussion

Positive Factors (Boosters)	Explanation
Knowledge on the causes, signs and symptoms of malnutrition	Interviews with caregivers, community leaders the traditional midwives reported that most of the community members can identify a malnourished child by mentioning most of the signs and symptoms of malnutrition
Screening by the CHEWS in the community	Most of the cases were referred by CHEWs. Interviews with mothers in some villages showed that there are CHEWs who go door some times in screening children
Positive opinion of the program from the mothers - RUTF is seen as medicine and food	There were instances where mothers said they could buy RUTF if it was sold in the shops since it could cure more than malnutrition. Interviews with mothers of beneficiaries reported that the program has been useful in curing their children. Community leaders and mullahs said it was more of medicine than food
Knowledge of the OTP program	Knowledge of the program was high in the near villages as compared to the far villages. In the far villages there was however some knowledge. This was reported by all the community informants interviewed.
Weekly visits at the mobile clinics	All the mobile sites are visited on a weekly basis. This is important for the monitoring of the OTP beneficiaries. This was confirmed by interviews with the program nurses and the program supervisors
Some involvement of maleks in the mobile sites.	In villages where mobile sites are stationed, Maleks usually give some messages to the beneficiaries. However there was reported conflict between maleks of different villages which is majorly based on tribal differences

	leading to some believing the program is to some selected communities.
Proper stock management to avoid defaulting	There was a reported stock out for three months (December to February) during which admissions were stopped to preserve the available stocks for the already existing beneficiaries.
Early MUAC admissions	The median MUAC on admission was 110mm. most of the beneficiaries from the MUAC admission data were admitted to the program with a MUAC near to the cut-off point.
Short length of stay in the program	According to the analysed data on exits, the average length of stay in the program was 8 weeks which is ideal. There were only a few overstay in the program at 17 weeks, one week more than the maximum stay.

Negative Factors (Barriers)	Explanation
Distance from some of the villages to the mobile sites	Several villages were more than one hour walking distance to the mobile sites. Analysis of admissions vs distance showed that there were few admissions in such villages. Distance was also reported to be a factor in passing of nutrition information.
Early defaulting	Analysis of the data on defaulting showed that most of the defaulting had occurred within the first 4 visits
Lack of awareness about the program from some mothers especially in the far areas	This was reported in many of the far areas where interviews with mothers of children not in the program, as well as maleks, mullahs and other community members reported little or no awareness of the program.
Lack of health education in the villages on malnutrition	Through the interviews with the mothers in the community, lack of health education on nutrition component was lacking. Most of the mothers quoted the health education done on immunization.
Less involvement of the community leaders in the nutrition program	Several maleks reported less involvement in the nutrition mobile clinics. Some maleks in some villages even reported lack of awareness about the program
Vast coverage area for the CHEWS to cover (800-1000 Households)	Currently, a CHEWS covers between 800-1000 households. This may cover several villages and with no proper facilitation to reach them. This is

	one of the reasons why far areas in the villages are not well covered with nutrition services.
Home management of malnutrition where accessibility of the program is poor	Home management of malnutrition by use of some specific herbs mixed with milk and beans was reported as an option when the distance to the service delivery point is far. This information was collected through group discussions with Maleks, Mullahs and mothers in the community.
Strict culture where some women are not allowed out of the home for more than 3 hours hence not possible to travel to the program site	During the small area and wide area data collection, one of the reasons why malnourished children were not in the program was lack of permission to go to the OTP sites by the family members. Interviews with mothers also reported lack of permission as the main reason why mothers with malnourished children will not have them enrolled in the nutrition program.
Some CHEWs are not fully accepted to pass messages in the community	In some villages, the CHEWs reported that the information they give to the community is taken lightly. This shows that the community does not trust the source of information, due to the CHEW not being fully accepted by the community.
Lack of transport facilitation for CHEWs to cover their entire area	The CHEWs in the program are not given a transport allowance or transport mean to enable them reach the far villages/ the farthest parts of the big villages. This was reported by the CHEWs as the major challenge to meeting the entire community and offering nutrition services entrusted to them.
Crowding and long waiting time at the mobile sites	Observations by the SQUEAC team were made in some mobile sites to report on the organization of the program. The mobile sites serve a big populations causing crowding at the sites and mothers waiting for long to be served. In one site a mother reported not to have been served after waiting for some hours.
Lack of a waiting area to protect the community from the harsh weather condition	The assessment was conducted at a season when the sun was scorching. Mothers who attended the mobile site had to wait to be served in an open area with little or no shade. This can be a difficult situation if it was a rainy season, it would be hard for the mothers to wait.

2.2 STAGE 2

2.2.1 Hypothesis (setting and testing)

This stage was to confirm the qualitative data collected in stage one. The data collected from the surveyed areas suggested that coverage was unlikely to be even in all the areas. there were clear differences in admissions in the villages, with some villages having very few admission while others showed high admissions. After the qualitative data collection and analysis, the major issue identified was the lack of program awareness in specific areas which was translating to low program coverage.

Villages far (>1hour walking distance) from the mobile site were hypothesized to be having low program awareness with areas near (<30 minutes walking distance) the mobile sites having high program awareness. The hypothesis is ***“Program awareness is high in villages near the mobile sites and low in villages far from the mobile sites”*** was informed by the following reasons;

- ❖ Interviews with key informants in far areas indicated less program awareness as compared to the villages which were near to the mobile sites
- ❖ Villages far from the mobile sites had relatively low admissions as compared to the villages near the mobile sites
- ❖ There CHEWs in the program area complained of lack of transport facilitation and therefore concentrated on the near villages only with the far villages attended to only occasionally.

To test this hypothesis, a ‘small survey’ was conducted in villages with the said characteristics with each side of the hypothesis including 5 nearby selected villages (<30 minutes walking time) and 5 others villages who were far (> 1 hour walk)¹³ . In each selected village, 5 caregivers were randomly selected and interviewed to assess if they were aware of the program using a simple guide to test awareness. The classification of the distance of the villages to the mobile site was done based on the perception of distance , information which was triangulated from different sources to conclude that a distance <30 minutes walking was near, between 30minutes and 1 hour was moderate and > 1 hour was far.

¹³ See table below on the Hypothesis findings

Table 3: List of villages for Hypothesis testing and results

No	Village name	Perceived distance to mobile site	Number of mothers Aware of the program	Number of mothers not aware of the program
1	Kobi	Far	1	4
2	Talib Jan Ghazi Kale	Far	4	1
3	Malakhal	Far	1	4
4	tooru tikhla	Far	2	3
5	Janan Kalai	Far	3	2
6	Khair Aabad	Near	4	1
7	Haji Aziz	Near	3	2
8	Troko Jamal Mosque	Near	3	2
9	Mirbazar jaman Masjid	Near	5	0
10	Haji Quri Sab	Near	4	1

The hypothesis was tested by applying the simplified LQAS formula $d = (n/2)$ in comparison with the 50% sphere standard for coverage for rural areas¹⁴. For awareness to be classified as high, the number of mothers aware of the program was supposed to be greater than the decision rule (d). The table below explains the results.

Table 4: Hypothesis results on program awareness

Villages far from the Mobile clinic site		Conclusion
Coverage Target	50%	The number of mothers aware of the program (11) is less than 13. Therefore awareness was confirmed to be low.
Sample size(Total mothers interviewed)	25	
Decision Rule	$D = n/2$ $D = 25/2 = 12.5 = 13$	
Mothers aware of the program	11	
Villages near to the mobile clinic site		Conclusion
Coverage Target	50%	The number of mothers aware of the program (19) was greater than 13; therefore the hypothesis was confirmed to be high.
Sample size(Total mothers interviewed)	25	
Decision Rule	$D = n/2$ $D = 25/2 = 12.5 = 13$	
Mothers aware of the program	19	

¹⁴ The assessment was done in Kandahar city district but the targeted population has a rural lifestyle hence the 50% coverage standard

2.2.2 Hypothesis on Program Coverage

To further assess the impact program awareness had on the program coverage, another hypothesis on program coverage was formulated and tested in the same villages where the hypothesis on program awareness was tested (program coverage is high in villages near the mobile sites and low in villages far from the mobile sites). Active and adaptive case finding was used to look for the SAM cases in the villages with those cases not covered being referred to the nearest OTP site. The hypothesis was tested by applying the simplified LQAS formula $d = (n/2)$ against the 50% sphere standard for coverage for rural areas.

Table 5: Findings of the hypothesis on coverage

No	Village name	Perceived distance to mobile site	SAM cases in the Program	SAM cases not in the program	Recovering cases in the program
1	Kobi	Far	1	3	0
2	Talib Jan Ghazi Kale	Far	1	2	0
3	Malakhal	Far	2	2	0
4	Tooru tikhla	Far	2	3	7
5	Janan Kalai	Far	1	3	6
6	Khair Aabad	Near	3	4	7
7	Haji Aziz	Near	0	4	0
8	Troko Jamal Mosque	Near	3	2	0
9	Mirbazar jaman Masjid	Near	1	2	0
10	Haji Quri Sab	Near	3	2	2

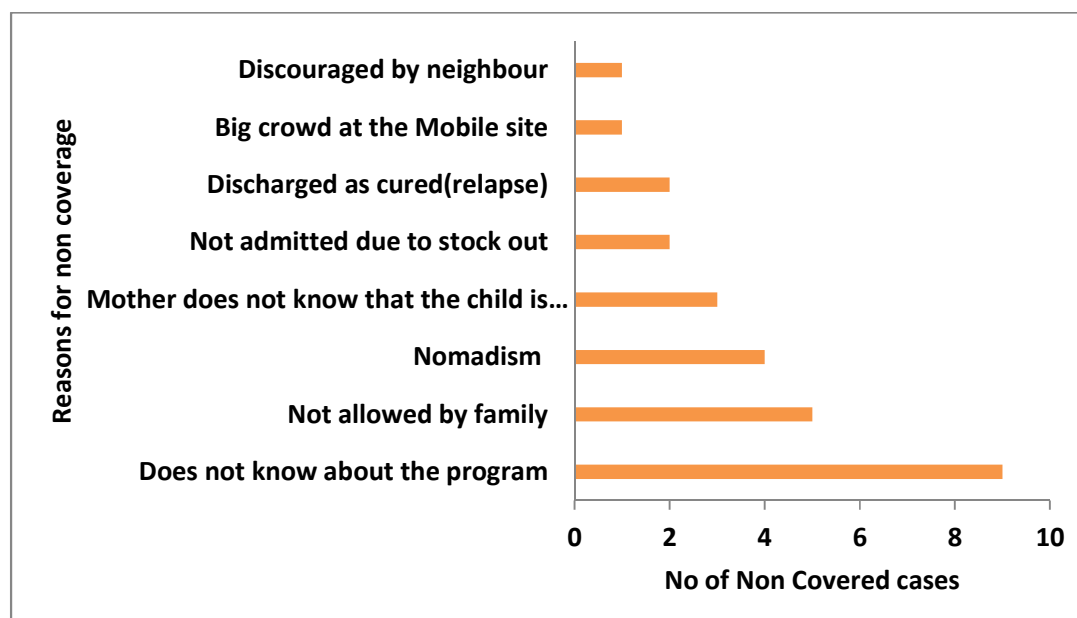
The null hypothesis was rejected, as shown by the analysis of the results in table 6 below. Coverage was not satisfactory in both near and far villages. Lack of program awareness is a hindrance to access of services, and even though awareness in near villages was reported to be high, a significant number of mothers were not aware of the program. Interviews with key community members reported that some did not have clear knowledge of the program, which means the community key personnel were unlikely to take part in activities which would improve access and coverage of the program.

Table 6: Hypothesis results

Villages near to the mobile clinic site		Conclusion
Coverage Target	50%	The number of SAM cases covered (10) was less than 12 which was the decision rule. Therefore the hypothesis that coverage was high in areas near to the mobile clinic sites was rejected
Sample size (Total SAM cases)	24	
Decision Rule	$D=n/2$ $D=24/2=12$	
No of SAM cases covered	10	
Villages far from the mobile clinic site		Conclusion
Coverage target	50%	The number of SAM case who are covered (7) was less than 10 and therefore the hypothesis on low coverage villages far from the mobile clinic site was confirmed
Sample size (Total SAM cases)	20	
Decision Rule	$D=n/2$ $D=20/2=10$	
No of SAM cases covered	7	

A standard questionnaire for the non-covered cases was applied to all the caregivers of the malnourished children not in the program. The most reported reason why children were not covered was the lack of program awareness justifying the lack of program awareness reported in the qualitative data collection. The other reasons are as seen in the figure below.

Figure 9: Reasons for non-coverage



2.2.3 Developing the prior

Building the prior involved incorporating all the information collected so far in the survey to show a belief of what coverage of the program is likely to be. All the boosters and barriers were organized and each given a simple and a weighted score. The weighted score given to a booster or barrier was based on the effect it had on coverage and how much it was confirmed by different sources. A total of the boosters score (based on the lower value anchor (0) and the barrier score (based on the upper value anchor 100%) were derived as shown in the table below.

To ensure triangulation in the developing the prior, three method were used; an average of the simple scores, an average of the weighted scores and the prior value from the histogram (belief about coverage).

Table 7: Boosters and barriers (Simple and weighted scores)

	Booster	Simple Score	Weighted Score	Barrier	Simple Score	Weighted Score
1	Knowledge on the causes, signs and symptoms of malnutrition	5	4	Distance from some of the villages to the mobile sites	5	5
2	Screening by the CHEWS in the community	5	3	Early defaulting due to nomadic lifestyle	5	4
3	Positive opinion of the program from the mothers - RUTF is seen as medicine and food	5	4	Lack of awareness about the program from some mothers especially in the far areas	5	3
4	Knowledge of the OTP program	5	3	Lack of health education in the villages on malnutrition	5	2
5	Weekly/biweekly visits at the mobile clinics	5	3	Less involvement of the community leaders in the nutrition program	5	3
6	Some involvement of maleks in the mobile sites.	5	2	Vast coverage area for the CHEWS to cover (800-1000 households)	5	2
7	Proper stock management to avoid defaulting	5	3	Home management of malnutrition where accessibility of the program is poor	5	1
8	Early MUAC admissions	5	3	Strict culture where some women are not allowed out of the home for more than 3 hours hence not possible to travel to the program site	5	3

9	Short length of stay in the program	5	2	Some CHEWs are not fully accepted to pass messages in the community	5	2
10				Lack of transport facilitation for CHEWs to cover their entire area	5	2
11				Crowding and long waiting time at the mobile sites	5	3
12				Lack of a waiting area to protect the community from the harsh weather condition	5	3
TOTAL		45	27	TOTAL	60	33
LOWER COVERAGE VALUE		0	0	HIGHEST COVERAGE VALUE	100	100
SCORE		45	27	SCORE	40	67

Weighted Scores

All the boosters and barriers was given a score of between 1 (weak) and 5 (strong). This depended on how much the booster or barrier was confirmed to be true by the different sources and methods and the impact it had to coverage. Factors, which were confirmed by many sources and methods, were given high scores.

The total sum of the boosters was added to the lowest possible coverage $(0 + 27) = 27\%$

Total sum of the barriers was subtracted from the highest possible coverage $(100 - 33) = 67\%$

Prior mode from the weighted boosters and barriers $\frac{27\% + 67\%}{2} = 47\%$

Simple Scores

It was assumed that all the boosters and barriers can have the same effect to coverage and so each factor was given the maximum score of 5. The total sum of the simple boosters was added to the lowest possible coverage $(0 + 45) = 45\%$

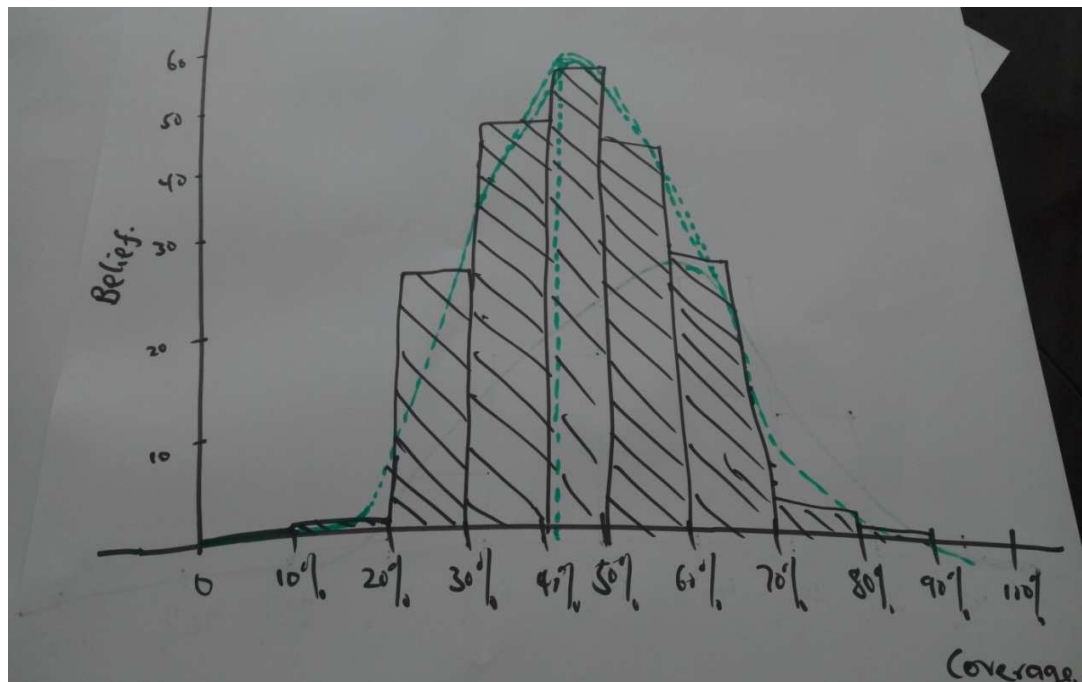
Total sum of the simple barriers was subtracted from the highest possible coverage $(100 - 60) = 40\%$

Prior mode from the simple boosters and barriers $\frac{45\% + 40\%}{2} = 42.5\%$

Histogram

This was the belief about coverage based on the already available information. The lowest coverage was thought to be around 20% with the highest possible coverage being around 80%. The coverage estimate after plotting the beliefs was thought to be around 41% as shown in the figure below.

Figure 10: Histogram



The overall prior mode was therefore calculated by taking the mean of the three modes calculated above

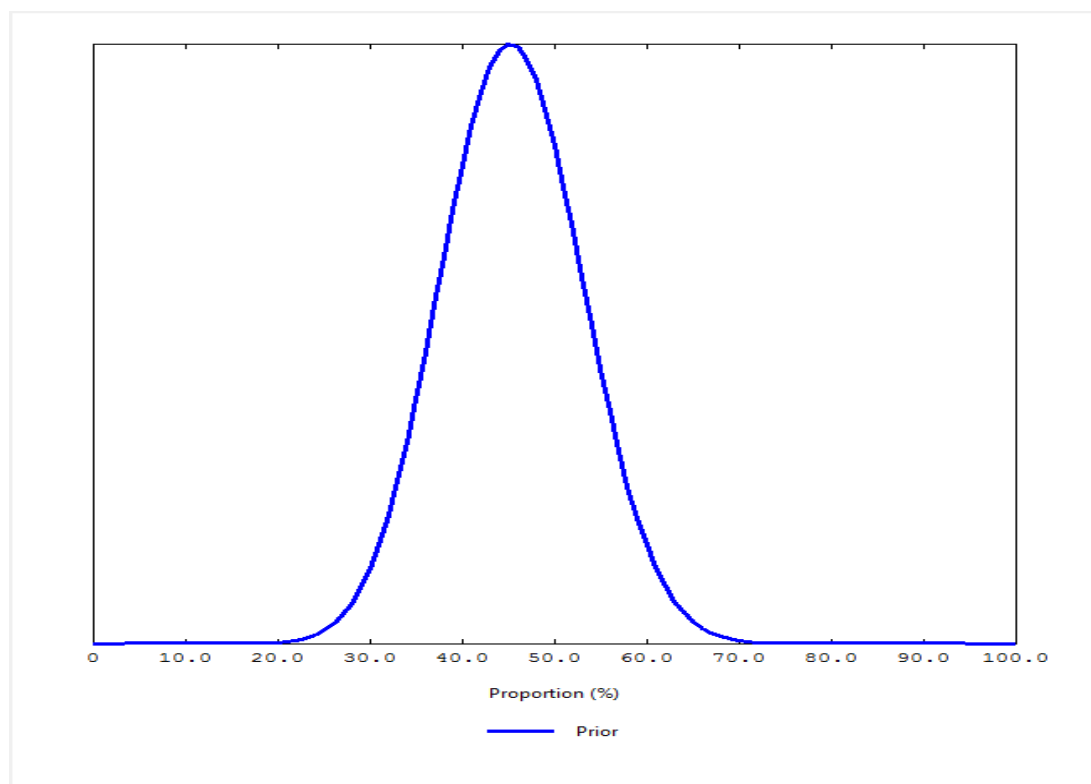
$$\frac{47\% + 42.5\% + 41\%}{3} = 43.5\%$$

Prior Plot

The prior mode value of 43.5% was used to plot the estimate coverage on the Bayes SQUEAC Coverage Estimate Calculator (version 3.01)¹⁵. This was obtained by adjusting the prior α and prior β values to have the curve at approximately 43.5% with an uncertainty of ± 25 . This was the first time a coverage assessment was being done in Kandahar (mobile program) thus a high level of uncertainty was expected. The plot is as shown below:

¹⁵ This is the latest version of Bayes estimate calculator and is available freely at www.brixtonhealth.com

Figure 11: Prior plot



2.3 STAGE 3

This was the final stage of the SQUEAC assessment, which was done with an objective of estimating the coverage of the program by use of the Bayesian technique. Qualitative information on the reasons why some children were not in the program was also collected which gave more barriers to access the SAM treatment program in the study area.

2.3.1 Wide Area Survey

To ensure that we get an overall coverage estimate of the program, we needed to calculate a sample of the SAM cases to look for in the survey. This was calculated as shown below¹⁶. A sampling frame from which to select the villages from was identified, which included 57 villages. After analyzing the accessibility and the security situation of each village, a total of 54 villages from which to sample the required villages were agreed upon with 3 villages excluded due to security reasons.

¹⁶ See sub title on minimum SAM sample size

2.3.2 Sample Size Calculation

Sample size calculation for the wide area survey involved 2 stages whereby the first stage was to calculate a minimum sample size for SAM cases. To calculate the minimum sample size for the SAM cases, the formula below was used:

$$N = \frac{\text{mode}(1-\text{mode})}{(\text{precision} \div 1.96)^2} - (\alpha + \beta - 2)^{17}$$

Where mode was 43.5%, precision of 10%¹⁸, prior α = 19.4 and prior β = 23.3. The sample size derived was **54 SAM cases**

The second stage involved calculating the sample of the villages required to attain the number of SAM cases in the sample. this was done using the below formula where the parameters used were village size of 1066¹⁹, 16%²⁰ as the percentage of children Under 5s and a SAM prevalence of 1.8%²¹. The village sample size was **18 villages**.

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

Systematic random sampling was used to select the 18 villages from the updated village list. The frame had a total of 57 villages but excluded four villages from the sampling due to insecurity hindering access to the villages.

2.3.3 Data Collection

Data collection was done in 4 days, with each team visiting one village per day. All the children 6-59 months were screened with MUAC²² in the identified villages. Each team had a sachet of RUTF and RUSF to help the caregiver differentiate the children admitted in the OTP

¹⁷ FANTA SQUEAC technical reference

¹⁸ High prevalence of SAM and population not sparsely populated

¹⁹ Population projections used for polio campaigns by WHO, Updated 2015

²⁰ Proportion of children 6-59 months in Kandahar city, WHO projected proportion

²¹ SMART survey 2014 by save the children (lower interval of SAM by MUAC)

²² Sample size was calculated with MUAC prevalence

and the SFP programs. All the SAM cases not admitted to the OTP program were referred to the nearest OTP sites with the help of a referral slip, both the mobile sites and the stationary clinics. A standard questionnaire to get reasons for not being in the program was administered to all the SAM children not in the program.

2.3.4 Coverage Estimates

The wide area survey found a total of 88 active SAM cases and 28 recovering cases in the program. This was significantly above the calculated sample size of 54 SAM cases. Door to door screening of all children was done in all the sampled villages and with lack of reliable population figures, the village size may have had a bigger population size than the one used in calculation of the sample size. The results from the wide area data collection are as shown below:

Table 8: Wide area results

A	SAM Cases in Program	34
B	SAM case not in Program	54
C	Total Active SAM cases	88
D	Recovering Cases in Program	28
E	Recovering cases not in program (calculated)	10
F	Total Cases	116
Coverage estimate ²³		48.2% (40.9% - 55.8%)
		z = -0.44, p = 0.6573

The coverage of the program was reported to be 48.2%, slightly short of the sphere standard of 50% for coverage in rural areas²⁴. A single coverage estimate was used to get the program overall coverage. This was used by including the recovering cases out of the program using the formula below

²³ (A+D)/F

²⁴ Sphere handbook, 2011

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

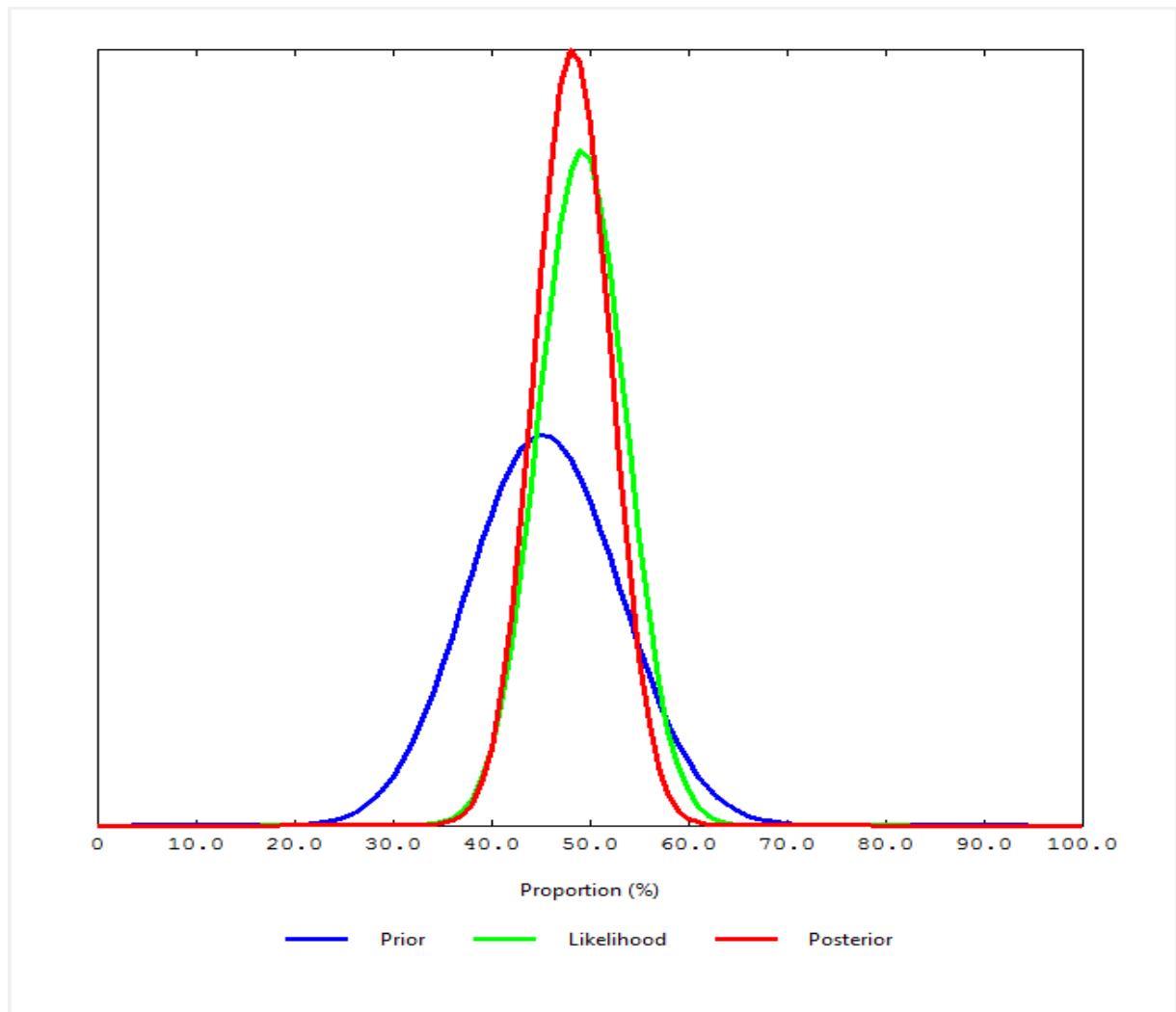
Whereby k is the ratio of the mean length of an untreated episode²⁵ to the mean length of a CMAM treatment episode²⁶ (7.5/2.0), R_{in} is the number of SAM cases recovering in the program, C_{in} the number of active SAM cases in the program and C_{out} the number of active SAM cases not in the program.

The coverage plot shows that the posterior has reduced the uncertainty in the survey while also showing a considerable overlap between the prior, posterior and likelihood. This shows that there was reliability in setting the prior and that the information in the survey can be confidently used.

²⁵ This value is commonly used when estimating future programme case-loads from prevalence estimates

²⁶ This was the value calculated from the program data in the survey where the average length of stay was 8 weeks equivalent to 2 months.

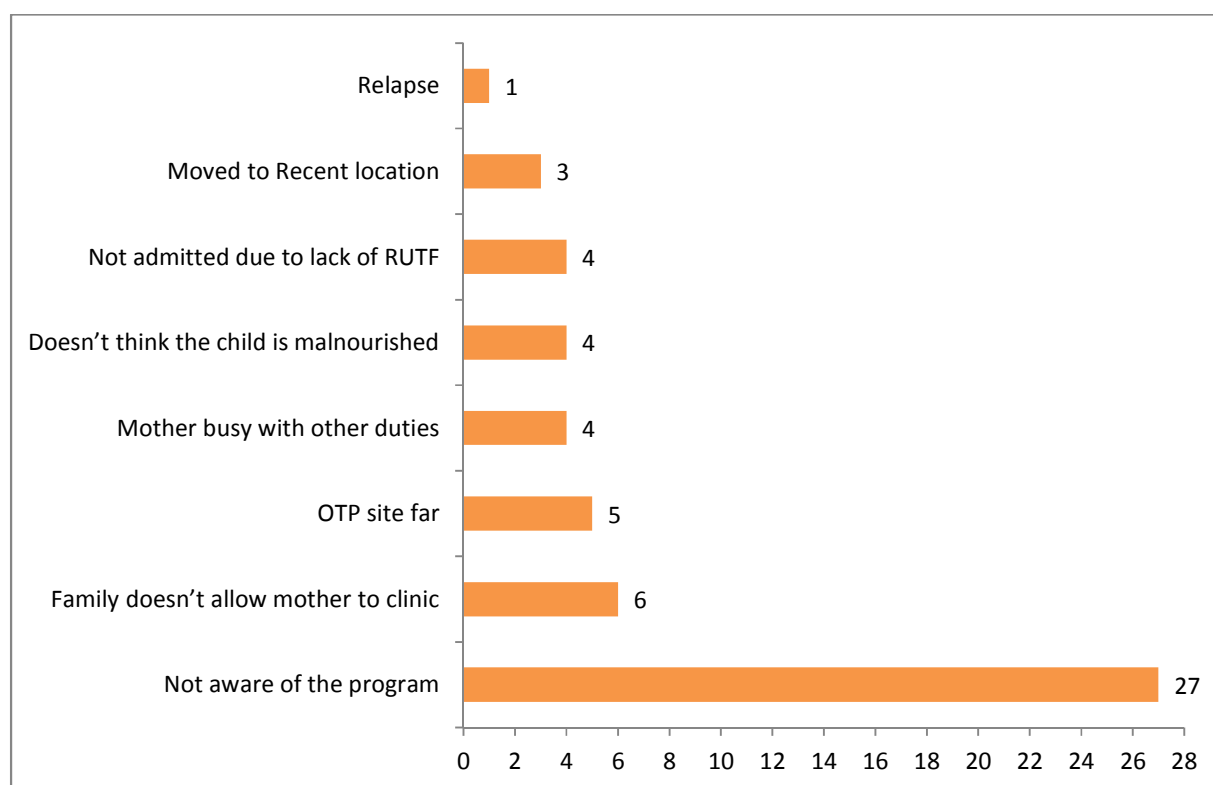
Figure 12: Coverage estimate



Reasons for non-attendance

A standard questionnaire was administered to caregivers of all non-covered cases to get the reasons for not being in the program. Lack of program awareness arose repeatedly as a reason why most of the children were not in the program. Other reasons are as shown in the figure below:

Figure 13: Reasons for non-attendance (Wide area survey)



3 CONCLUSION AND DISCUSSION

The coverage estimate for the assessment was 48.2% (40.9% - 55.8%). The coverage reported was a single estimate after being able to calculate the estimated number of children recovering out of the program. This fell short of the 50% sphere standard coverage for rural areas. Several factors were identified as having a negative effect (barriers) to the program which included insecurity, distance to the OTP sites, early defaulting and lack of program awareness. These and other factors highlighted in the report need to be addressed for the program to perform to the expected standard.

Analysis of the program data showed that the program was having early admissions; with the median MUAC on admission being 110mm. stock outs had a visible impact on the admissions with very few admissions being reported in the period when there were stock outs. With the program using the exit criteria of 125mm for OTP, the program experienced high defaulting in the first 3 months of implementation. Defaulting was however high with most of the defaulters being in the early visits. This indicates a possible lack of mobilization on the program before the admissions hence caregivers default shortly after admission when their expectations are not met or when they fail to see immediate benefits of the program.

A training of the program staff using the new IMAM guidelines is highly recommended. This should be followed up with regular mentorship sessions by the program supervisors and the PNO during the supervision sessions. Use of different exit criteria as reported in the survey was due to lack of sufficient training on IMAM as well as a gap in implementation of the IMAM guidelines.

Based on data from other existing programs in the same area, it is likely that defaulting cases in one program are continuing beneficiaries in another program within the same location. The villages are not well mapped and so duplication of services is likely especially where the caregiver feels not being served as per expectation, and therefore it is recommended that mapping of the program areas be done by all the implementing partners to avoid the likely duplication of services in the area.

An upscale of community activities not limited to community mobilization can help in having an effective program. The level of awareness was high in the near villages but unsatisfactory in far villages. This is due to the intensity of the CHEW activities in the near villages, an

activity which will create a big impact if it's copied in the far areas. Mobilization of more community leaders and the entire community to improve acceptability will ensure good access to the program despite the strict existing culture limiting women to be away from the homes.

With the opinion of the program being positive, more beneficiaries will access the program, adherence to treatment protocols by the caregivers will be enhanced and the performance of the program in general will improve

4 RECOMMENDATIONS

	Recommendation	Findings	Evidence	Actions to be taken	Responsible people	Level of priority
Community mobilisation	1. Raise the awareness of the program at the village level	High coverage of the CHEWS (800-100 Households)	Few admissions noted in the areas far from the mobile clinic sites	Mobilize the community leaders on the importance of the program, target beneficiaries and their role in the program	Medair	High
	2. Scale up mobilization activities in villages far from the mobile clinic sites	Insufficient facilitation of the CHEWS with complains of poor remuneration	Awareness of the program was unsatisfactory in most of the areas	Involve the key community leaders in selection of the CHEWs to enhance credibility.	Medair	Medium
	3. Mapping of all the villages in Kandahar city		Some community leaders not engaged in the program and thus not happy about the program	Explore the use of the local media in passing nutrition messages	Medair	Medium
			Home treatment of malnutrition in the far areas	Do a mapping of all the villages together with the BPHS partner to ensure or are covered by only one support partner	Medair/AHDS	High
CHEWS	4. Engage more CHEWs to match the population targeted	Poor supervision of the CHEWs, with no deliverables noted	No records of the CHEWs activities by their supervisors	Intensify the supervision of CHEWs activities to ensure they are meeting their targets on community mobilization	Medair	High
	5. Evaluate the performance of the CHEWs based on	Lack of credibility for some of the CHEWs	High admissions noted in villages where the CHWs are engaged more	Logistical facilitation of	Medair	Medium

	targets			the CHEWs to reach the far areas of their villages		
				Review the targets of the CHEWs to ensure each serves a population reachable easily. Engage more CHEWs where possible	Medair	Medium
Stocks	6. Forecast on the stock requirements to be able to avoid stock outs	A two month stock out period experienced in the program	Lack of admissions reported due to lack of stocks by mothers of malnourished children	Preposition stocks at the program store, sufficient for the beneficiaries and with a contingency to cater for new admissions	Medair/PND	High
				Strengthen the reporting on stocks, to avoid any losses and also to be able to request adequately.	Medair	High
Program Implementation	7. Initiate transfer cards for beneficiaries moving from the program area.	A high number of defaulters not well accounted for.	Trends on defaulting show high defaulting above 15% with most of the defaulters not followed up Observations at the clinic sites showed mothers scorching under the sun with no comfortable waiting time One of the mothers interviewed during qualitative data collection reported not to be served after end of working time	Design transfer cards acceptable to any program within the province and outside the province	Medair/PND	High
	8. Create a waiting space for mothers waiting to receive services	Use of referral cards to transfer beneficiaries		Scale up defaulter tracing through the CHEWs and key community persons	Medair	High
	9. Make the working hours at the clinic	Strict working hours by the program not meeting the beneficiary needs		Design working time at the clinic site based on the context. E.g. early working hours during the	Medair/PND	High

	sites flexible to meet the beneficiary needs		despite waiting for long.	hot season. Provide a waiting space for the beneficiaries, can be easily done with locally available materials	Medair	High
Reporting	10. Use program reports to improve reporting and decision making	High defaulting noted in some areas only		Use the program data by plotting the trends according to the context	Medair	High
				Investigate any abnormally in the data, e.g. the causes of high defaulting	Medair	High
Capacity building	11. Train all the program staff, CHEWs on IMAM with the new IMAM guidelines	Lack of clear differentiation on the guidelines to use for the program	There was a mix of the old and the new guidelines in the discharge of the OTP beneficiaries. Interviews with the program nurses reported the use of the old guidelines in discharging the beneficiaries	Training for all the program staff and management	Medair/PND	Medium
				Supervision of the program activities to ensure adherence to the protocols	Medair/PND	Medium
				Training of all the CHEWs to improve their capacity to effectively follow on the beneficiaries in the villages	Medair	Medium

5. ANNEXES

Annex 1: Kandahar SQUEAC assessment plan

Date	Activity
4 th -5 th May 2015	Collection and analysis of routine data.
6 th - 7 th May 2015	Training of the core team (and possibly the enumerators)on the SQUEAC methodology (classroom training)
9 th - 12 th May 2015	Stage 1
	Collection & analysis of qualitative data
	Identifying areas of low & high coverage
	Identifying boosters & barriers to coverage
13 th May 2015	Formulation of the hypothesis/identification of the boosters and barriers
14 th , 16 th May 2015	Stage 2
	Confirmation of hypothesis(small area survey
	Determination of prior mode
17 th May 2015	Sample size calculation, village sampling
18 th - 21 st May 2015	Wide area survey (Stage 3)
23 rd May 2015	Analysis of stage 3 data
	Preparation of the presentation and recommendations
24 th May 2015	Share preliminary findings to stakeholders
25 th may - 6 th June 2015	Writing of the Final SQUEAC report

Annex 2: Qualitative data collection villages

No	Village	Distinct characteristics	Key informant met
1	Tiry Ada	Near village	CHW
			Community leaders
			Caregivers of children not in the program
			Religious leaders
2	Yarana Market	Near	CHW
			Community leaders
			Health Shora members
			Caregivers of children in program
3	Haji Aziz	High admissions	Traditional Midwives
			Mothers of children in program
			Community leaders
4	Choni	Near	Caregivers of children not in the program
			CHEW
			Community leaders
			Traditional midwives
5	Spin Zoyarat	Near	Caregivers of children in the program
			Health shuras
			Community leaders
6	Akhary Stop	Far village	Community leaders
			Mothers of children in program
			Village health committee members
			CHEW
7	Dorahi village	Far village	Mallek
			Caregivers of children not in the program
			School teachers
			Mullah
8	Haji Hakim	Very far	Mother of child in program
			Community leaders
			CHEW
			Village health committee
9	Tor jan Masjid	Near village	Village health group members
			Mothers of children in the program
			CHEWs
			School/Mandrassa teachers
10	Kochan	Near village with no admission	Mothers of children not in the program
			Community elders
			CHEWs

11	Aryana Chowk	high defaulting	Traditional doctors/Healers
			Caregivers of defaulting children
			Caregivers of children not in the program
			Caregivers of children in the program
12	Haji Aziz	High defaulting and nomadic population	CHEWs
			Caregivers of defaulters
			Community leaders
			Caregivers of children in the program
13	Mahal nijat(low defaulting)	Low defaulting	Extension workers
			Caregivers of children in the program
			Malek
			Community leaders
14	Mirwais maina	Nomadic population	CHEW
			Community leaders
			Mothers of children not in program
			Malek
15	Shim Ghazi Ashabi	Nomadic population	Community leaders
			Mothers of children not in program
			Malek

Annex 3: Sources of qualitative data

	Sources	Symbol
1	Mullah	⚙
2	Malek	ᄡ
3	Mothers of children in program	©
4	Mothers of Children not in program	ᄢ
5	Mothers of defaulters	⊖
6	School teachers/ madrassas teacher	S
7	Community health Extension workers	ũ
8	Program nurses	ᄢ
9	Health Shuras	ᄡ
10	Traditional Midwives (TBAs)	ᄢ
11	Program data	@
12	Observation	O

Annex 4: Boosters and barriers with sources

	Booster	Sources	Barrier	Sources
1	Knowledge on the causes, signs and symptoms of malnutrition	ᠠᠮᠨᠢ	Distance from some of the villages to the mobile sites	ᠠᠠᠳᠤᠰᠦᠯᠠᠭᠠᠨ
2	Screening by the CHEWS in the community	ᠤᠯᠠᠭᠠᠨ	Early defaulting due to nomadic lifestyle	ᠤᠯᠠᠭᠠᠨ
3	Positive opinion of the program from the mothers - RUTF is seen as medicine and food	ᠤᠯᠠᠭᠠᠨ	Lack of awareness about the program from some mothers especially in the far areas	ᠤᠯᠠᠭᠠᠨ
4	Knowledge of the OTP program	ᠠᠮᠨᠢ	Lack of health education in the villages on malnutrition	ᠠᠠᠳᠤᠰᠦᠯᠠᠭᠠᠨ
5	Weekly/biweekly visits at the mobile clinics	ᠤᠯᠠᠭᠠᠨ	Less involvement of the community leaders in the nutrition program	ᠠᠮᠨᠢ
6	Some involvement of maleks in the mobile sites.	ᠤᠯᠠᠭᠠᠨ	Vast coverage area for the CHEWS to cover (800-1000 Households)	ᠤᠯᠠᠭᠠᠨ
7	Proper stock management to avoid defaulting	ᠤᠯᠠᠭᠠᠨ	Home management of malnutrition where accessibility of the program is poor	ᠠᠠᠳᠤᠰᠦᠯᠠᠭᠠᠨ
8	Early MUAC admissions	@	Strict culture where some women are not allowed out of the home for more than 3 hours hence not possible to travel to the program site	ᠠᠠᠳᠤᠰᠦᠯᠠᠭᠠᠨ
9	Short length of stay in the program	@	Some CHEWs are not fully accepted to pass messages in the community	ᠤᠯᠠᠭᠠᠨ
10			Lack of transport facilitation for CHEWs to cover their entire area	ᠤᠯᠠᠭᠠᠨ
11			Crowding and long waiting time at the mobile sites	ᠠᠠᠳᠤᠰᠦᠯᠠᠭᠠᠨ
12			Lack of a waiting area to protect the community from the harsh weather condition	ᠠᠠᠳᠤᠰᠦᠯᠠᠭᠠᠨ

Annex 5: Wide area results template

	Village Name	SAM In Program	SAM Not In Program	Recovering SAM In Program
1	Dara	0	1	0
2	Mir Bazaar	3	5	0
3	Zorshar	3	2	7
4	H Barhaba	1	2	3
5	Per Mohammad	1	2	2
6	Gul Mohammad	3	3	2
7	Haji Akim	5	6	0
8	Nik Mohammad	6	4	3
9	Kakaran	2	2	1
10	Zahman Jan	0	3	0
11	Kharam	2	4	0
12	Mauulla Abdul Rhaman	2	3	1
13	Baad Shah	5	3	6
14	Mulla Vi Saahib Mohammad Khan	0	1	1
15	Zarifi maina	0	5	0
16	Sham Moud	0	2	0
17	Ansaray Meena	0	3	0
18	Saeed Jan Kaly	1	3	2
Total		35	55	26