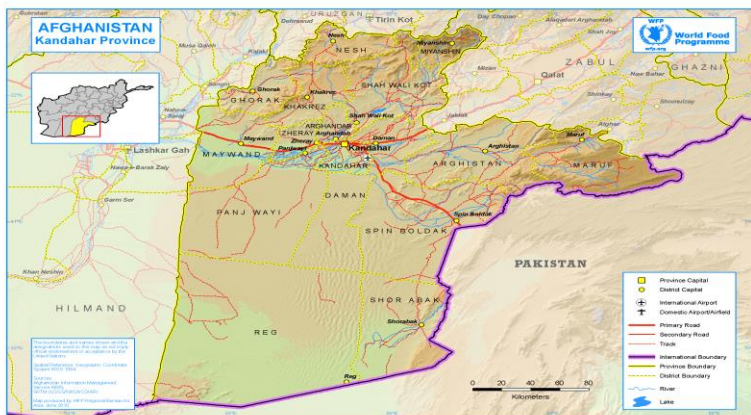


Semi Quantitative Evaluation of Access & Coverage Final report

Kandahar city, Daaman & Speen boldak districts
Kandahar province, Afghanistan



Date: May 2015

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Funded by:
ECHO

Acknowledgements

This assessment was successful due to support and tireless efforts from different people. ACF international and Save the Children International Afghanistan missions wish to recognize and appreciate the efforts made to ensure the success of the SQUEAC assessment by the following individuals or groups;

- The program staff from SCI and AHDS Kandahar who included the program managers. This was a good opportunity for gaining more capacity on coverage assessment and also ensured the teams were more able to do the assessment.
- All the recruited enumerators and team leaders who did a quality assessment with a lot of commitment considering there was very minimal supervision.
- Kandahar provincial office for their invaluable support, especially the logistical support offered during the entire period of the assessment.
- The communities in Kandahar, Daaman and Speen boldak for welcoming the SQUEAC teams.
- ECHO for their financial support to assess the coverage of the program.
- Last but not the least, ACF International for their technical support.

ACRONYMS

ACF	Action Contre La Faim
AHDS	Afghanistan Health and Development Services
BBQ	Booster Barrier and Questions
BPHS	Basic Package of Health Services
CHF	Common Humanitarian Fund
CHW	Community Health Worker
ECHO	European Commission's Humanitarian Aid and Civil Protection
FANTA	Food and Nutrition Technical Assistance
GAM	Global Acute Malnutrition
IDP	Internally Displaced persons
IMAM	Integrated management of Acute malnutrition
LQAS	Lot Quality Assurance Sampling
MEAL	Monitoring, Evaluation, Accountability and Learning
MHT	Mobile Health Team
MUAC	Mid Upper Arm Circumference
OJT	On Job training
OTP	Outpatient Therapeutic Program
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
UNHCR	United Nations High Commission for Refugees
WHZ	Weight for Height Z scores

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Executive summary

Save the Children international in Afghanistan mission with support from ACF international conducted a SQUEAC assessment in Kandahar province, Afghanistan from 10th to 31st May 2015. SCI has been implementing an ECHO funded project in parts of Kandahar city, Daaman and Spin boldak districts targeting the IDP population in the areas. The program , which includes treatment and prevention services including the treatment and prevention of malnutrition was set up to serve the IDP population which usually settled in far places where they cannot be reached by the already existing BPHS program. Due to insecurity's effects of experienced in the province and the neighboring province of Helmand, the IDP numbers are usually unpredictable with the numbers increasing or decreasing based on the security situation. The IDPs integrate with the host community in some identified areas in Kandahar province. Therefore, the assessment was intended to assess the performance of the program as well as identifying the boosters and barriers to the coverage of the program in such areas. With the program entering in its second phase of implementation, viable recommendations were required as part of the objectives to improve programing. With the use of the Bayesian technique and using single estimate estimator, the study identified coverage of 48.6% (41.3% - 55.8%)

The assessment identified several boosters improving the coverage of the program, which included:-consistent supply of RUTF stocks-trainings through OJT at the implementation sites and positive opinion of the program from the beneficiaries. Ample community mobilizations as well as noticeable community activities like screening by the CHWs in most of the health facilities and frequent visits by the MHTs in different locations were also identified in the survey. The negative factors (Barriers) identified were staff shortage caused by staff turnover, a weak implementation of the new IMAM guidelines, weak monitoring of the beneficiary and limited movement hindering access to services among other factors.

Based on the findings of the survey, recommendations to improve the implementation of the program were proposed. To address the staff shortage caused by staff turnover, the assessment recommended training of more staff on IMAM and having a database for the trained staff as well as a backup system for the same. It was also highly recommended to have flexibility in the program to fit with the context especially with the working hours, during the hot season. The program needs to improve on its community engagement and mobilization by targeting key community figures like the community leaders and focal persons more with the nutrition messages. These key persons in the community will help create more awareness about the program to the community and engage the community more in the program, which at the end will have sustained acceptability by the entire community. Training on IMAM using the new guidelines for Afghanistan is recommended for all the actors in the program. This includes the CHWs and the community mobilisers who should be equipped with the relevant nutrition messages. The training should be followed up with regular on the job training (OJT) sessions and supervision of activities to ensure achievement and adherence to protocols.

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 and includes 18 districts. 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%). Kandahar has a total population of 990,100. 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. The major ethnic group living in Kandahar province is Pashtuns. 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 villages.

According to the UNHCR figures, there are 40,257 internally displaced people in Kandahar city surroundings and 19,481 living in Spin Boldak. This population is concentrated in 16 big villages that are integrated in the entire population in the specific districts, almost sharing the same livelihoods. These are the populations mainly coming from the neighboring provinces due to the effect of insecurity. Save the Children International, carried out a SMART nutrition and mortality survey covering Kandahar city, Daman and Spinboldak districts of Kandahar province targeting the IDP population. The results of the survey showed a GAM rate of 11.9 % (9.1 - 15.3 95% C.I.) and SAM rate of 3.3 % (1.8 - 6.2 95% C.I.) with WHZ and a GAM prevalence of 17.1 % (12.2 - 23.4 95% C.I.) and SAM rate 6.4 % (4.0 - 10.1 95% C.I.) based on the MUAC cut offs. The survey showed that acute malnutrition levels in IDP areas in Kandahar remain in a serious situation.

SCI with financial support from ECHO has been offering nutrition services, mainly IMAM services, which involve treatment of MAM and SAM outpatient and referral of the SAM inpatient cases to the provincial hospital. These services include community screening for acute malnutrition, health education and treatment of severe acute malnutrition. The program is run independently from the BPHS program since it targets the IDP population only. All the services offered in the program are in line with the existing MOPH guidelines. There are two mobile health teams, one serving the Kandahar city and Daaman IDPs while the other one serves the IDPs in Spin Boldak district. Each MHT is composed of a nurse, which is in-charge, a midwife, 2 community mobilizers (1 male and 1 female), one vaccinator, and one nutrition nurse. There are 5 health posts in the two program areas with each health post having 2 CHWs (1 male and 1 female). ECHO focal person assisted by the humanitarian manager both based at Kandahar provincial office supervises the program at the field level.

1.2 Survey Justification

Save the Children International has been running a program funded by ECHO to offer nutrition and health services to the IDP populations in Kandahar city, Speen boldak and Daaman districts. Part of the requirements of the implementation was to do a coverage assessment to identify the boosters and barriers to the coverage as well as getting the program coverage estimate.

1.3 Survey objectives

The overall objective of the survey was to evaluate the coverage of the SAM treatment program targeting the IDP population in Kandahar city, Speen boldak and Daaman districts of Kandahar province.

The specific objectives of the survey were;

- To assess the coverage of SAM treatment program targeting the IDP population
- Identify the boosters and barriers affecting the SAM program.
- To capacity build of SCI Kandahar office as well as the AHDS staff.
- To provide recommendations. This would improve the next phase of the program implementation.
-

1.4 Methodology

The assessment employed the SQUEAC methodology ¹which involves three stages;

- Stage 1: Analysis of routine program data to identify possible areas of low and high coverage and qualitative data collection from the target communities, caregivers and health staff and any other relevant data 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 the use of Bayesian technique.

1.5 Challenges and limitations

Hot weather

The assessment was done in a season when the weather was extremely hot limiting the movements within the villages. This meant data collection could only be done within a limited range of time between 8am - 3pm. With the limited movement in the community, it was a challenge to get the key informants. It was difficult to get the community out between 12-3pm when it is the hottest time of the day.

¹ 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

Insecurity

Kandahar city and the province at large are considered highly insecure. During the assessment, there were several incidences in and out of the city. Even though there were no incidences in the assessment areas, the roads to some of the areas were at times not secure for the teams to pass through. Insecurity also meant that supervision of the data collection teams was a challenge. To ensure that the data collected was credible, senior SCI staff were involved in the data collection exercise as supervisors. .

2. INVESTIGATION PROCESS

The survey used 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.

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

Identification of areas of low and high coverage

This stage involved quantitative and qualitative data analysis to identify possible areas of low and high coverage. Quantitative data was extracted from the beneficiary cards to collect information on admissions (WHZ, MUAC & Oedema), stage of admission (early vs late admission for MUAC admissions). Also program performance (based on program exits), visit of defaulter (may indicate the opinion of beneficiaries towards the program, as well as the programs ability to retain beneficiaries) and length of stay (LOS) for the cured cases to know how effective the treatment is to the beneficiaries. Contextual data was collected to relate with some quantitative data such as the admissions and the exits, which brought more understanding to the trends. Qualitative data was collected to further explain the areas of low or high coverage and also explain the reasons for coverage failure.

2.1.1 Quantitative data analysis

Quantitative data was extracted directly from the beneficiary cards that are the primary source of the data at the facility level. There were 222 beneficiary cards collected from the two Mobile Health Teams (MHT) in the program area. The data extracted included monthly admissions (all admissions), the MUAC measurement at admission (for only those cases admitted by MUAC), standard program indicators (cured, deaths, defaulters and non-response), visit of defaulter and the Length of stay for the cured cases.

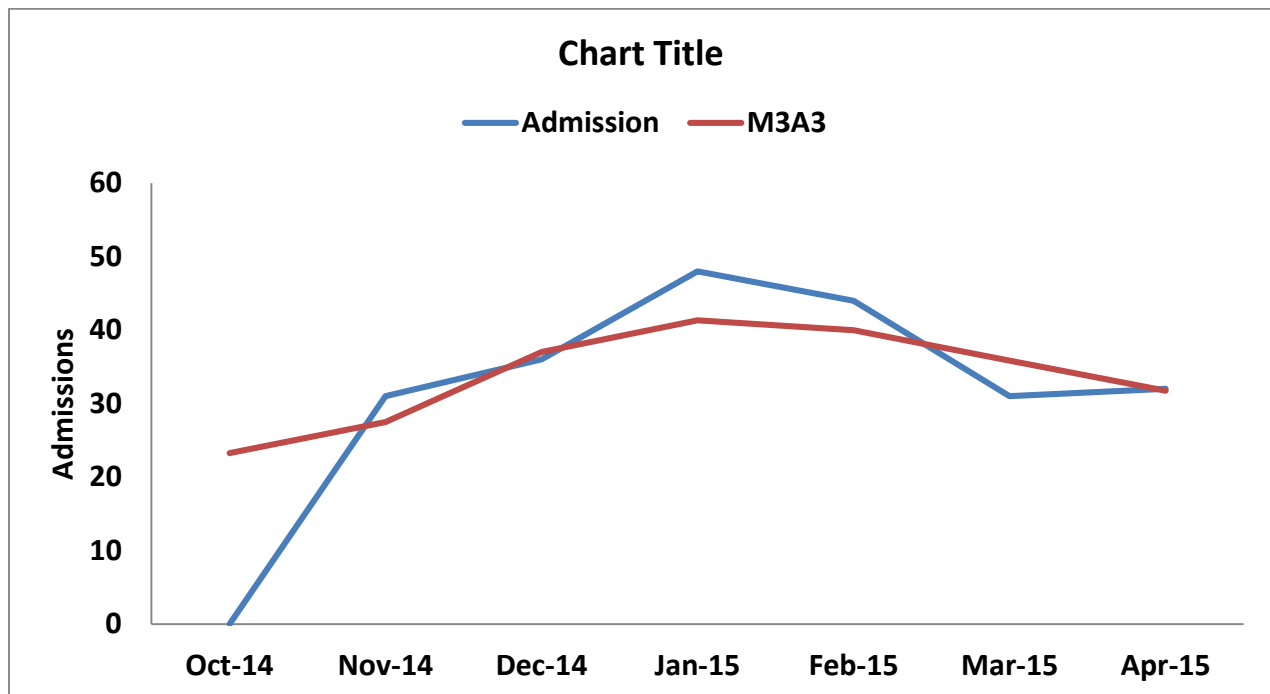
Monthly admissions

This included all the admissions in the program (both by WHZ and MUAC). Data on monthly admissions was extracted from the beneficiary cards and compared with the program registers to identify any likely discrepancy. It was positive to see that information in the cards was matching with the information in the registers. The admission trends as shown in the figure below show that the admissions have been showing an upward trend. The data was smoothed by doing the median and the average of the data (M3A3) to show seasonality and trend.

The data was further related to the contextual information to assess how much the prevailing factors had an effect on the admissions. These factors included the RUTF supply, the weather patterns, security patterns, migrations among other information. The admissions showed conformity to the context. The admissions show an increase from November when there are migrations coming in the program areas, when more IDPs were noted and with expected vulnerability, there was a significant increase in the admissions. A slight decline in February was due to lack of a trained staff in one of the sites, which affected both the recruitment and treatment process. During the entire period, there were consistent supply of RUTF and thus admissions were not halted as a result of stock outs.

It is worth noting that the admission numbers are generally low with the admission figures compared to the population size and the current SAM rates in the area. Several non-covered cases were also identified in the survey, which explains further that the coverage of the program is low.

Figure 1: admissions over time



Context information	Oct-14	Nov-14	Dec-14	Jan-15	Feb-15	Mar-15	Apr-15
SCI Support					No OTP Staff in city Mobile site		
RUTF Supply							
Weather Patterns	Warm	Cold	Cold	Very Cold	Very Cold	Cold	Warm
Migration In		In	In	In	In	In	Out
Farm Activities							
Security Pattern	Insecure	relative	relative	Good	Good	Insecure	Insecure
Mass Screening							

Figure 2: Contextual calendar

To further identify if distance had an impact on the admissions, analysis of the admissions per village was done. According to the analysis below, distance did not have a distinct impact on the admissions as admissions were seen high and low in villages both near and far to the

service delivery point. Villages which had relatively low admissions also reported poor community mobilization and passing of nutrition messages, which was due to lack of CHWs and inactive community mobilizers and therefore low admission numbers were likely due to lack of awareness about the program.

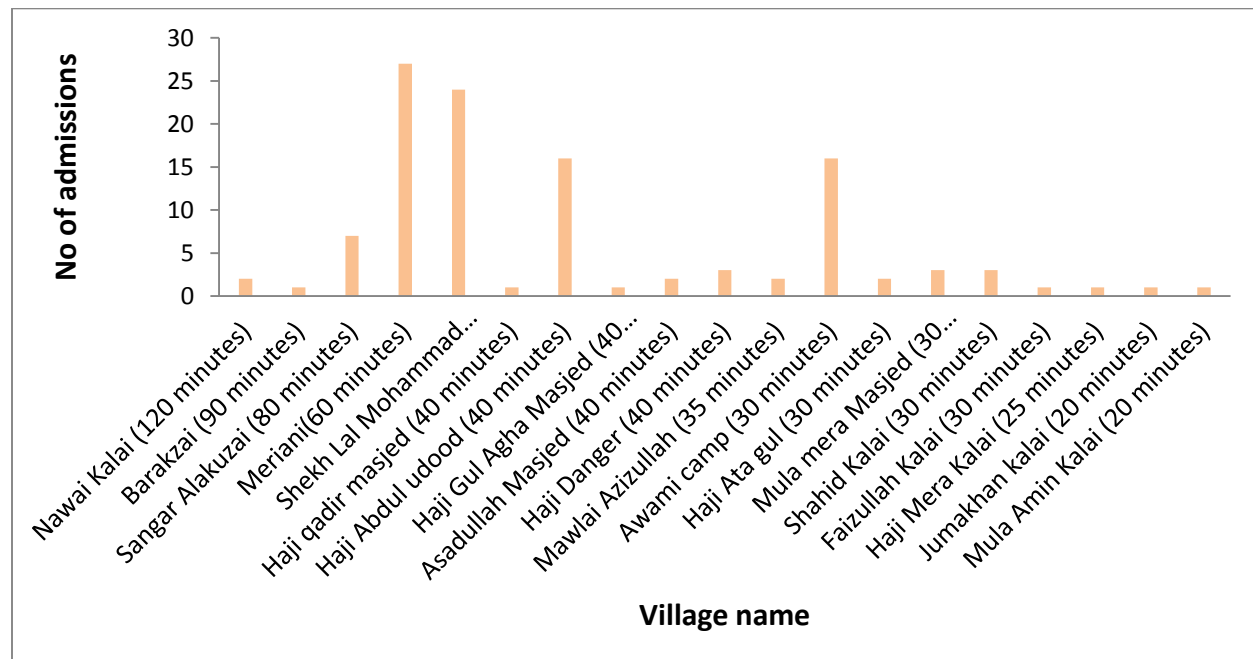


Figure 3: Admissions by villages

MUAC on admission

MUAC measurement on admission is a good indicator to check on the timeliness of seeking health care by mothers when their children become malnourished or are sick. The time of admission to the program has a great effect on the outcome of the treatment. According to the IMAM guidelines for Afghanistan, a child is admitted to SAM-OPD treatment with a MUAC <115mm and WHZ score <-3. Children admitted to the program as soon as they become malnourished are likely to cure within a short period of time and the same children have high chances of exiting as cured. Children admitted late to the program (with a low MUAC measurement or a WHZ score further from -3 takes a relatively longer period to get cured and in some instances the outcome will be negative (defaulting, death or non-response). This is due to the complications associated with delayed treatment of acute malnutrition, which may necessitate stabilization.

Analysis of the program data in the ECHO supported project areas showed that most of the children were admitted with a MUAC of 110mm. There were however few late admissions. There was a reported case finding mechanism in the program, with most of the villages having active CHWs who are trained on detection and referral of malnourished cases leading to early admissions.

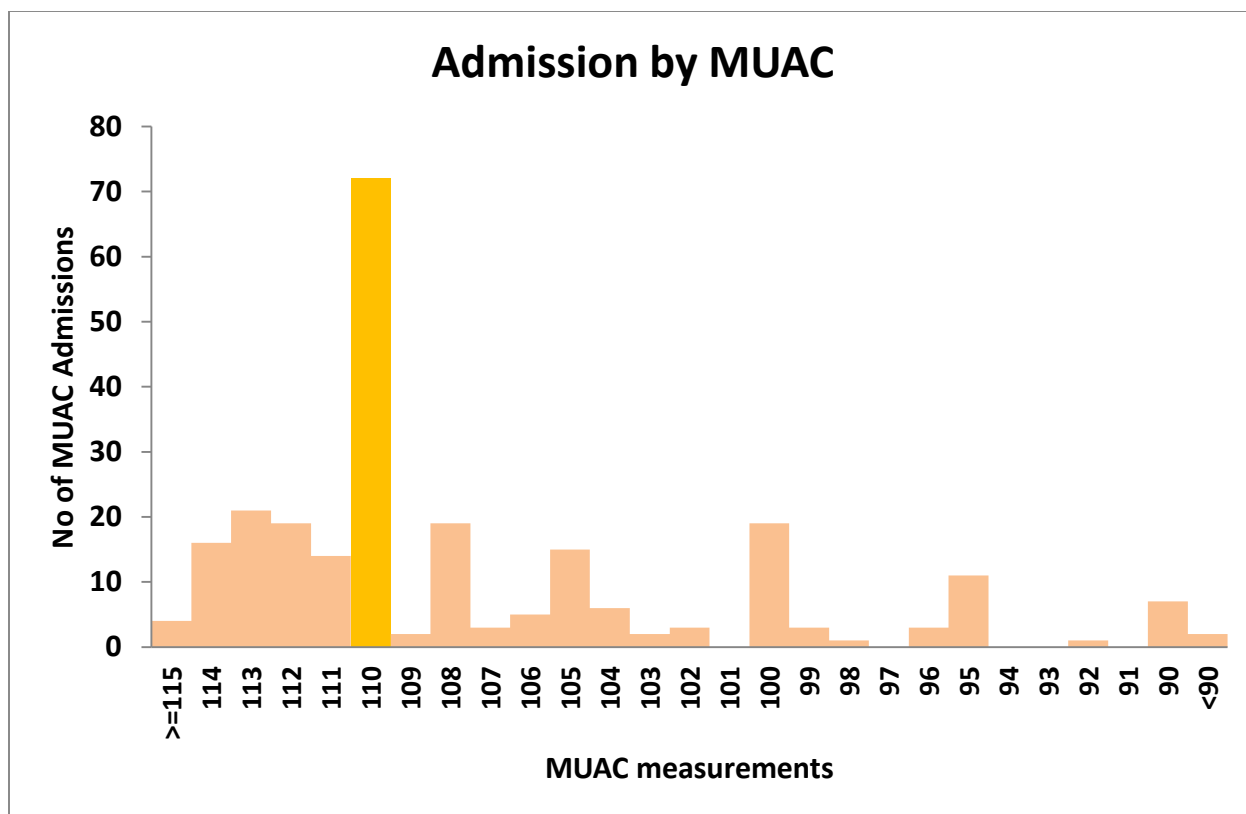


Figure 4: MUAC on admission

Standard program indicators

The standard program indicators which include the cure rate, the default rate and the death rate are used to assess if the program is meeting the needs of the beneficiaries admitted in the program. A program with a high coverage is expected to have consistently high cure rates (>75%) and low rates of defaulting (<15%). Default shows the programs inability to retain the beneficiaries for the expected treatment period, due to both avoidable and unavoidable reasons. When defaulting happens, the cases are likely to deteriorate or even die from SAM related complications out of the program. This affects the opinion the entire community has on the program and may in return affect community mobilization and recruitment to the program.

There were no deaths reported in the program for the entire period of implementation. There cure rates were consistently high (>75%), with a likely drop being experienced in the month of January when one of the sites was not operational owing to lack of staff. This is the same time when defaulting was recorded to be high. Generally, speaking the program performance showed characteristics of a program with a likely high coverage.

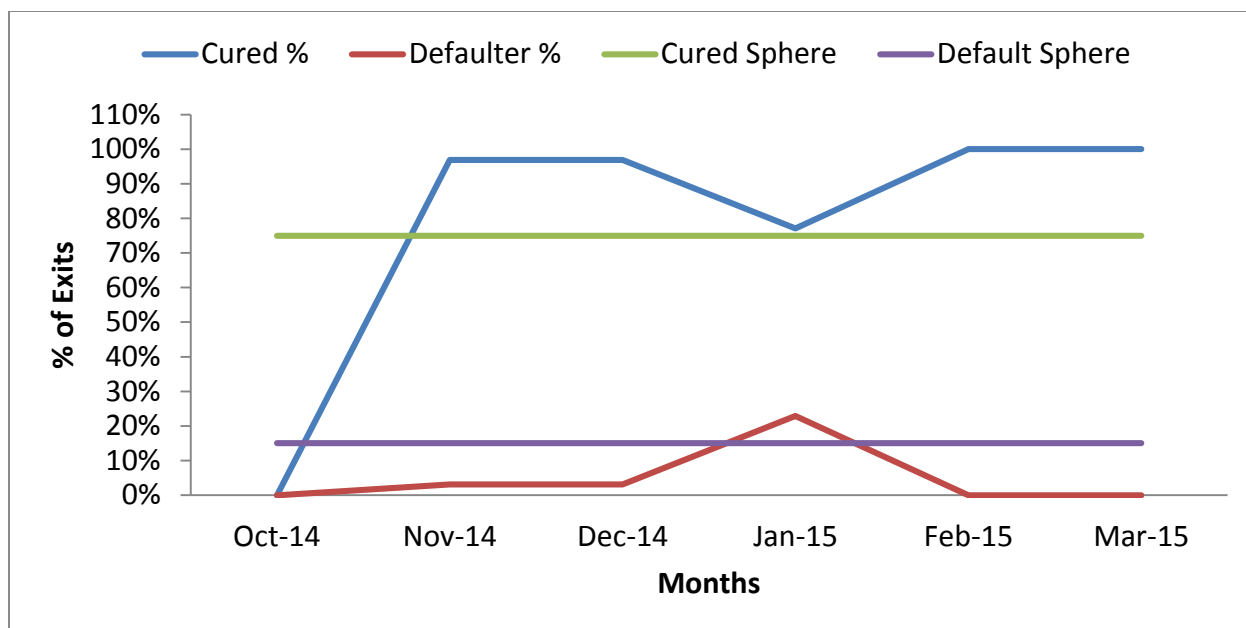


Figure 5: Standard program indicators

Visit of default

In order to better understand the impact of defaulter or dropout has to the program; analysis of the visit to the defaulter beneficiaries was done. The stage at which a case defaults from the program has an effect on the health status of the child. Late defaulters from the program are likely to have received some treatment which is significant to ensure recovery out of the program while early defaulters have not even kick started the recovery process. It is highly unlikely that late defaulting is due to a negative opinion about the program or can affect the opinion of the program whereas early defaulting leads to a negative opinion to other would be beneficiaries.

The analysis identified that quite a significant proportion of the defaulters (39.2%) defaulted from the program early (4 weeks and below) while the rest had defaulted late more than 4 visits) in the treatment period. Some of the defaulters identified from the cards had not been recorded as defaulters and had been discharged as cured and thus reported in the assessment as defaulters. One of the reasons for defaulting as evidenced in the survey was the lack of an OTP nurse in one of the sites, which led to downscale of the IMAM services in the site catchment area. This was further worsened by weak community mobilization in the area hence it was not possible to have interventions to control defaulting within the period.

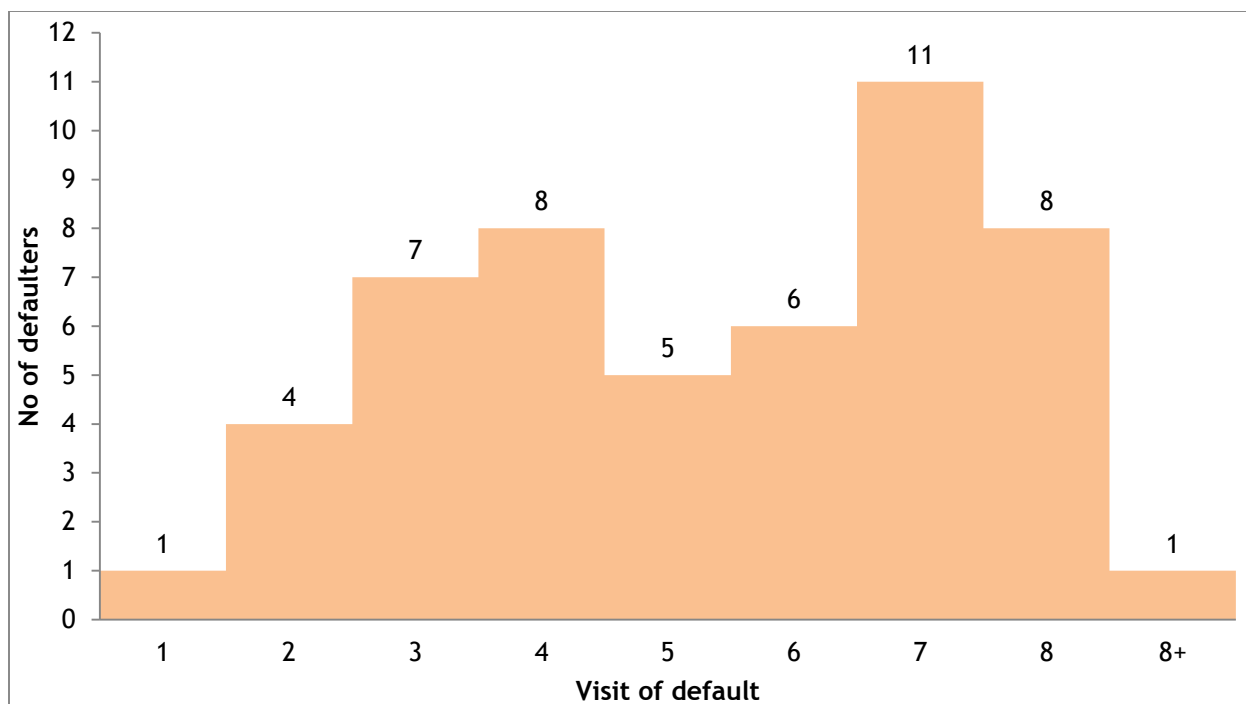


Figure 6: Visit of Default

Length of stay

This was the analysis of the time in weeks the child takes in a program to completely get cured of an episode of malnutrition. This is depended on several factors including the adherence to treatment protocol by both the beneficiary and the caregiver, consistency of seeking health care for treatment of other ailments as well as the stage at which the child was admitted for management of SAM. Early admissions are expected to spend a shorter or rather ample time in the treatment when the other factors are optimal as compared to late admissions.

The maximum length of stay in the program in Afghanistan is 16 weeks². Most of the children will take a shorter period to cure out of the program. As seen in the figure below, the average length of stay (ALOS) in the program was 7 to 8 weeks indicating a considerable time spend in the program. No overstays were noted in the program (>16 weeks) but there were some cases recorded as having cured with less than 4 weeks which is not practically possible. Currently, the guideline which admits a child for SAM treatment with MUAC less than 11.5cm or WFH/L less than -3 Z scores or Oedema + 1 or + 2. That child is discharge at MUAC equal or greater than 12.5 cm for 2 consecutive visits, WFH/L equal or greater than -2Z scores for 2 consecutive visits and no oedema for at least 2 weeks. The Child is clinically well depending on the criteria used for admission. This highlights a possible error or failure to document the

² IMAM guidelines for Afghanistan, 2014

absent's visits, making the beneficiary to appear to have stayed in the [program shorter than the actual time.

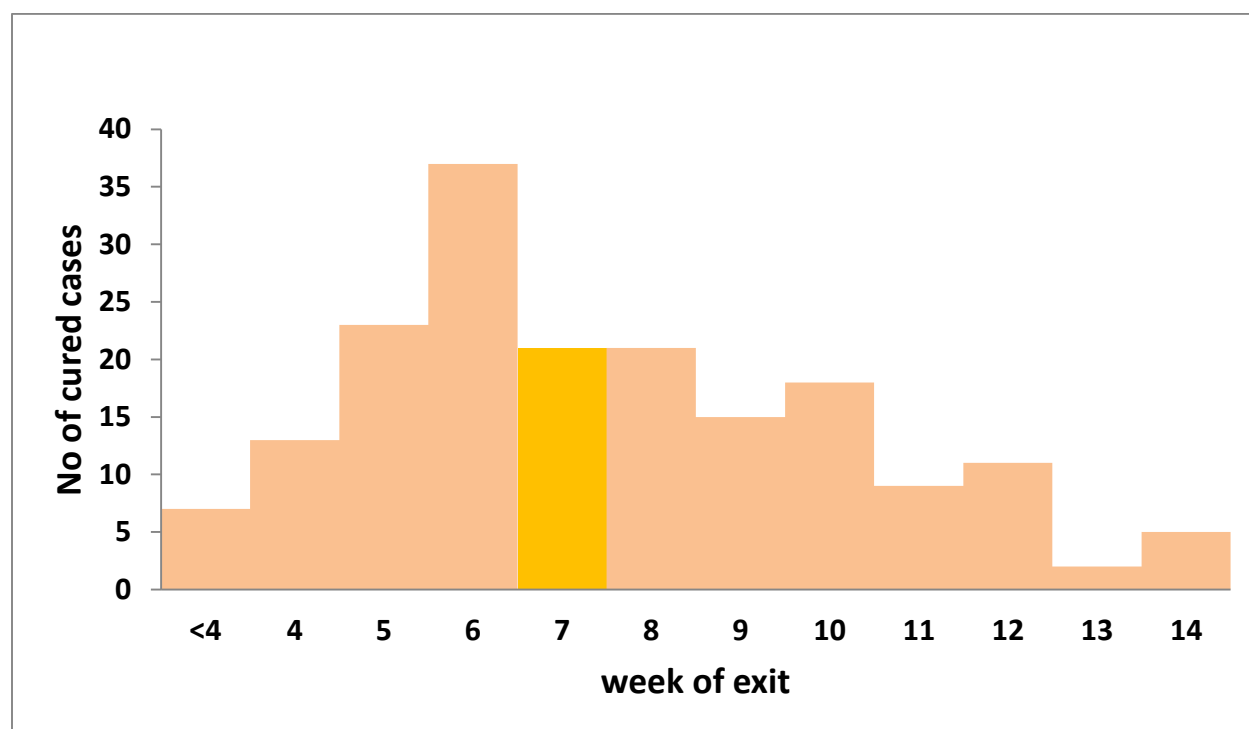


Figure 7: Length of stay

2.2.2 Qualitative data collection

Qualitative information collected was about the access to the program and the perceptions of the IMAM program with emphasis on the OTP program. This information was collected from a variety of sources which included Community members (both male and female), Teachers (formal and madrassa), Community health workers, caregivers of malnourished children, MHT personnel, Health *Shora* members, Local leaders (maleks), Religious leaders and traditional midwives³. The tools used to collect the information which included informal group discussion guides, semi structured interview guides, in depth interview guides and observation check lists at the service delivery points and the RUTF stores. Information collected was on understanding of malnutrition, knowledge and awareness of the program, perceptions about the program, pathway to care, reasons for defaulting and non-attendance, challenges with the program and recommendations for improvement among other information.

³ Reffer to annex 4

Quantitative data analysis helped to inform on the potential villages to visit for qualitative data collection. Some factors identified in the quantitative data analysis included; uneven patterns of admissions, with some villages showing high admissions while others were showing low admissions and defaulting in some villages. Other factors considered in identifying the villages were; Distance both far and near, livelihood with both the nomads and the settled population included in the qualitative data collection. A total of 9 villages were visited for the qualitative data collection

The data collection applied the 2 principles used in SQUEAC, triangulation by source and method and sampling the data to redundancy. To ensure the use of the 2 principles, discussion of each day's data collection with all the teams was made before proceeding for another day data collection. All the data was then analyzed using the BBQ (barrier, booster and question) approach, with the data for each day advising on what more data needed to be collected. Information that repeated itself by both source and method was deemed sufficient and thus collection of the same information stopped. Summary of the qualitative data is as shown in the table below

Table 1: Qualitative information

Boosters(Positive Factors)	Explanation
Consistent RUTF supply	Observations were made at the RUTF stores and found that there were sufficient stocks at the moment in relation to the beneficiary numbers. The MHT staff reported consistent supplies in the program. Lack of RUTF supplies was not reported by mothers as a challenge on attending the program .
OJT training sessions at the OTP site	There were OJT training sessions at the MHT site confirmed by interview with Supervisor and MHT staff
Health education at the MHT site and at the community	This was confirmed through interviews with caregivers of children both in the program and out of the program. Interviews with the program staff also showed there was health education in place.
Support supervision to the OTP staff	Supervision of the MHTs is done regularly from the office. These are done by the ECHO focal person, the MEAL officer. There were records of supervision at the office showing that each mobile clinic site is visited monthly.
There is a positive opinion of the nutrition program (program beneficiaries)	The OTP program is easily accessible by mothers since the teams are mobile. Mothers can easily access the program. Interviews with mothers showed they were pleased with the outcome of the treatment protocol.
Screening in the OTP sites and at the village level.	Referrals to the OTP sites were made by the CHWs who during interviews with them reported to do screening house to house on a regular basis. Interviews with mothers also reported of regular CHW activity in most of the sites. All children are also screened at the site with MUAC as well as growth

	monitoring.
Community mobilization	Each program site has a couple recruited to do community mobilization about the nutrition program. One site however reported even with the presence of community mobilizers and CHWs a poor community due to a lack of commitment on the side of the community mobilizers and CHWs
Active CHWs in Spin Boldak	One of the sites (Spin boldak) showed active case finding, hence several admissions to the program as compared to Daaman and Kandahar. There were no records of referrals by the CHWs in the said sites.
Mobile sites are not fixed to specific areas but to different villages within the catchment population	The MHT visit all the villages within the catchment population once a week. This has ensured proximity to services hence distance to the OTP site was not identified as a major factor affecting coverage.
Barriers)Negative Factors	Explanation
Staff shortage in the City MHT (January and February 2015)	There were few admissions in the month of January and February 2015, no admissions were done in one of the sites for the 2 months after the staff resigned.
Less movements and activities after midday limiting the movement of beneficiaries to the OTP sites due to the hot weather	During the hot weather, movements are very restricted with no movements of caregivers past mid-day. Women are not allowed out of the homes without <i>mahram</i> ⁴ which further limited the movements.
Weak follow up and implementation of the new IMAM guidelines especially on exit criteria	The analysis of the exit data with observations from the beneficiary cards and the registers showed both the IMAM and the CMAM protocols being used. Interviews with the OTP staff reported training on the IMAM guideline having taken place but implementation follow up has been low.
Less general Knowledge and awareness of the nutrition program	Even though awareness was high in most of the villages, a significant proportion of mothers reported lack of program awareness. This was common in areas where low mobilization was reported. During the hypothesis testing, some mothers in the perceived high awareness zones were not aware of the program.
Lack of regular default tracing and absenteeism follow up	Observations from the cards showed that recording of the visits was not accurately done. As a result it was challenging identifying a defaulter in the program with a possibility of some of the defaulters continuing with the same treatment. CHWs or the facility didn't have records of traced defaulters.
Lack of adherence to the community mobilization plan.	There were records of mobilization plans which had not been actualized. The mobilization plans did not have measurable indicators as a result the activities

⁴ Male family member accompanying a female family member

	of the mobilizers were less felt in the community.
Some carers take their children to private doctors who don't refer malnourished children to the OTP sites	Interviews with some mothers reported that there was home treatment of malnutrition. On the pathway to care, most of the mothers interviewed preferred taking their children to the private doctors when they were sick.
Women not allowed to go out without Mahram who are at times not present at the homes	Mothers were interviewed on the possible reasons why they could not take their children to the program site on a regular basis, where a lack of a mahram was reported as a factor. <i>Mahrams</i> are not always available to escort the mothers to the clinic site, also a reason for some absenteeism.

Concept map

A correlation of the factors identified in the assessment was done in a concept map to better understand how all the factors together contributed either positively or negatively to the coverage.

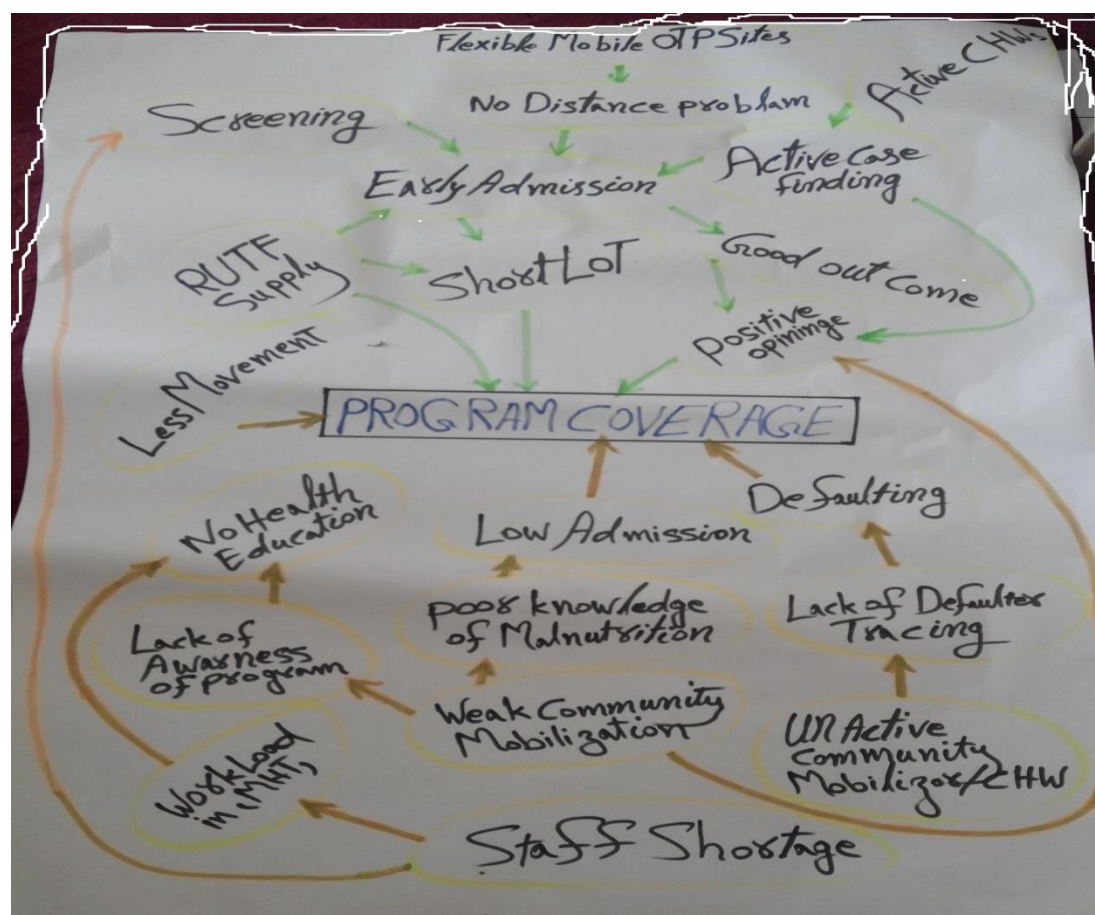


Figure 8: Concept map showing a relationship between the positive and the negative factors as found in the survey

2.2 STAGE 2

2.2.1 Hypothesis setting and testing

The main aim of this stage was to confirm the factors identified in stage one. Based on the factors identified (boosters and barriers). Areas likely to have a low or high coverage were identified, with the main contributing factor being awareness. The hypothesis was therefore formulated that; ***“awareness is high in villages which have a CHW and an active community mobilizer and low in villages which don’t have a CHW and an active community mobilizer.”***

This hypothesis was formulated due to several reasons identified in stage one which included;

- Screening, mobilization and home visits were reported in villages with CHWs and active mobilizers and also reported to be lacking in the villages without a CHW and with an inactive community mobilizer.
- There was reported high awareness of the program in the perceived high awareness villages during the qualitative data collection.

To test this hypothesis, a ‘small survey’ was conducted in villages with the said characteristics with each side of the hypothesis having three villages selected. In each selected village, 10 mothers were randomly selected and interviewed to assess if they were aware of the program using a simple guide to test awareness.

The findings in each village are as shown in the table below;

Village name	CHW present	Active community mobilizer	Number of mothers aware of program	Number of mothers not aware of the program
Murghan kicha	Yes	Yes	5	0
Haji Danger	No	No	0	5
Shekh lal Muhammad	Yes	No	8	2
Mumand	No	yes	0	10
Samad Tankai	No	No	0	10
Naqlin	Yes	yes	10	0

The analysis of the results was tested by applying the simplified LQAS formula $d = (n/2)$ in comparison with the 50% sphere standard for coverage for rural areas⁵. The summary of the results in the table below shows that there was no awareness in the villages without a CHW and an active community mobilizer with high awareness being confirmed in the villages with a CHW and a community mobilizer.

⁵ The assessment was done in Kandahar city district but the targeted population has a rural lifestyle hence the 50% coverage standard

The results are shown below

Table 2: Hypothesis results

Villages near to the SAM treatment centers and have a HPs		Conclusion
Coverage Target	50%	Mothers aware of the program (23) are more than 13 and thus awareness is confirmed as being high.
Sample size(Total mothers)	25	
Decision Rule	$D=n/2$ $D=25/2=12.5 \approx 13$	
No of Mothers aware of the program	23	
Villages far from the SAM treatment centers and don't have HPs		Conclusion
Coverage target	50%	No mother is aware of the program and thus no awareness in the areas hypothesis is tested
Sample size (Total mothers)	25	
Decision Rule	$D=n/2$ $D=25/2=12.5 \approx 13$	
No of mothers aware of the program	0	

The hypothesis results showed that the hypothesis was confirmed for villages that were near to treatment sites and with Hps reporting high program awareness and villages far from the treatment sites reporting lack of program awareness.

2.2.2 Building the prior

This involved incorporation of all the data collected in stage one and stage two to build a coverage based on the already gathered evidence. Two different methods were used to arrive at the prior, the weighted and the unweighted booster and barrier score. An average of the simple scores (boosters and barriers) and an average of the weighted scores were using to ensure that there was triangulation. This is as shown below in table 4.

Table 3: Simple and weighted boosters and barriers

	BOOSTER	SIMPLE SCORE	WEIGHTED SCORE	BARRIER	SIMPLE SCORE	WEIGHTED SCORE
1	Consistent RUTF supply	5	5	Staff shortage in the City MHT (January and February 2015)	5	5
2	OJT training sessions at the OTP site	5	4	Less movements and activities after midday limiting the movement of beneficiaries to the OTP sites due to the hot weather	5	4
3	Health education at facility and at the community level	5	3	Weak follow up and implementation of the new IMAM guidelines especially on exit criteria	5	2.5
4	Support supervision to the OTP staff	5	4	Less general Knowledge and awareness of the nutrition program	5	4
5	There is a positive opinion of the nutrition program (program beneficiaries)	5	4	Lack of regular default tracing and absenteeism follow up	5	2
6	Screening in the OTP sites and at the village level.	5	3	Lack of adherence to the community mobilization plan.	5	3
7	Community mobilization by community mobilizers (A couple per Mobile site in Daaman)	5	3.5	Some carers take their children to private doctors who don't refer malnourished children to the OTP sites	5	2
8	Active CHWs in Spin Boldak	5	3	Women not allowed to go out without Mahram who are at times	5	4
9	Active case finding and referral in Spin Boldak and Daaman	5	4			
10	Mobile sites are not fixed to specific areas but to different villages within the catchment population	5	5			
	TOTAL	50	38.5	TOTAL	40	26.5
	LOWER COVERAGE VALUE	0	0	HIGHEST COVERAGE VALUE	100	100
		50	38.5		60	73.5

Weighted scores

The scores given to each factor depended on how much it was confirmed by many sources and also the potential impact it had on coverage. A factor confirmed by fewer sources and with a lesser impact was deemed to be of low significance while those factors confirmed by several sources and with a high potential impact were given a high significance score. Each booster and a barrier was given a score ranging 1-5

The total sum of the boosters was added to the lowest possible coverage

$$(0 + 38.5) = 38.5\%$$

Total sum of the barriers was subtracted from the highest possible coverage

$$(100 - 26.5) = 73.5\%$$

$$\text{Prior mode from the weighted boosters and barriers} = \frac{38.5\% + 73.5\%}{2} = 56\%$$

Simple scores

All the factors were given an equal maximum score of 5 with the assumption that all had the same impact on coverage.

The total sum of the simple boosters was added to the lowest possible coverage

$$(0 + 50) = 50\%$$

Total sum of the simple barriers was subtracted from the highest possible coverage

$$(100 - 40) = 60\%$$

$$\text{Prior mode from the simple boosters and barriers} = \frac{50\% + 60\%}{2} = 55.5\%$$

2.2.3 Prior plot

The prior mode value of 55.5% was used to plot the estimate coverage on the Bayes SQUEAC Coverage Estimate Calculator (version 3.01). This was the first assessment in the area, and also covering a specific population of IDPs and so it was best to use a high uncertainty level of $\pm 25\%$. This was done by adjusting the prior alpha and prior beta values to the 55.5% mark while attaining the required uncertainty. The plot is as shown below:

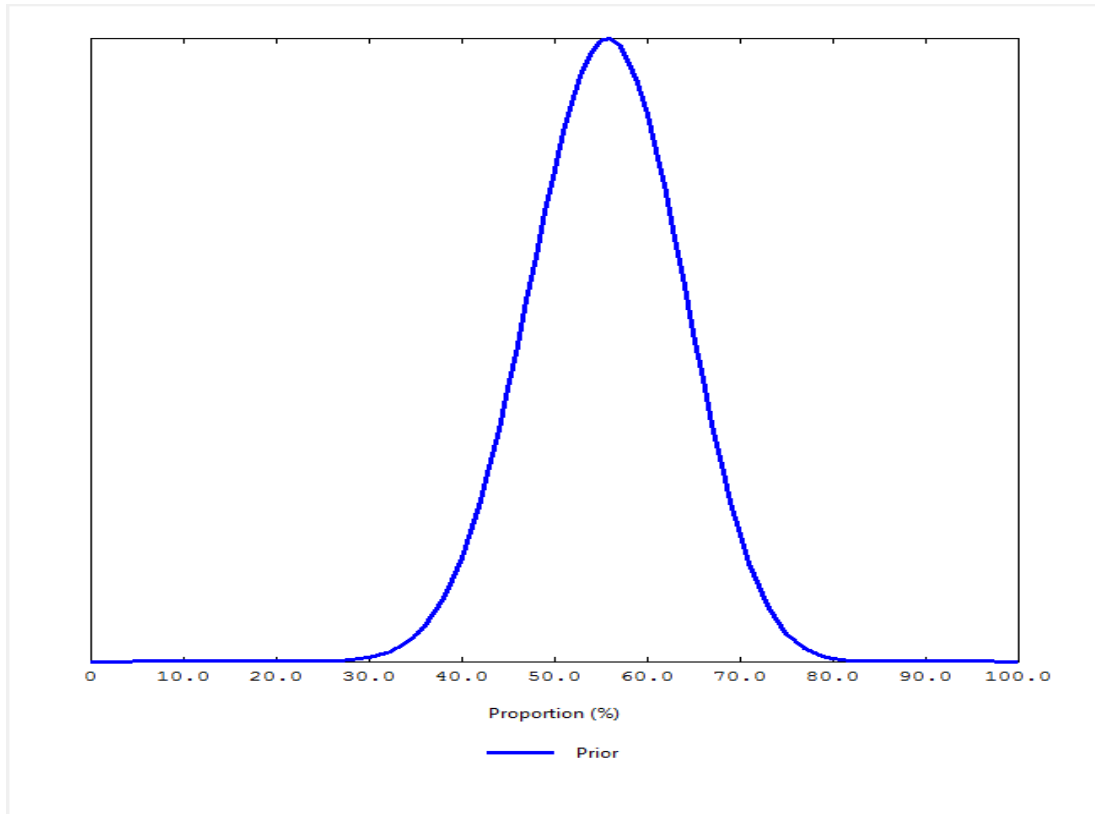


Figure 9: Prior plot

2.3 STAGE 3

2.3.1 Wide area survey

This stage was to estimate the overall coverage of the program area by use of the Bayesian technique. This involved a 2 stage sampling where the sample size for children was derived at after which the sample size for villages was done and the villages identified.

2.3.2 SAM cases Sample size

The sample size for the number of SAM cases was calculated with the below formula where the prior mode of 55.5%, a prior $\alpha = 20.8$, prior $\beta = 16.7$ and a precision of 10% were used. A SAM sample of **59 cases** was derived at.

$$n = \frac{\text{mode}(1 - \text{mode})}{(\text{precision} \div 1.96)^2} - (\alpha + \beta - 2)^6$$

⁶ FANTA SQUEAC technical reference

Villages sample size

To calculate the village sample size, an average village size of 1099, percentage of children under 5s 17.8% and a SAM prevalence of 4.0%⁷ were used. A total of 8 villages were sampled, with villages being selected from the 3 program areas (Kandahar city, Daaman and Spin Boldak districts). The formula below was used. The eight villages were selected by applying systematic random sampling with the sampling frame containing villages from the 3 program areas.

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

2.3.3 Data collection

Data collection for the wide area survey was done by 4 teams with each team having one supervisor and two enumerators. Each team visited one village in a day, thus the exercise was concluded in two days. All the children 6-59 months were screened with MUAC with those found malnourished and not covered in the OTP program given a referral slip to the nearest MHT site. Further to that, all the caregivers of children not in the program were interviewed on with a standard questionnaire to get the main reasons why the children were not covered.

2.3.4 Coverage Estimates

A total of 114 active SAM cases were found in the survey with only 6 recovering SAM cases being found. The number of recovering cases was low considering that the program has been running for some months. The total cases found were above the calculated SAM cases sample size of 59 SAM cases. Door to door screening of all the malnourished children was done in the sampled villages. The findings are shown in the table below.

⁷

Table 4: Wide area results

A	SAM Cases in Program	60
B	SAM case not in Program	54
C	Total Active SAM cases	114
D	Recovering Cases in Program	6
E	Recovering cases out of program (calculated)	21
F	Total Cases	120
	Point Coverage⁸	48.6% (41.3% - 55.8%)
		z = 0.96, p = 0.3395

A single coverage estimate was used instead of either point or period coverage. The advantage of using a single coverage is that the results will be comparable to the other coverage assessments which will be conducted in the same program area. To achieve this, the unknown variable of cases recovering out of the program was calculated using the below formula;

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

Whereby k is the ratio of the mean length of an untreated episode⁹ to the mean length of a CMAM treatment episode¹⁰ (7.5/1.8), 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.

⁸ (A+D)/F

⁹ This value is commonly used when estimating future programme case-loads from prevalence estimates

¹⁰ This was the value calculated from the program data in the survey

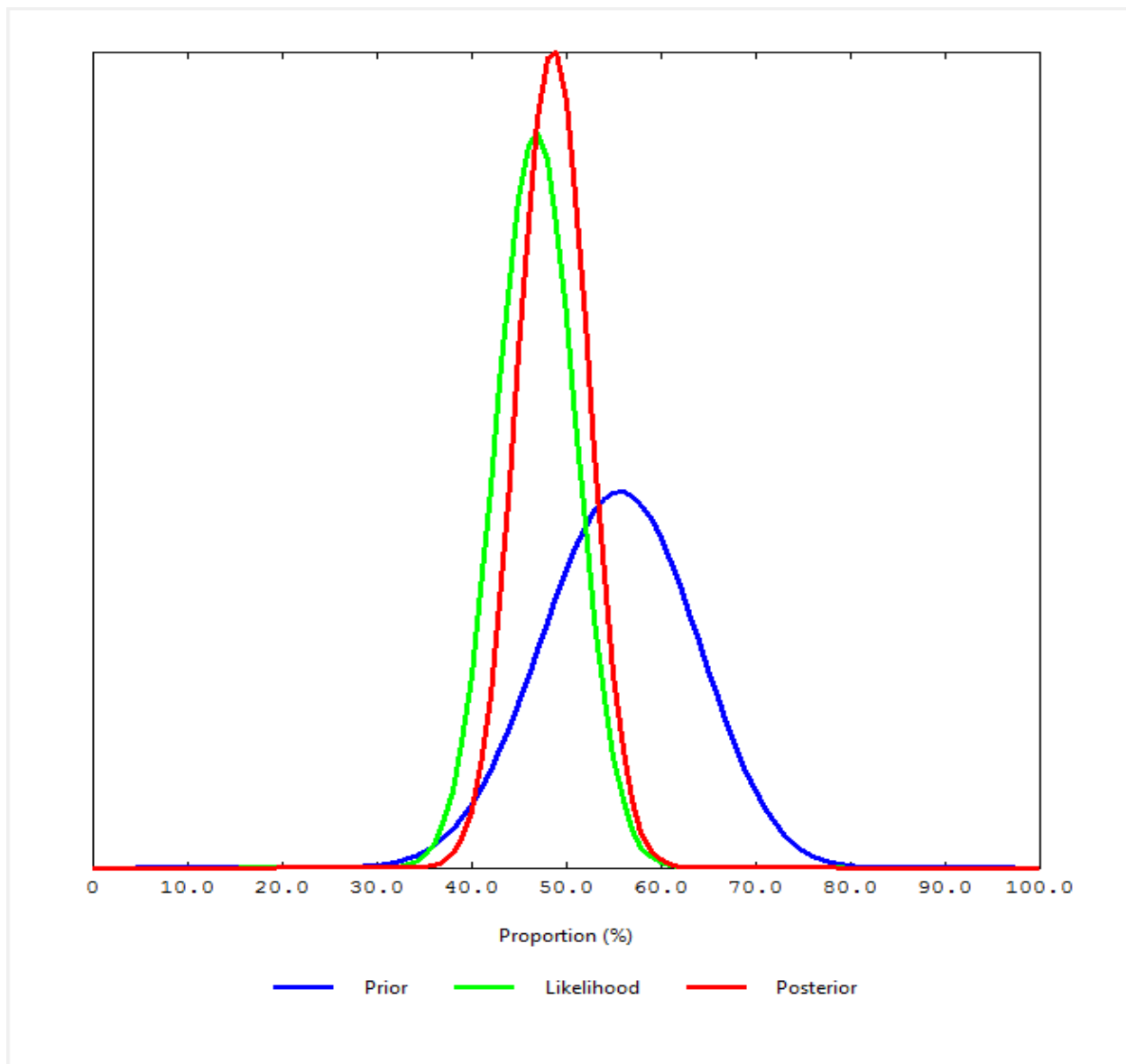


Figure 10: Coverage estimate plot

The estimate coverage plot above shows that the posterior is narrower than the prior an indication that the wide area survey has reduced the uncertainty of the survey. The overlap in the coverage plot indicates that there was reliability in setting the prior and that the prior information did not conflict with the overall coverage estimate from the data collected in the wide area survey. Statistical tests on the overlap (z-test and P-value) show that there is no significant conflict between the prior, posterior and the likelihood. It is therefore credible to use the survey data.

2.3.5 Reasons for not being in the program

All the SAM children not covered in the OTP program were given a referral slip and referred to the nearest OTP site. The mothers of the uncovered children were also interviewed with a standard questionnaire for non-covered cases which sought to get the reasons for not being in the program. The major reasons why the children were not covered were lack of program awareness which was reported by 21 mothers (39%), lack of mahram or family member to accompany the mother to the OTP site reported by 19 mothers (35%) with 12 mothers not able to identify whether their children were malnourished. The other reasons are shown in the figure below.

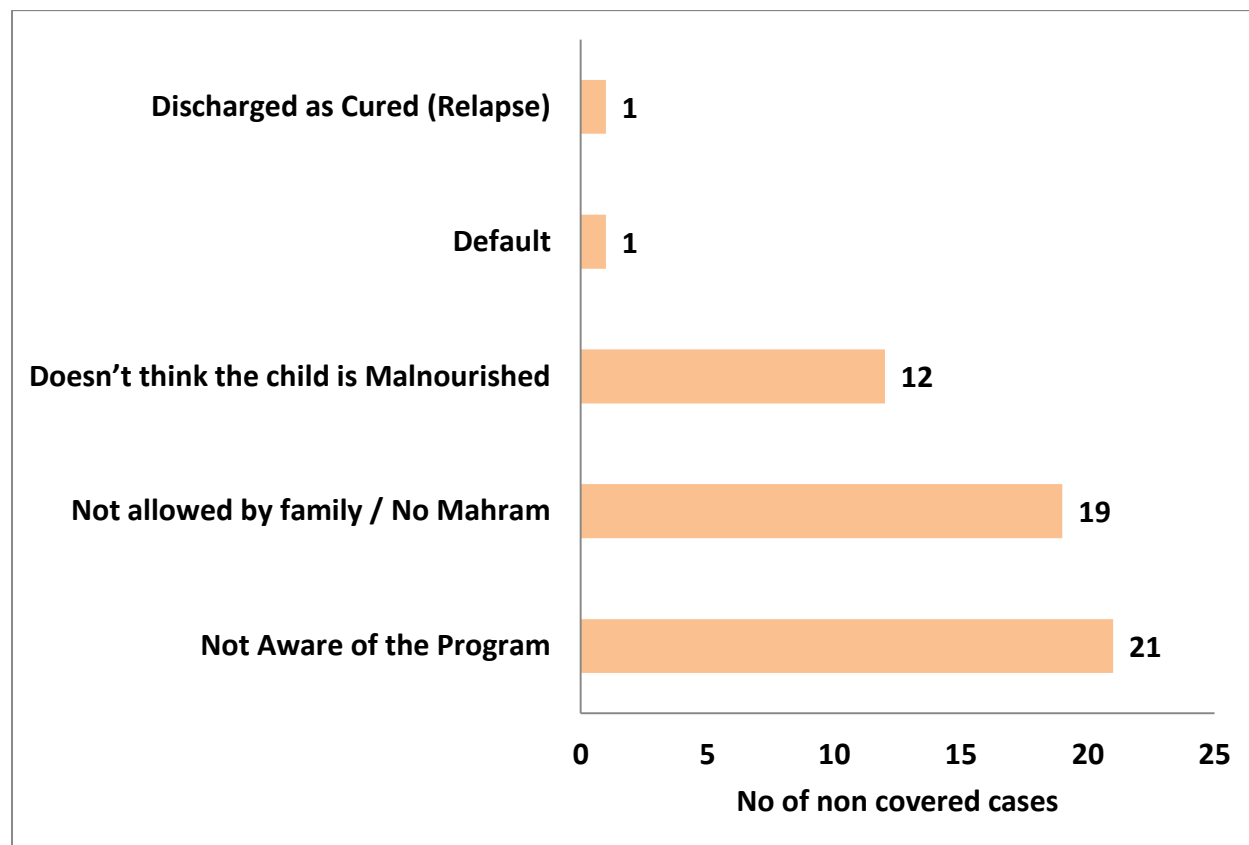


Figure 11: Reasons for being non-covered

3. DISCUSSION AND CONCLUSION

The coverage of the program was 48.6% (41.3% - 55.8%) by use of the Bayesian technique. This estimate is short of the Sphere cut off for rural set up of 50%. The program covers only the IDP population, which is easier to reach due to the population being in defined areas and thus easy to achieve a high coverage. Despite the coverage not being optimal, there were positive factors identified in the assessment which possibly contributed to a near optimal coverage estimate. These included continued screening, and admission to the program with evidence of active case finding and referral by CHWs seen during the qualitative data collection. Consistent RUTF supply meant that nonattendance and defaulting caused due to shortage or lack of supplies was avoided and hence consistent high cure rates.

Some limiting factors were also identified such as less awareness of the program, staff turnover affecting admissions and a weak implementation of the IMAM guideline. Limited movement in the program area, both due to culture and unfavorable weather was as well identified as a key factor in the access of both nutrition and health services

The quantitative data analysis involved only 222 cards for the entire program period. Despite the admission trends not showing sharp drops and the performance indicators having a positive indication, these numbers may be too low compared to the prevalence of SAM in the province and the vulnerability of the IDP population which is being targeted by the program. Further to this, during the wide area survey, almost half of the active SAM cases found in the survey were not covered. This may indicate that despite evidence of screening and case referral, there is a significant number not reached by the program. One of the major reasons why the children were not covered was lack of awareness about the OTP program.

Beneficiary monitoring needs to be scaled up. Admission and exit details, as well as the weekly follow up details needs to be well documented. This will ensure that defaulters are easily identified and also easily avoid defaulting by having well documented visits and also avoiding overstay in the program. The use of updated monitoring tools is also recommended. It would be important for the program to initiate the use of the SQUEAC monitoring tools which can give a snapshot on the progress of the program.

Trainings on IMAM with follow up trainings and OJT/mentorship sessions are necessary to strengthen the capacity of the IMAM staff. This will enhance accurate recruitment, management of the beneficiaries and also exiting the beneficiaries the right way. This training needs to be done not only to those directly involved in the program but also to the other staff who have a possibility of being involved in the management of the SAM cases, i.e. all the health care providers working in the health system.

Community mobilization, through active engagement of community mobilizers and CHWs is crucial in ensuring uptake of the program by the entire community. Limited movements, exacerbated by the strict culture not allowing ladies out of the homes can be attributed to limited information the community has about the program and the benefits of the program to the malnourished child. Targeting the key community persons will make it easier as they are trusted with information in the community. These includes the *malleks* and the *Mullahs*

4. RECOMMENDATIONS

	Recommendation	Findings	Evidence	Actions to be taken	Responsible people	Level of priority
Community mobilisation	1. Engage the entire target community in the program through mobilization of all the community members 2. Recruit a community mobilizer and more CHWs	Lack of awareness of the program in several sites	High number of non-covered cases was found in the wide area survey	Mobilize the entire community through engagement of the key leaders who will help pass the information to the community	Nutrition officers/Community mobilizers	High
		Inactive community mobilizer and CHWs in one of the program areas	Complete lack of awareness in the areas visited for small area survey	Engage more CHWs depending on the IDP numbers in an area	ECHO focal person	Medium
		Few Health posts, only 5 in the entire program	Few admissions to the program in some of the areas Treatment seeking through the private doctors by most of the care givers	Raise awareness on the signs, symptoms and hospital treatment of malnutrition to avoid home treatment and treatment through the private doctors	Project manager/Community mobilizers	High
CHW	3. Strengthen the CHW supervision	Weak supervision of the CHW activities	Some CHWs were reported to be reluctant on their work through interviews with the caregivers	Have measureable targets for the CHWs and the community mobilizers	Project managers/ECHO focal person	Medium
			Community mobilization through the community mobilizer not directly linked with the CHW activities affected the	Link the community mobilizer's activities to the CHWs, coordinated through the community mobilizers to make the exercise more effective.	Project manager/ECCHO focal Person	High

			success and intensity of mobilization	Replace the inactive CHWs		
				Build the capacity of all CHWs through training s and mentorship sessions.	Project manager/EC HO focal Person	High
Reporting	4. Capacity build the IMAM staff on documentation, beneficiary follow up and reporting 5. Use of SQUEAC tools to regularly evaluate the progress of the program	Poor documentation leading to lack of beneficiary follow up	There were no records or reports of defaulter tracing in the project Several hidden defaulters identified due to poor documentation.	OJT sessions to be carried out regularly to mentor the IMAM staff	MEAL officer/Project manager	Medium
				Initiate a defaulter tracing mechanism at the program level. This should include follow up of absent cases(would be defaulters)	Nutrition officer	High
				Engage the key community persons in seeking the most appropriate solutions in establishing a nutrition program in insecure areas	Community mobilizer/project manager	High
				Review the progress of the program by regularly using the SQUEAC quantitative tools to get the trends and outcome analysis	MEAL officer	Medium
Program Implementation	6. Mass screening at the village level especially those identified to have a low coverage 7. Support	Low number of beneficiaries compared to the SAM rates and the population figures targeted. Hot weather reporting	High number of Non-covered cases was found in the survey Some beneficiaries reported to miss the program due to difficulty	Mobilize all the villages for screening and recruitment to the program	Nutrition manager	High
				Stimulate the CHWs to scale up active case finding	Nutrition officer/community	High

	supervision of the program to ensure mentorship 8. Ensure the program is flexible to culture and the context	to inhibit day time movement of the beneficiaries	walking in hot weather.	in their respective villages	mobiliser	
				Consider having a biweekly visit for the beneficiaries in villages where distance is a factor	Nutrition manager/EC HO focal person	Medium
				Adjust the working hours at the mobile site based on the analysis of the context	Nutrition manager	Medium
Capacity building	9. Conduct an IMAM training engaging several health workers including those not working directly in the IMAM program	Lack of the clarity on the use of the IMAM guidelines by some of the implementing staff Few staff trained on IMAM with the current guidelines	A facility was closed due to lack of a staff with the capacity to manage IMAM clients. Wrong documentation in some of the registers showed that an IMAM training is required	Conduct classroom training for all the Health workers including those not working in the IMAM program to ensure there is a good back up.	Project manager/PND/ECHO focal person	Medium
				Involve all MHT staff in the routine OJT sessions to ensure more capacity is build.	Nutrition manager/MEAL officer	Medium
				Scale up the supervision of the IMAM implementation	Nutrition manager	Medium
Staffing	10. Proper hr management to ensure quick staff replacement 11. Have a back up of trained IMAM staff	Staff exit within a short time making it difficult to have a replacement in time for continuation of services	One of the MHT was not functional for two months after staff resigned	Have a ample notice to be given by staff before leaving to ensure time for replacement	SCI	Medium
				Train more staff on IMAM to ensure continuity of services in case of an eventuality	SCI	Medium

5. ANNEXES

Annex 1: SQUEAC Assessment plan

KANDAHAR SQUEAC ASSESSMENT PLAN, MAY 2015	
DATE	ACTIVITY
10 th May 2015	Preparation/planning with Implementer team +collection of OTP Cards, registers, monthly reports etc.
11 th -12 th May 2015	Training of the core team and the enumerators on the SQUEAC methodology (classroom training)
13 th - 14 th May 2015	Collection and analysis of routine data
16 th - 19 th May 2015	Stage 1
	Collection & analysis of qualitative data
	Identifying areas of low & high coverage
	Identifying boosters & barriers to coverage
20 th May 2015	Formulation of the hypothesis/identification of the boosters and barriers
21 st , 23 th May 2015	Stage 2
	Confirmation of hypothesis(small area survey
	Determination of prior mode
25 th - 30 th May 2015	Wide area survey (Stage 3)
31 st May 2015	Development of Posterior, Recommendations and Action Plan
1 st Jun2015	Presentation
20 th Jun 2015	Share the Final SQUEAC report

Annex 2: Qualitative data collection villages and informants

Day	Team No	Team Leader	Members	MHT Name	Village	Key informants
1	1	Dr. Halim	Sadiqa	City	Kariz Bazar	Community members (M/F)
						Teachers (mandrasa and formal)
						CHWs
						Carers of malnourished children
	2	Dr. M. Arif	Dr. Mashooq Noor hania	City	Noorani Mena	Health centre personnel
						Carers of malnourished children
						CHWs
						Health Shora Member
	3	Dr. Habiburahman	Fazlia	City	Nasaji	Community members (M/F)
						Local leaders (village chiefs)
						Religious authorities
						Traditional birth attendants
2	1	Dr. Halim	Sadiqa	City	Haji Aziz	Traditional mid wives
						Community members (M/F)
						Local leaders (village chiefs)
						Religious authorities
						Traditional mid wives
	2	Dr. M. Arif	Noor hania	City	Momand	Carers of malnourished children
						Community members (M/F)
						Teachers
						CHWs/Volunteers
						Carers of malnourished children
	3	Dr. Mashooq	Fazlia	City	Naqlin	Health centre personnel
						Carers of malnourished children
						Community health workers/volunteers
						Health Shora Member
3	1	Dr. Halim	Sadiqa	Boldak	Haji Abdul udood	Health Shora Member
						Community members (M/F)
						Local leaders (village chiefs)
						Religious authorities
						Traditional birth attendants
	2	Dr. M. Arif	Noor hania Dr. Mashooq	Boldak	Barakzai	Carers of malnourished children
						Community members (M/F)
						Teachers
						CHWs/Volunteers
						Carers of malnourished children
	3	Dr. Habiburahman	Fazlia Fawad	Boldak	Miryani	MHT personnel
						Carers of malnourished children
						Community health workers/volunteers
						Health Shora Member

Annex 3: List of participants

No	Name	Sex	Position	Ph- Number
1	Dr. Muhammad Arif "Shekeb"	Male	Core Team Member	0781388951
2	Dr. Muhammad Halim "Habibzai"	Male	Core Team Member	0708995455
3	Dr. Mashooq "Sadiq"	Male	Core Team Member	0700642161
4	Dr. Habiburrahman "Azizi"	Male	Core Team Member	0791462375
5	Dr. Shafiq ullah "Bashari"	Male	Core Team Member	
6	Miss. Sadiqa "Ghafari"	Female	Core Team Member	0707109606
7	Mr. Fawad	Male	Core Team Member	
8	Noorhania	Female	Enumerator	
9	Fazlia	Female	Enumerator	0700374661
10	Abdul Majeed	Male	Enumerator	0704238962
11	Maryam	Female	Enumerator	070849391
12	Najia	Female	Enumerator	0792969217
13	Fatima	Female	Enumerator	0795387833
14	Ramin	Male	Enumerator	0700337500
15	Zabihullah	Male	Enumerator	0700387561
16	Abdulrahman	Male	Enumerator	0703581086
17	Supia	Female	Enumerator	0703581086

Annex 4: Sources of qualitative data

SOURCE	SYMBOL
Community members (M/F)	Ñ
Teachers	S
Community health workers	Ũ
Careers of malnourished children	©
MHT personnel	ᵀ
Health Shora member	Ш
Local leaders (village chiefs)	ᄀ
Religious leaders	ᵱ
Traditional Birth Attendants(TBA)	ᵿ