AFGHANISTAN

Rapid SMART Assessment Report

Lashkargah and Nawa Districts, Helmand province

December 2017

Survey Manager : Dr. Baidar Bakht Habib

Prepared by: Dr. Baidar Bakht Habib and Shafiullah Samim

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Action Against Hunger

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LIST OF ABBREVIATIONS

ACF	Action Contre la Faim| Action Against Hunger
BRAC	Building Resources Across Communities
AIM	Assessments Information Management Working Group
ARI	Acute Respiratory Infection
BPHS	Basic package of health services
CSO	Central Statistics Organization
CT	Care Taker
DK	Don't not know
ENA	Essential Nutrition Assessment
GAM	Global Acute Malnutrition
OCHA	Office for the Coordination of Humanitarian Affairs
HAZ	Height for Weight Z-score
HH	Household
IYCF	Infant and Young Child Feeding
MOPH	Ministry of Public Health
MUAC	Mid-upper arm circumference
OW	Observed Weight
PNO	Provincial Nutrition Officer
RC	Reserve Cluster
SAM	Severe Acute Malnutrition
SD	Standard Deviation
SMART	Standardized Monitoring and Assessment of Relief and Transitions
U5DR	Under 5 Death Rate
WASH	Water, Sanitation and Hygiene
WH	Weight for Height
WHO	World Health Organization

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2. EXECUTIVE SUMMARY

The Rapid Nutrition Assessment was conducted between 7 Dec to 13 Dec 2017 in Lashkar Gah and Nawa districts of Helmand province. 563 children aged 0-59 months and 518 children aged 6-59 months were assessed, in 227 households out of 250 households covered. The Rapid SMART assessment report provides an analysis and interpretation of nutrition anthropometric, child morbidity, Immunization coverage (measles), nutritional status of pregnant and lactating women and summary recommendations are in the report.

Summary of Key survey findings:

- Combined GAM and SAM prevalence (all criteria: WHZ, MUAC and bilateral edema) was at **16.1% (95% CI 12.9-19.3)** and **3.3% (95% CI 1.8 – 4.9)** respectively.
- Prevalence of Global Acute Malnutrition (GAM) based on Weight-for-Height Z score was at **10.0% (7.6 - 13.2 95% C.I.)** and SAM was at **1.2% (0.5 - 2.5 95 % CI)**.
- Global Acute Malnutrition (GAM) based on MUAC was at **12.9% (9.4 - 17.5 95% C.I.)** And SAM was at **3.1% (1.7 - 5.7 95% CI)**.
- No edema cases among under-five children were identified.
- Prevalence of stunting based on Height-for-Age Z score was at **53.1% (44.7 - 61.4 95% C.I.)** while severe stunting was **22.5% (16.4 - 30.1 95 % CI**).
- Prevalence of underweight based on Weight-for-age z score was **28.3% (23.3 - 33.8 95% CI)** and Severe was **8.6% (6.2 - 11.7 95% CI).**
- Maternal nutrition status of pregnant and lactating women (15-49 years) with MUAC <230 mm was at **22.1%.**
- ARI and Diarrhea prevalences were at **30.2%** and **12.8%** respectively from the total assessed children under five in the target area with two weeks recall period.
- Measles immunization coverage (confirmed by card and recall) was at **76.9%** (by both card and recall).

3. INTRODUCTION

Helmand is one of the 34 provinces of Afghanistan. It's located in the southern part of the Afghanistan. The province is divided into fourteen districts such us Garmseer, Nawa, Nadali, Greshk, Khana shin, Marjah, Naw zad, Sangin, Mosa Qala, Wasir, Kajake, Baghran, Disho and Lashkar Gah which is the capital of the province. The total population of the province is about 955,970[1]. Helmand has borders with Kandahar, Nimroz, Farah, Ghor and Daykundi provinces. Predominant tribe is the Pashtu although there are other minority tribes like Baluchi, Tajik and Hazaras. The most commonly spoken language in the province is Pashtun.

It was agreed (based on the security and accessibility) to select Basolan BHC, Khalaj CHC, Ainak BHC, Kharaba SHC, Qalai Boost BHC, Mukhtar CHC and Safian SHC catchment area as the most appropriate area to conduct Rapid SMART assessment using the Rapid SMART methodology.

The estimated population of these health facilities is 162,015[2]. The results cannot be extrapolated to the Whole districts but only representative of the surveyed area, this is the limitation about having complete picture of the nutrition status of children under the age of five years in Nawa and Lashkar Gah districts. **See Annex 1** villages list.

4. OBJECTIVES OF THE SURVEY

4.1. BROAD OBJECTIVE

To evaluate the need of emergency nutrition program.

4.2. SPECIFIC OBJECTIVE

1. To broadly estimate Global Acute Malnutrition (GAM) rates among children from 6 - 59 months living Nawa and Lashkar Gah districts of Helmand province.
2. To estimate two weeks recall morbidity among children from 0- 59 months living in Nawa and Lashkar Gah districts.
3. To estimate measles vaccination coverage among children from 9 - 59 months living in Nawa and Lashkar Gah districts.
4. To estimate prevalence of malnutrition among pregnant and lactating women (PLWs).

[1] CSO: Estimated population 1396 (2017-2018)

[2] ACF assessment : estimated population August 2016

5. JUSTIFICATION

- Based on insecurity and accessibility issues those two districts were selected for Rapid SMART instead of full SMART based on Afghanistan Rapid SMART survey methodology.
- The justification of this Rapid SMATR Assessment is to investigate rapidly the situation of vulnerable children and women in Nawa and Lashkar Gah districts and follow-up of 2016 Rapid SMART assessments for these two districts.
- This assessment will provide some evidence based statistics on the current nutrition situation in Nawa and Lashkar gah districts.

6. SAMPLE SIZE, SAMPLING DESIGN AND PROCEDURES

6.1. SAMPLE SIZE AND SAMPLING DESIGN

The population assessed are inhabitants living in the group of affected villages, meaning several settlements and the households were assumed to be living in the area more than 200. As there is more than ONE settlement and the population is dispersed: two stage cluster sampling has been used. The number of clusters was also fixed to a minimum of 25 with 200 minimum number of children (6-59 months) required. It has been selected using two-stage cluster sampling. The table below presents the precision which was expected to be reached, according to the GAM result.

The table below presents the precision, which was expected to reach, according to the GAM result.

Expected GAM Prevalence	Minimum Sample size	Precision
20%	200 children	+/- 7.1%
15%	200 children	+/- 6.3%
10%	200 children	+/- 5.3%
5%	200 children	+/- 3.9%

To reach the required number of sample, Rapid SMART assessment for Afghanistan proposes simplified rule to convert children into households:

A. When the percentage of children under age of 5 is below 15%, 25 clusters of 12 households have to be selected

B. When the percentage of children under age of 5 is above 15%, 25 clusters of 10 households have to be selected

The number of households per cluster has to be adapted following the reference percentage of under-5 population for Afghanistan, which is 17.2% (CSO updated population for Afghanistan 1396).

So, 25 clusters of 10 households were selected randomly using ENA for SMART software 2011 latest version (9th July 2015) from the list of villages.

6.2. SAMPLING PROCEDURES

Households:

There was difficult to obtain an updated list of Households, hence systematic random sampling was used to identify the households surveyed. The teams were trained on both methods of sampling (simple and systematic random sampling) and they were offered with materials to assist in determining the households during the data collection exercise

In cases where there was large villages in a cluster; the village was divided into smaller segments and a segment was selected randomly to include the cluster. This division was done based on existing Landmarks in the camp e.g. pathways, water points, mosques, health facilities, schools.

Again, for the sake of simplification and rapidity, polygamous families were accounted as ONE household.

In each selected village, one or more community member(s) was asked to help the survey teams to conduct their work by providing information about the village with regard to the geographical organization or the number of households.

Children

All children from 0 to 59 months of age living in selected households were included in the cluster (6-59 for anthropometry and <6 month for other health part). Age being very difficult to investigate and to ascertain, the high prevalence of stunting in Afghanistan impairs the relevance of height benchmarks to identify simply an age category.

Careful age identification by use of locally developed event calendar, child dental chart, etc was applied. Local event calendar can be updated if there is one from previous studies. If there is none, than a calendar including events of only border months can be rapidly elaborated with the staffs during the training. **It is important to note that the official calendar in Afghanistan is the solar Hijri calendar (Iranian calendar).** The use of the Gregorian calendar can introduce bias and confusion while interviewing caretakers and therefore can cause additional loss of time.

6.3. DATA COLLECTION

A simple tally sheets instead of a questionnaire was used (ANNEX 4) where surveyors would simply write down these data for each child. The number of the child in the household and the number of the household in the cluster is recorded too.

Anthropometric data

- The **sex** has to be recorded with codes: f = female and m=male.

- The **age** was written down in months. The preparation and the use on the field of tools to determine age could time consuming and require previous preparation (e.g. Event calendar). The teams had at maximum sensitized to the importance of the age record.
- **Weight (in kg):** Children were weighed to the nearest 0.1 kg by using an Electronic Uniscale (or SECA). The children who could easily stand are asked to stand on the weighing scale and their weight was recorded. In a situation when the children could not stand up, the double weighing method was applied[3].
- **Height/Length (in cm):** Measuring board used to measure bare headed and barefoot children. The precision of the measurement was 1 mm. Children of less than 2 years were measured lying down (length) and those equal to or above 2 years measured standing up (Height).
- All children checked for **Bilateral Pitting Oedema**. It was essential that all staff well trained to check for Oedema on both feet.
- **MUAC** was taken on the **LEFT** arm using flexible MUAC tape. The MUAC measurement had recorded in mm.

All children detected as SAM whether by presence of bilateral pitting edema and/ or MUAC < 115 cm, referred to the nearest facility or agency responsible for therapeutic care for immediate treatment in this case BRAC BPHS implementer organization.

Measles immunization status

For all children selected in the sample, the mother/caretaker (CT) asked if the child has been immunized against measles or not, and if there was a vaccination card? The answers was recorded as 'Y' (Yes); 'VWC' (Vaccination without Card); 'N' (No); 'DK' (Does not Know), according to the situation.

Morbidity data

For all children selected in the sample, the mother/CT was asked:

- If the child had diarrhea within the last 14 days. Diarrhea is defined as every episode of more than 3 liquid stools per day. Record was made as follows: 'Y' (Yes); 'N' (No); 'DK' (Does not Know)
- If the child had Acute Respiratory Infection (ARI) within the last 14 days. Acute Respiratory Infection is any episode with severe, persistent cough or difficulty breathing. Record was made as follows: 'Y' (Yes); 'N' (No); 'DK' (Does not Know), according to the situation.

[3] The first measurement is the weight of the care taker and the second is the weight of the caretaker with the child. The scale can record the first measurement and automatically extract it from the second measurement, showing only the weight of the child on the screen.

6.4. DATA ANALYSIS

The anthropometric data was analyzed using ENA for SMART software 2011 version, with July 9th 2015 update. Survey results are presented in reference to WHO standards for overall final analysis.

After data has been entered and quality checked ENA software generates a gender specific table with MUAC/oedema results (and if this is the case: Wasting and stunting. Confidence intervals are automatically calculated by the software ENA.

ENA generates automatically table for MUAC results using cut-offs presented below:

Classification	Normal	Moderate Acute Malnutrition	Severe acute malnutrition
MUAC	**≥125mm**	**<125mm to ≥115**	**<115mm and/or edema**

If the weight and the height have been assessed, ENA can generate a survey report automatically. If all anthropometric measurements are collected, than ENA was generating results for Acute Malnutrition (WHZ), Stunting (HAZ), and Underweight (WAZ)[4]. Results are presented in **% Z-scores with 95% Confidence Interval**.

These are defined as follows:

	Acute Malnutrition	Underweight	Stunting
Global	**WHZ <-2 SD and/or edema**	**WAZ <-2 SD**	**HAZ <-2 SD**
Moderate	**WHZ <-2 SD to ≥-3SD**	**WAZ <-2 SD to ≥-3 SD**	**HAZ <-2 SD to ≥-3SD**
Severe	**WHZ <-3 SD and/or edema**	**WAZ <-3 SD**	**HAZ <-3 SD**

[4] Overweight was included in automatic data analysis since recently.

6.5. TRAINING AND SUPERVISION

Eight teams of two members in each team (one female and one male) conducted the field data collection. Each two teams had one supervisor. The previous experience from Afghanistan has shown that in some cases people are not eager to allow surveyors to measure female children. It is important to bear that in mind while conducting Rapid SMART assessment and to have as much as possible mixed teams of surveyors that have adapted communication approach. ACF SMART technical team, ACF Helmand Nutrition and health deputy manager and BPHS M&E officer supervised the teams.

Pictures during supervision from the team

This survey utilized the eight community health supervisors, 8 midwives and 3-cluster supervisor recommended by BRAC Helmand office for this assessment and others from ACF staff. In this case the teams received a 4 days training on data collection for Rapid SMART assessment which includes a 1 day standardization test. It was expected that based on the teams experience with Health and Nutrition services they were more aware and skilled to properly execute the data collection activities for the Rapid SMART assessment.

Pictures during standardization test

One field guidelines document with instructions and household definition and selection document were provided to each team member. All documents, such as local event calendar, questionnaires or consent forms were translated in Pashto local language, for better understanding and to avoiding direct translation during the field data collection. The questionnaires were back translated using a different translator. Alterations were made as necessary.

6.6. Final Sampling Strategy

The total of 25 clusters was visited. Clusters were based mainly on villages (cluster selection is in Annex 2). Table 1 makes a summary of the achieved samples (household, children).

Table 1: Details of proposed and actual sample size achieved, Nawa and Lashkar Gah district, December 2017

Number of HH planned	Number of HH surveyed	% HH surveyed /planned	Number of children 6-59 months planned	Number of children 6-59 months surveyed	% children surveyed /planned
250	227	90.8 %	200	518	259.0%

Data was analyzed with ENA for SMART (software 2011 version updated 9th July 2016). Additional data (morbidity, measles vaccination and women nutritional status) was analyzed using Microsoft Excel.

6.7. Survey Limitation

- Security problems
- Lack of updated list of Households in the villages
- Name of Villages (some villages was based on name of person and some had same names)
- Inaccuracy of some villages level population data; some villages found that was smaller or larger than anticipated on visits time during data collection.

7. RESULTS

7.1. DISTRIBUTION BY SEX AND AGE

Among the surveyed children, boys and girls were equally represented (boys/girls ratio was 1.12 with p=0.187). The age ratio of 6-29 months to 30-59 months was 1.47, (The value should be around 0.85): p-value = 0.000 (significant difference), it means, there were younger children were more than older children in the sample were.

7.2. ANTHROPOMETRIC RESULTS:

Estimation of prevalence of GAM was done based on WHO 2006 child growth standards and the results are presented with exclusion of z- score from observed mean SMART flags: WHZ -3 to + 3, HAZ -3 to +3 and WHZ -3 to +3.the overall data quality check is shown in **Annex 3**.

See table below for distribution of age and sex sample.

Table 2: Distribution of age and sex of sample, Nawa and Lashkar Gah district, December 2017

	Boys		Girls		Total		Ratio
AGE (mo)	**no.**	**%**	**no.**	**%**	**no.**	**%**	**Boy:girl**
6-17	81	51.6	76	48.4	157	30.3	1.1
18-29	87	57.6	64	42.4	151	29.2	1.4
30-41	47	47.5	52	52.5	99	19.1	0.9
42-53	44	53.0	39	47.0	83	16.0	1.1
54-59	15	53.6	13	46.4	28	5.4	1.2
Total	274	52.9	244	47.1	518	100.0	1.1

The following tables present the under nutrition rates as follows:

- Prevalence of acute malnutrition based on WHZ-score and/or edema and by sex (Table 3)
- Rates of edema (Table 4)
- Sex disaggregated rates of MUAC cut-offs (Table 5)
- Sex disaggregated weight-for-age z-scores (Table 6)
- Sex disaggregated height-for-age z-scores (Table 7)

Table 3: Prevalence of acute malnutrition based on weight-for-height z-scores (and/or edema) and by sex, Nawa and Lashkar Gah district, December 2017

	All n = 508	Boys n = 269	Girls n = 239
Prevalence of global malnutrition (<-2 z-score and/or edema)	(51) 10.0 % (7.6 - 13.2 95% C.I.)	(30) 11.2 % (8.0 - 15.3 95% C.I.)	(21) 8.8 % (5.2 - 14.5 95% C.I.)
Prevalence of moderate malnutrition (<-2 z-score and >=-3 z-score, no edema)	(45) 8.9 % (6.6 - 11.9 95% C.I.)	(26) 9.7 % (6.8 - 13.5 95% C.I.)	(19) 7.9 % (4.4 - 13.9 95% C.I.)
Prevalence of severe malnutrition (<-3 z-score and/or edema)	(6) 1.2 % (0.5 - 2.5 95% C.I.)	(4) 1.5 % (0.6 - 3.8 95% C.I.)	(2) 0.8 % (0.2 - 3.6 95% C.I.)

Table 4: Distribution of acute malnutrition and edema based on weight-for-height z-scores, Nawa and Lashkar Gah district, December 2017

	<-3 z-score	>=-3 z-score
Edema present	Marasmic kwashiorkor No. 0 (0.0 %)	Kwashiorkor No. 0 (0.0 %)
Edema absent	Marasmic No. 12 (2.3 %)	Not severely malnourished No. 505 (97.7 %)

Table 5: Prevalence of acute malnutrition based on MUAC cut offs (and/or edema) and by sex, Nawa and Lashkar Gah district, December 2017

	All n = 518	Boys n = 274	Girls n = 244
Prevalence of global malnutrition (< 125 mm and/or edema)	(67) 12.9 % (9.4 - 17.5 95% C.I.)	(36) 13.1 % (9.0 - 18.8 95% C.I.)	(31) 12.7 % (8.5 - 18.7 95% C.I.)
Prevalence of moderate malnutrition (< 125 mm and >= 115 mm, no edema)	(51) 9.8 % (7.1 - 13.5 95% C.I.)	(30) 10.9 % (7.0 - 16.6 95% C.I.)	(21) 8.6 % (5.7 - 12.7 95% C.I.)
Prevalence of severe malnutrition (< 115 mm and/or edema)	(16) 3.1 % (1.7 - 5.7 95% C.I.)	(6) 2.2 % (1.0 - 4.6 95% C.I.)	(10) 4.1 % (2.0 - 8.4 95% C.I.)

Table 6: Prevalence of Global Acute Malnutrition based on both criteria (MUAC+WHZ)

Status	All (boys and girls) With CI
Prevalence of global acute malnutrition	16.1% (12.9-19.3, 95% CI)
Prevalence of sever acute malnutrition	3.3% (1.8-4.9, 95% CI)

Table 7: Prevalence of underweight based on weight-for-age z-scores and by sex, Nawa and Lashkar Gah district, December 2017

	All **n = 513**	Boys **n = 273**	Girls **n = 240**
Prevalence of underweight (<-2 z-score)	(145) 28.3 % (23.3 - 33.8 95% C.I.)	(76) 27.8 % (22.2 - 34.3 95% C.I.)	(69) 28.8 % (23.2 - 35.0 95% C.I.)
Prevalence of moderate underweight (<-2 z-score and >=-3 z-score)	(101) 19.7 % (16.2 - 23.8 95% C.I.)	(51) 18.7 % (14.2 - 24.1 95% C.I.)	(50) 20.8 % (16.1 - 26.5 95% C.I.)
Prevalence of severe underweight (<-3 z-score)	(44) 8.6 % (6.2 - 11.7 95% C.I.)	(25) 9.2 % (6.0 - 13.6 95% C.I.)	(19) 7.9 % (4.9 - 12.4 95% C.I.)

Table 8: Prevalence of stunting based on height-for-age z-scores and by sex, Nawa and Lashkar Gah district, December 2017

	All **n = 497**	Boys **n = 268**	Girls **n = 229**
Prevalence of stunting (<-2 z-score)	(264) 53.1 % (44.7 - 61.4 95% C.I.)	(147) 54.9 % (45.4 - 64.0 95% C.I.)	(117) 51.1 % (41.0 - 61.1 95% C.I.)
Prevalence of moderate stunting (<-2 z-score and >=-3 z-score)	(152) 30.6 % (25.8 - 35.8 95% C.I.)	(80) 29.9 % (23.1 - 37.6 95% C.I.)	(72) 31.4 % (24.3 - 39.6 95% C.I.)
Prevalence of severe stunting	(112) 22.5 %	(67) 25.0 %	(45) 19.7 %

(<-3 z-score)	(16.4 - 30.1 95% C.I.)	(18.1 - 33.4 95% C.I.)	(12.9 - 28.8 95% C.I.)

The summary of the Mean Z-scores with their Standard Deviations, the design effects and number of the out of range data per index is the table 8 below.

Table 9: Mean z-scores, design effect and excluded subjects, Nawa and Lashkar Gah district, December 2017

Indicator	N	Mean z-scores ± SD	Design Effect (z-score < -2)	z-scores not available*	z-scores out of range
Weight-for-Height	508	-0.45±1.08	1.02	1	9
Weight-for-Age	513	-1.41±1.06	1.63	0	5
Height-for-Age	497	-1.99±1.22	3.31	0	21

* contains for WHZ and WAZ the children with edema.

7.3. CHILD HEALTH AND IMMUNIZATION

Retrospective morbidity data was collected among all children 0-59 months, with the 2 weeks recall period assessed the occurrence of main diseases. All children aged from 9 to 59 months were assessed whether they ever received measles vaccine or not. Analysis of data and findings illustrated in table 9 and 10.

Table 10: Under-five morbidity, two week recall, (N=563), Nawa and Lashkar Gah district, December 2017

Parameters	Frequency	Results
Acute Respiratory Infection (ARI)	170	30.2%
Diarrhea	72	12.8%

Table 11: Measles immunization status, children 9-59 mounts, (N=480), Nawa and Lashkar Gah districts, December 2017

Parameters	Frequency	Results
Yes, confirmed by card	120	25.0%
Yes, recall	249	51.9%
No	93	19.4%
Don't Know	18	3.8%

7.4. MATERNAL NUTRITIONAL STATUS

The information on maternal nutrition status was collected for women at childbearing age (CBA), from 15 to 49 years with focus on pregnant and lactating women. The results illustrated in the tables 13 and 14 below.

Table 12: Physiological status of women of reproductive age (15-49 years), (N=513), Nawa and Lashkar Gah districts, December 2017,

Status	Frequency	%
Pregnant	88	17.2%
Lactating	192	37.4%
Non-pregnant & non-lactating	233	45.4%

Table 13: Nutrition status of pregnant and lactating women based on MUAC cut off, Nawa and Lashkar Gah district, December 2017,

PLWs MUAC cut off (N=280)	Frequency	Results
Global Acute Malnutrition MUAC <230 mm	62	22.1% (17.3 - 27.0 95% CI)
Moderate acute malnutrition MUAC <230 mm to ≥210mm	49	17.5% (13.0 - 22.0 95% CI)
Sever acute malnutrition MUAC <210 mm	13	4.6% (2.2 - 7.1 95% CI)

8. DISCUSSION

Under nutrition rates

The GAM prevalence based on weight-for-height Z-score was 10.0% (7.6 - 13.2 95% C.I.) and SAM rate 1.2% (0.5 - 2.5 95% CI) and GAM prevalence based on MUAC<125 mm was 12.9% (9.4 - 17.5 95% CI) and SAM (<115mm) was 3.1% (1.7 – 5.7 95% CI) respectively. However, the combined GAM was at 16.1% and SAM rate of 3.3%. According to WHO threshold classification for acute malnutrition, this is a critical public health problem.

The GAM rate from last year August 2016 was at 1**2.0 %(8.5 - 16.6 95% C.I.)**and for this assessment GAM was at **10.0% (7.6-13.2 95% CI)** based on WHZ score, for comparative analysis using the CDC two surveys Calculator does not show any significant change in the GAM rates based on WHZ score for the August 2016 and December 2017 Rapid SMART assessments conducted in the province (P value =0.3897). In this case, P>0.05. Therefore, the null hypothesis is acceptable, and we cans say there is no significant difference between the prevalence of Helmand Rapid SMART assessment in August 2016 and that of Helmand Rapid SMART assessment December 2017.

Further analysis suggests that these rates do not refer to same children. Children classified as wasted based WHZ are very slightly overlapping (35.4%) with those classified wasted based on MUAC. If both criteria are combined, overall prevalence of children likely to be eligible for SAM and MAM management in Nawa and Lashkar Gah districts, Helmand province was found to be 16.1% (95% CI 12.9-19.3) When SAM alone is analyzed using combined WHZ and MUAC then the SAM caseloads is projected at 3.3% (95% CI 1.8-4.9%). Combined rates are recommended to be used for caseload estimation of SAM and MAM management in the assessed health facilities coverage areas.

Prevalence of Stunting rate was 53.1 %(44.7 - 61.4 95% C.I.) Based on the survey finding in every 2 people 1 person has chronic malnutrition or stunting.
The prevalence of underweight was at 28.3% (23.3 - 33.8 95% CI); this from of under-nutrition depicts the burden of acute and chronic under-nutrition among under-fives.

Prevalances of diarrhea and ARI at 12.8% and 30.2% reported, is directly linked to current under-nutrition rates in Nawa and Lashkar Gah districts of Helmand. Continuous monitoring and immediate provision of life-saving services are required in the area to counteract the high burden of under-nutrition.

The low coverage (76.9%) of measles vaccination illustrates the hindrance in accessing the basic health services in the area, with coverage below the WHO thresholds of >80%[5].

9. RECOMMENDATIONS

9.1. NUTRITION

- Strengthen of IMAM program in the area (OPD MAM, OPD SAM, IPD SAM and community outreach).
- To Scale up Supplementary Feeding Program (SFP), this will provide targeted solutions for under-fives and maternal nutritionals issues
- To provide active screening and strengthen referral systems within the communities.
- Integration of nutrition, WASH and FSL programming within the area to address the high levels of under-nutrition.
- To increase health education on nutrition and environmental hygiene
- Launching food demonstration program in the community to increase knowledge of women on proper using of nutritious locally available foods.
- To increase awareness on utilization of nutrition and antenatal care (ANC) services

[5] WHO from 2010 recommends increase routine coverage with the first dose of measles-containing vaccine (MCV1) by ≥90% nationally and ≥80% in every district or equivalent administrative unit for children aged 1 year (http://www.who.int/mediacentre/factsheets/fs286/en/).

9.2. CHILD HEALTH STATUS

- Strengthening provision of all types of micronutrients (zinc, vitamin A) in both the Clinic and community levels by HFs staff and CHWs.
- To increase health education on management of ARI and diarrhea at the community.
- Provide WASH community mobilization to increase access safe drinking water and hygiene.
- To increase health education on personal and environmental hygiene.

Note: there was one recommendation for the complete SMART survey to cover the whole province to know the entire picture of the province.

10 ANNEXES

Annex 1: List of selected clusters/ villages

S/No	Name of Village	District Name	Population	HF Name	HF Type	Cluster No	Remarks
4	Darul Salam Masjeed	Lashkargah	525	Karta e Lagan	CHC	1	
7	Rahmatullah Masjeed	Lashkargah	3150	Karta e Lagan	CHC	2	
10	Abo Hanifah Musjeed	Lashkargah	1260	Karta e Lagan	CHC	3	
15	Nabawi Masjeed	Lashkargah	2100	Karta e Lagan	CHC	4	
20	Haji Sheerin	Lashkargah	1260	Karta e Lagan	CHC	5	
26	Haji Muhammad Zai	Lashkargah	1260	Karta e Lagan	CHC	6	
31	Haji Tor Jan	Lashkargah	1050	Karta e Lagan	CHC	7	
48	Abdul Ghani	Lashkargah	850	Karta e Lagan	CHC	8	
63	Abdul Shakor	Lashkargah	154	IDP Mukhtar	CHC	9	
82	Mula Allah Nazar	Lashkargah	896	IDP Mukhtar	CHC	10	
91	Hayatullah	Lashkargah	1001	IDP Mukhtar	CHC	11	
97	Shahabudin	Lashkargah	3101	IDP Mukhtar	CHC	12	
101	Akhlaqi	Lashkargah	301	IDP Mukhtar	CHC	13	
108	Noori Sani	Lashkargah	1470	Safyan	SHC	14	
114	Sufi Mubin	Lashkargah	840	Safyan	SHC	RC	
118	Haji Mirza khan	Lashkargah	1680	Safyan	SHC	15	
125	Haji Muhi Din	Lashkargah	630	Safyan	SHC	16	
158	Abdul Ahad	Lashkargah	224	Qala e Bost	BHC	17	
178	Haji Zahir	Lashkargah	224	Qala e Bost	BHC	RC	
204	Mula Sardar	Lashkargah	133	Qala e Bost	BHC	18	
217	Imamul Husain Masjeed	Lashkargah	3360	B -2-1	BHC	RC	
224	Haji Shahabuldin	Lashkargah	490	B -2-1	BHC	19	
232	Haji Khan Masjeed	Lashkargah	490	B -2-1	BHC	20	
244	Haji Abdul Qader	Lashkargah	210	B -2-1	BHC	21	
262	Haji Salam	Lashkargah	210	B -2-1	BHC	22	
284	Haji Ahmad jan	Nawa	1540	Ainak	BHC	23	
292	Majo Aka	Nawa	861	Ainak	BHC	24	
295	Haji Meer Alam	Nawa	900	Ainak	BHC	25	

Annex 2: local Event calendar

د میاشتو نومونه	میاشتی	1391	میاشتی	1392	میاشتی	1393	میاشتی	1394	میاشتی	1395	میاشتی	1396
حمل		نوروز پسرلی . سحرا شنه کیږی ونی ګل کوی هندوانی کرل کیږی دغنمو دلو وخت . توتکی ډیریږی	57	نوروز پسرلی . سحرا شنه کیږی ونی ګل کوی هندوانی کرل کیږی دغنمو دلو وخت . توتکی ډیریږی	45	نوروز پسرلی . سحرا شنه کیږی ونی ګل کوی هندوانی کرل کیږی دغنمو دلو وخت . توتکی ډیریږی	33	نوروز پسرلی . سحرا شنه کیږی ونی ګل کوی هندوانی کرل کیږی دغنمو دلو وخت . توتکی ډیریږی	21	نوروز پسرلی . سحرا شنه کیږی ونی ګل کوی هندوانی کرل کیږی دغنمو دلو وخت . توتکی ډیریږی	9	نوروز پسرلی . سحرا شنه کیږی ونی ګل کوی هندوانی کرل کیږی دغنمو دلو وخت . توتکی ډیریږی
ثور		دتاریاک نیش کوی الوچی غوره کوی توتان پخیږی دمچانو او غوماشو ډیری دل	56	دتاریاک نیش کوی الوچی غوره کوی توتان پخیږی دمچانو او غوماشو ډیری دل	44	دتاریاک نیش کوی الوچی غوره کوی توتان پخیږی دمچانو او غوماشو ډیری دل	32	دتاریاک نیش کوی الوچی غوره کوی توتان پخیږی دمچانو او غوماشو ډیری دل		دتاریاک نیش کوی الوچی غوره کوی توتان پخیږی دمچانو او غوماشو ډیری دل	8	دتاریاک نیش کوی الوچی غوره کوی توتان پخیږی دمچانو او غوماشو ډیری دل
جوزا		گرمی ډیریږی سالانه امتحانونه باد ونه زیاتیږی دمیوه جاتو پخیدل . ملخان دیریږی د مکتبونو د رخصتیدو وخت	55	گرمی ډیریږی سالانه امتحانونه باد ونه زیاتیږی دمیوه جاتو پخیدل . ملخان دیریږی د مکتبونو د رخصتیدو وخت	43	گرمی ډیریږی سالانه امتحانونه باد ونه زیاتیږی دمیوه جاتو پخیدل . ملخان دیریږی د مکتبونو د رخصتیدو وخت	31	گرمی ډیریږی سالانه امتحانونه باد ونه زیاتیږی دمیوه جاتو پخیدل . ملخان دیریږی د مکتبونو د رخصتیدو وخت	19	گرمی ډیریږی سالانه امتحانونه باد ونه زیاتیږی دمیوه جاتو پخیدل . ملخان دیریږی د مکتبونو د رخصتیدو وخت	7	گرمی ډیریږی سالانه امتحانونه باد ونه زیاتیږی دمیوه جاتو پخیدل . ملخان دیریږی د مکتبونو د رخصتیدو وخت
سرطان		دوبی سره ځیله گرم بادونه د هندوانو پخیدوخت	**54**	دوبی سره ځیله گرم بادونه د هندوانو پخیدوخت	**42**	دوبی سره ځیله گرم بادونه د هندوانو پخیدوخت	**30**	دوبی سره ځیله گرم بادونه د هندوانو پخیدوخت	**18**	دوبی سره ځیله گرم بادونه د هندوانو پخیدوخت	6	دوبی سره ځیله گرم بادونه د هندوانو پخیدوخت
اسد		دجواروخت د مچیو زیاتیدل دانګوروخت د خټکو د پخیدلو وخت	**53**	دجواروخت د مچیو زیاتیدل دانګوروخت د خټکو د پخیدلو وخت	**41**	دجواروخت د مچیو زیاتیدل دانګوروخت د خټکو د پخیدلو وخت	**29**	دجواروخت د مچیو زیاتیدل دانګوروخت د خټکو د پخیدلو وخت	**17**	دجواروخت د مچیو زیاتیدل دانګوروخت د خټکو د پخیدلو وخت	5	دجواروخت د مچیو زیاتیدل دانګوروخت د خټکو د پخیدلو وخت
سنبله		دمنی میاشت	**52**	دمنی میاشت	**40**	دمنی میاشت	**28**	دمنی میاشت	**16**	دمنی میاشت	4	دمنی میاشت

د مکتبونو شروع دالوای میاشت		د مکتبونو شروع دالوای میاشت		د مکتبونو شروع دالوای میاشت		د مکتبونو شروع دالوای میاشت		د مکتبونو شروع دالوای میاشت			
دحسن او حسین میاشت دجوارو دلو وخت	3	دحسن او حسین میاشت دجوارو دلو وخت	15	دحسن او حسین میاشت دجوارو دلو وخت	27	دحسن او حسین میاشت دجوارو دلو وخت	39	دحسن او حسین میاشت دجوارو دلو وخت	51	دحسن او حسین میاشت دجوارو دلو وخت		سنبلې
صفره.نظری یمنک . دیکچه .سروری چهارشنبه	2	صفره.نظری یمنک . دیکچه .سروری چهارشنبه	14	صفره.نظری یمنک . دیکچه .سروری چهارشنبه	26	صفره.نظری یمنک . دیکچه .سروری چهارشنبه	38	صفره.نظری یمنک . دیکچه .سروری چهارشنبه	50	صفره.نظری یمنک . دیکچه .سروری چهارشنبه		غږل
میلادالنبی ۱۲ دغنمو د کاروخت دنارنجو وخت دبخاری د کینولو وخت	1	میلادالنبی ۱۲ دغنمو د کاروخت دنارنجو وخت دبخاری د کینولو وخت	13	میلادالنبی ۱۲ دغنمو د کاروخت دنارنجو وخت دبخاری د کینولو وخت	25	میلادالنبی ۱۲ دغنمو د کاروخت دنارنجو وخت دبخاری د کینولو وخت	37	میلادالنبی ۱۲ دغنمو د کاروخت دنارنجو وخت دبخاری د کینولو وخت	49	میلادالنبی ۱۲ دغنمو د کاروخت دنارنجو وخت دبخاری د کینولو وخت		ثور
دژمی وخت . دوهمه خور . توره څیله دجدی په ۱۵ مکتبونه امتحانات		دژمی وخت . دوهمه خور . توره څیله دجدی په ۱۵ مکتبونه امتحانات	12	دژمی وخت . دوهمه خور . توره څیله دجدی په ۱۵ مکتبونه امتحانات	24	دژمی وخت . دوهمه خور . توره څیله دجدی په ۱۵ مکتبونه امتحانات	36	دژمی وخت . دوهمه خور . توره څیله دجدی په ۱۵ مکتبونه امتحانات	48	دژمی وخت . دوهمه خور . توره څیله دجدی په ۱۵ مکتبونه امتحانات		حمل
دوهمه خور . بارانونه شروع . مکتبونورخصت		دوهمه خور . بارانونه شروع . مکتبونورخصت	11	دوهمه خور . بارانونه شروع . مکتبونورخصت	23	دوهمه خور . بارانونه شروع . مکتبونورخصت	35	دوهمه خور . بارانونه شروع . مکتبونورخصت	47	دوهمه خور . بارانونه شروع . مکتبونورخصت	59	حوت
څلورمه خور د ونو دګلانو میاشت دحوت د بادونو وخت دبخاری د ویستلو وخت		څلورمه خور د ونو دګلانو میاشت دحوت د بادونو وخت دبخاری د ویستلو وخت	10	څلورمه خور د ونو دګلانو میاشت دحوت د بادونو وخت دبخاری د ویستلو وخت	22	څلورمه خور د ونو دګلانو میاشت دحوت د بادونو وخت دبخاری د ویستلو وخت	34	څلورمه خور د ونو دګلانو میاشت دحوت د بادونو وخت دبخاری د ویستلو وخت	46	څلورمه خور د ونو دګلانو میاشت دحوت د بادونو وخت دبخاری د ویستلو وخت	58	دلو

Annex 2: Plausibility Check Report

Plausibility check for: Helamand ENA 2017.as

Standard/Reference used for z-score calculation: WHO standards 2006

(If it is not mentioned, flagged data is included in the evaluation. Some parts of this plausibility report are more for advanced users and can be skipped for a standard evaluation)

Overall data quality

Criteria	Flags*	Unit	Excel.	Good	Accept	Problematic	**Score**
Flagged data	Incl	%	0-2.5	>2.5-5.0	>5.0-7.5	>7.5	
(% of out of range subjects)			0	5	10	20	**0** (1.7 %)
Overall Sex ratio	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**0** (p=0.187)
Age ratio(6-29 vs 30-59)	Incl	p	>0.1	>0.05	>0.001	<=0.001	
(Significant chi square)			0	2	4	10	**10** (p=0.000)
Dig pref score - weight	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**0** (7)
Dig pref score - height	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**4** (16)
Dig pref score - MUAC	Incl	#	0-7	8-12	13-20	> 20	
			0	2	4	10	**2** (11)
Standard Dev WHZ	Excl	SD	<1.1	<1.15	<1.20	>=1.20	
.			and	and	and	or	
.	Excl	SD	>0.9	>0.85	>0.80	<=0.80	
			0	5	10	20	**0** (1.08)
Skewness WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**1** (-0.26)
Kurtosis WHZ	Excl	#	<±0.2	<±0.4	<±0.6	>=±0.6	
			0	1	3	5	**0** (-0.15)
Poisson dist WHZ-2	Excl	p	>0.05	>0.01	>0.001	<=0.001	
			0	1	3	5	**0** (p=0.196)
OVERALL SCORE WHZ =			0-9	10-14	15-24	>25	**17** %

The overall score of this survey is 17 %, this is acceptable.

There were no duplicate entries detected.

Percentage of children with no exact birthday: 78 %

Anthropometric Indices likely to be in error (-3 to 3 for WHZ, -3 to 3 for HAZ, -3 to 3 for WAZ, from observed mean - chosen in Options panel - these values will be flagged and should be excluded from analysis for a nutrition survey in emergencies. For other surveys this might not be the best procedure e.g. when the percentage of overweight children has to be calculated):

Line=36/ID=1: HAZ (3.886), Age may be incorrect

Line=65/ID=1: HAZ (1.587), Height may be incorrect

Line=119/ID=1: **WHZ (-4.016)**, Weight may be incorrect

Line=131/ID=1: HAZ (2.682), Height may be incorrect

Line=158/ID=1: HAZ (2.303), WAZ (1.584), Age may be incorrect

Line=178/ID=1: **WHZ (-3.660)**, Weight may be incorrect

Line=190/ID=2: HAZ (-8.841), WAZ (-5.743), Age may be incorrect

Line=197/ID=1: **WHZ (-4.628)**, Weight may be incorrect

Line=205/ID=1: **WHZ (8.292)**, HAZ (-8.882), Height may be incorrect

Line=209/ID=3: **WHZ (-5.675)**, HAZ (3.061), Height may be incorrect

Line=228/ID=1: HAZ (1.176), Age may be incorrect

Line=252/ID=1: HAZ (-5.838), Age may be incorrect

Line=272/ID=3: HAZ (1.241), Age may be incorrect

Line=274/ID=2: HAZ (-6.648), Height may be incorrect

Line=281/ID=2: **WHZ (4.875)**, Weight may be incorrect

Line=283/ID=2: **WHZ (-4.411)**, Weight may be incorrect

Line=284/ID=3: HAZ (-6.904), WAZ (-6.945), Age may be incorrect

Line=286/ID=1: HAZ (-5.529), Height may be incorrect

Line=295/ID=1: HAZ (3.073), WAZ (1.767), Age may be incorrect

Line=296/ID=2: HAZ (-5.729), WAZ (-4.584), Age may be incorrect

Line=311/ID=3: HAZ (2.632), Age may be incorrect

Line=312/ID=4: **WHZ (4.971)**, HAZ (-6.948), Height may be incorrect

Line=331/ID=3: **WHZ (-4.342)**, HAZ (1.223), Height may be incorrect

Line=460/ID=1: HAZ (1.953), Age may be incorrect

Line=462/ID=3: HAZ (3.127), Age may be incorrect

Line=553/ID=3: HAZ (1.167), Age may be incorrect

Percentage of values flagged with SMART flags:WHZ: 1.7 %, HAZ: 4.1 %, WAZ: 1.0 %

Age distribution:

Month 6 : ########

Month 7 : ##################

Month 8 : ##########

Month 9 : ####################

Month 10 : ##############

Month 11 : ################

Month 12 : ################

Month 13 : #########

Month 14 : ########

Month 15 : ###########

Month 16 : ##############

Month 17 : ##########

Month 18 : ############################

Month 19 : ##########

Month 20 : ########

Month 21 : ######

Month 22 : #######

Month 23 : ########

Month 24 : ##################################

Month 25 : ############

Month 26 : #########

Month 27 : ##########

Month 28 : ##############

Month 29 : #######

Month 30 : ##########

Month 31 : #####

Month 32 : ####

Month 33 : ###

Month 34 : ###

Month 35 : ####

Month 36 : ##################################

Month 37 : ########

Month 38 : #########

Month 39 : ########

Month 40 : ########

Month 41 : ##

Month 42 : ###########

Month 43 : #####

Month 44 :

Month 45 : ####

Month 46 : ####

Month 47 : ####

Month 48 : ##################################

Month 49 : ########

Month 50 : ###

Month 51 : #####

Month 52 : #

Month 53 : ####

Month 54 : ######

Month 55 : #

Month 56 : ##

Month 57 : #####

Month 58 : #######

Month 59 : #######

Age ratio of 6-29 months to 30-59 months: 1.47 (The value should be around 0.85).:

p-value = 0.000 (significant difference)

Statistical evaluation of sex and age ratios (using Chi squared statistic):

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	81/63.6 (1.3)	76/56.6 (1.3)	157/120.2 (1.3)	1.07
18 to 29	12	87/62.0 (1.4)	64/55.2 (1.2)	151/117.2 (1.3)	1.36
30 to 41	12	47/60.1 (0.8)	52/53.5 (1.0)	99/113.6 (0.9)	0.90
42 to 53	12	44/59.1 (0.7)	39/52.6 (0.7)	83/111.8 (0.7)	1.13
54 to 59	6	15/29.2 (0.5)	13/26.0 (0.5)	28/55.3 (0.5)	1.15
6 to 59	54	274/259.0 (1.1)	244/259.0 (0.9)		1.12

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.187 (boys and girls equally represented)

Overall age distribution: p-value = 0.000 (significant difference)

Overall age distribution for boys: p-value = 0.000 (significant difference)

Overall age distribution for girls: p-value = 0.001 (significant difference)

Overall sex/age distribution: p-value = 0.000 (significant difference)

Digit preference Weight:

Digit .0 : ############################

Digit .1 : ############################

Digit .2 : ###################

Digit .3 : ####################

Digit .4 : #################

Digit .5 : ##############################

Digit .6 : ############################

Digit .7 : ########################

Digit .8 : ###################################

Digit .9 : ###################

Digit preference score: **7** (0-7 excellent, 8-12 good, 13-20 acceptable and > 20 problematic)

p-value for chi2: 0.007 (significant difference)

Digit preference Height:

Digit .0 : ##

Digit .1 : ############################

Digit .2 : ##############################

Digit .3 : ########################

Digit .4 : #################

Digit .5 : ####################################

Digit .6 : #################

Digit .7 : ##############

Digit .8 : ##############

Digit .9 : #################

Digit preference score: **16** (0-7 excellent, 8-12 good, 13-20 acceptable and > 20 problematic)

p-value for chi2: 0.000 (significant difference)

Digit preference MUAC:

Digit .0 : ##

Digit .1 : ##########################

Digit .2 : ######################

Digit .3 : ############################

Digit .4 : ######################

Digit .5 : ##############################

Digit .6 : ##################

Digit .7 : ##################

Digit .8 : ##################

Digit .9 : ################

Digit preference score: **11** (0-7 excellent, 8-12 good, 13-20 acceptable and > 20 problematic)

p-value for chi2: 0.000 (significant difference)

Evaluation of Standard deviation, Normal distribution, Skewness and Kurtosis using the 3 exclusion (Flag) procedures

.	no exclusion	exclusion from reference mean (WHO flags)	exclusion from observed mean (SMART flags)
WHZ			
Standard Deviation SD:	1.27	1.19	1.08
(The SD should be between 0.8 and 1.2)			
Prevalence (< -2)			
observed:	11.0%	10.9%	10.0%
calculated with current SD:	11.2%	9.8%	7.7%
calculated with a SD of 1:	6.2%	6.3%	6.1%
HAZ			
Standard Deviation SD:	1.51	1.41	1.22
(The SD should be between 0.8 and 1.2)			
Prevalence (< -2)			
observed:	52.5%	52.0%	53.1%
calculated with current SD:	48.9%	47.3%	49.6%
calculated with a SD of 1:	48.3%	46.1%	49.5%
WAZ			
Standard Deviation SD:	1.13	1.10	1.06
(The SD should be between 0.8 and 1.2)			
Prevalence (< -2)			
observed:	28.6%	28.4%	28.3%
calculated with current SD:	30.5%	29.7%	29.0%
calculated with a SD of 1:	28.3%	27.9%	27.8%

Results for Shapiro-Wilk test for normally (Gaussian) distributed data:

WHZ	p= 0.000	p= 0.000	p= 0.006
HAZ	p= 0.000	p= 0.000	p= 0.000
WAZ	p= 0.001	p= 0.190	p= 0.045

(If p < 0.05 then the data are not normally distributed. If p > 0.05 you can consider the data normally distributed)

Skewness

WHZ	0.40	-0.11	-0.26
HAZ	0.09	0.70	0.34
WAZ	-0.32	-0.13	-0.06

If the value is:

-below minus 0.4 there is a relative excess of wasted/stunted/underweight subjects in the sample

-between minus 0.4 and minus 0.2, there may be a relative excess of wasted/stunted/underweight subjects in the sample.

-between minus 0.2 and plus 0.2, the distribution can be considered as symmetrical.

-between 0.2 and 0.4, there may be an excess of obese/tall/overweight subjects in the sample.

-above 0.4, there is an excess of obese/tall/overweight subjects in the sample

Kurtosis

WHZ	5.62	1.65	-0.15
HAZ	2.43	1.04	-0.60
WAZ	0.96	0.12	-0.35

Kurtosis characterizes the relative size of the body versus the tails of the distribution. Positive kurtosis indicates relatively large tails and small body. Negative kurtosis indicates relatively large body and small tails.

If the absolute value is:

-above 0.4 it indicates a problem. There might have been a problem with data collection or sampling.

-between 0.2 and 0.4, the data may be affected with a problem.

-less than an absolute value of 0.2 the distribution can be considered as normal.

Test if cases are randomly distributed or aggregated over the clusters by calculation of the Index of Dispersion (ID) and comparison with the Poisson distribution for:

WHZ < -2: ID=1.24 (p=0.196)

WHZ < -3: ID=0.78 (p=0.757)

GAM: ID=1.24 (p=0.196)

SAM: ID=0.78 (p=0.757)

HAZ < -2: ID=4.14 (p=0.000)

HAZ < -3: ID=4.32 (p=0.000)

WAZ < -2: ID=2.81 (p=0.000)

WAZ < -3: ID=1.69 (p=0.020)

Subjects with SMART flags are excluded from this analysis.

The Index of Dispersion (ID) indicates the degree to which the cases are aggregated into certain clusters (the degree to which there are "pockets"). If the ID is less than 1 and p > 0.95 it indicates that the cases are UNIFORMLY distributed among the clusters. If the p value is between 0.05 and 0.95 the cases appear to be randomly distributed among the clusters, if ID is higher than 1 and p is less than 0.05 the cases are aggregated into certain cluster (there appear to be pockets of cases). If this is the case for Oedema but not for WHZ then aggregation of GAM and SAM cases is likely due to inclusion of oedematous cases in GAM and SAM estimates.

Are the data of the same quality at the beginning and the end of the clusters?

Evaluation of the SD for WHZ depending upon the order the cases are measured within each cluster (if one cluster per day is measured then this will be related to the time of the day the measurement is made).

```
Time                                              SD for WHZ
point                  0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3
01: 1.13 (n=24, f=0)   ##############
02: 1.29 (n=23, f=1)   ######################
03: 0.99 (n=22, f=0)   ########
04: 1.03 (n=23, f=0)   ##########
05: 2.05 (n=21, f=1)   ####################################################
06: 0.94 (n=24, f=0)   ######
07: 1.07 (n=24, f=0)   ###########
08: 0.98 (n=22, f=0)   #######
09: 1.35 (n=24, f=1)   ########################
10: 1.75 (n=23, f=2)   ##########################################
11: 1.20 (n=23, f=0)   ################
12: 1.32 (n=22, f=1)   ######################
13: 1.19 (n=22, f=0)   ################
14: 1.12 (n=18, f=0)   #############
15: 1.05 (n=20, f=0)   ##########
16: 1.18 (n=19, f=0)   ################
17: 1.16 (n=20, f=0)   ###############
18: 1.10 (n=14, f=0)   #############
19: 1.31 (n=15, f=0)   ######################
20: 0.98 (n=16, f=0)   ########
21: 1.00 (n=13, f=0)   ########
22: 1.04 (n=12, f=0)   ##########
23: 1.06 (n=10, f=0)   ###########
24: 0.73 (n=04, f=0)
25: 1.34 (n=09, f=0)   ########################
26: 2.63 (n=06, f=2)   OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
27: 0.27 (n=05, f=0)
28: 1.40 (n=05, f=0)   OOOOOOOOOOOOOOOOOOOOOOOO
29: 0.67 (n=05, f=0)
30: 1.09 (n=04, f=0)   ~~~~~~~~~~~~
```

```
31: 1.04 (n=03, f=0)  ~~~~~~~~~~
32: 4.10 (n=02, f=1)  ~~~~~~~~~~
```

.4 :	7	8	8	11	8	7	4	2
.5 :	7	15	15	28	23	7	14	10
.6 :	16	8	3	4	3	5	7	6
.7 :	9	3	2	2	7	9	4	6
.8 :	9	2	5	0	0	15	4	12
.9 :	7	8	3	7	10	7	7	8
DPS:	9	27	21	29	23	19	29	16

Digit preference score (0-7 excellent, 8-12 good, 13-20 acceptable and > 20 problematic)

Digit preference MUAC (%):

.0 :	9	15	25	24	22	7	21	20
.1 :	13	15	8	9	8	13	7	14
.2 :	3	11	12	13	10	7	8	14
.3 :	7	18	12	4	12	13	11	16
.4 :	15	8	10	9	7	4	16	2
.5 :	4	12	12	28	12	13	11	12
.6 :	9	8	3	4	8	16	4	12
.7 :	18	2	3	4	2	15	11	2
.8 :	12	3	12	2	10	9	5	6
.9 :	10	9	2	2	10	4	6	2
DPS:	14	17	21	29	16	14	16	21

Digit preference score (0-7 excellent, 8-12 good, 13-20 acceptable and > 20 problematic)

Standard deviation of WHZ:

SD	1.01	1.61	1.40	1.04	1.13	1.34	1.30	1.06
Prevalence (< -2) observed:								
%	5.9	13.6	8.5	4.3	13.3	18.2	12.4	10.0
Prevalence (< -2) calculated with current SD:								
%	4.4	19.0	12.2	3.6	10.2	12.8	13.2	9.6
Prevalence (< -2) calculated with a SD of 1:								
%	4.3	7.9	5.1	3.1	7.6	6.5	7.3	8.4

Standard deviation of HAZ:

SD	1.21	1.93	1.41	1.48	1.30	1.34	1.50	1.20
observed:								
%	30.9	53.0	67.8	39.1	60.0	41.8	71.1	36.0
calculated with current SD:								
%	32.5	45.3	62.3	37.5	52.4	37.8	65.7	34.2
calculated with a SD of 1:								
%	29.2	41.0	67.0	31.8	53.1	33.9	72.8	31.2

Statistical evaluation of sex and age ratios (using Chi squared statistic) for:

Team 1:

Age cat.	mo.	boys	girls	total	ratio boys/girls

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	6/8.6 (0.7)	8/7.2 (1.1)	14/15.8 (0.9)	0.75
18 to 29	12	13/8.4 (1.6)	5/7.0 (0.7)	18/15.4 (1.2)	2.60
30 to 41	12	6/8.1 (0.7)	9/6.8 (1.3)	15/14.9 (1.0)	0.67
42 to 53	12	8/8.0 (1.0)	8/6.7 (1.2)	16/14.7 (1.1)	1.00
54 to 59	6	4/3.9 (1.0)	1/3.3 (0.3)	5/7.3 (0.7)	4.00
6 to 59	54	37/34.0 (1.1)	31/34.0 (0.9)		1.19

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.467 (boys and girls equally represented)

Overall age distribution: p-value = 0.832 (as expected)

Overall age distribution for boys: p-value = 0.421 (as expected)

Overall age distribution for girls: p-value = 0.517 (as expected)

Overall sex/age distribution: p-value = 0.102 (as expected)

Team 2:

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	10/9.3 (1.1)	10/6.0 (1.7)	20/15.3 (1.3)	1.00
18 to 29	12	14/9.0 (1.5)	7/5.9 (1.2)	21/14.9 (1.4)	2.00
30 to 41	12	11/8.8 (1.3)	5/5.7 (0.9)	16/14.5 (1.1)	2.20
42 to 53	12	4/8.6 (0.5)	2/5.6 (0.4)	6/14.2 (0.4)	2.00
54 to 59	6	1/4.3 (0.2)	2/2.8 (0.7)	3/7.0 (0.4)	0.50
6 to 59	54	40/33.0 (1.2)	26/33.0 (0.8)		1.54

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.085 (boys and girls equally represented)

Overall age distribution: p-value = 0.025 (significant difference)

Overall age distribution for boys: p-value = 0.081 (as expected)

Overall age distribution for girls: p-value = 0.244 (as expected)

Overall sex/age distribution: p-value = 0.002 (significant difference)

Team 3:

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	13/7.9 (1.6)	11/5.8 (1.9)	24/13.7 (1.8)	1.18
18 to 29	12	11/7.7 (1.4)	4/5.7 (0.7)	15/13.3 (1.1)	2.75
30 to 41	12	4/7.5 (0.5)	7/5.5 (1.3)	11/12.9 (0.9)	0.57
42 to 53	12	5/7.3 (0.7)	3/5.4 (0.6)	8/12.7 (0.6)	1.67
54 to 59	6	1/3.6 (0.3)	0/2.7 (0.0)	1/6.3 (0.2)	
6 to 59	54	34/29.5 (1.2)	25/29.5 (0.8)		1.36

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.241 (boys and girls equally represented)

Overall age distribution: p-value = 0.006 (significant difference)

Overall age distribution for boys: p-value = 0.061 (as expected)

Overall age distribution for girls: p-value = 0.054 (as expected)

Overall sex/age distribution: p-value = 0.001 (significant difference)

Team 4:

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	4/4.4 (0.9)	4/6.3 (0.6)	8/10.7 (0.7)	1.00
18 to 29	12	8/4.3 (1.9)	9/6.1 (1.5)	17/10.4 (1.6)	0.89
30 to 41	12	4/4.2 (1.0)	5/5.9 (0.8)	9/10.1 (0.9)	0.80
42 to 53	12	3/4.1 (0.7)	7/5.8 (1.2)	10/9.9 (1.0)	0.43
54 to 59	6	0/2.0 (0.0)	2/2.9 (0.7)	2/4.9 (0.4)	0.00
6 to 59	54	19/23.0 (0.8)	27/23.0 (1.2)		0.70

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.238 (boys and girls equally represented)

Overall age distribution: p-value = 0.153 (as expected)

Overall age distribution for boys: p-value = 0.235 (as expected)

Overall age distribution for girls: p-value = 0.585 (as expected)

Overall sex/age distribution: p-value = 0.054 (as expected)

Team 5:

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	8/8.4 (1.0)	5/5.6 (0.9)	13/13.9 (0.9)	1.60
18 to 29	12	7/8.1 (0.9)	8/5.4 (1.5)	15/13.6 (1.1)	0.88
30 to 41	12	9/7.9 (1.1)	2/5.3 (0.4)	11/13.2 (0.8)	4.50
42 to 53	12	10/7.8 (1.3)	6/5.2 (1.2)	16/12.9 (1.2)	1.67
54 to 59	6	2/3.8 (0.5)	3/2.6 (1.2)	5/6.4 (0.8)	0.67
6 to 59	54	36/30.0 (1.2)	24/30.0 (0.8)		1.50

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.121 (boys and girls equally represented)

Overall age distribution: p-value = 0.810 (as expected)

Overall age distribution for boys: p-value = 0.762 (as expected)

Overall age distribution for girls: p-value = 0.477 (as expected)

Overall sex/age distribution: p-value = 0.115 (as expected)

Team 6:

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	12/6.0 (2.0)	9/6.7 (1.3)	21/12.8 (1.6)	1.33
18 to 29	12	7/5.9 (1.2)	6/6.6 (0.9)	13/12.4 (1.0)	1.17
30 to 41	12	5/5.7 (0.9)	10/6.4 (1.6)	15/12.1 (1.2)	0.50
42 to 53	12	0/5.6 (0.0)	2/6.3 (0.3)	2/11.9 (0.2)	0.00
54 to 59	6	2/2.8 (0.7)	2/3.1 (0.6)	4/5.9 (0.7)	1.00
6 to 59	54	26/27.5 (0.9)	29/27.5 (1.1)		0.90

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.686 (boys and girls equally represented)

Overall age distribution: p-value = 0.005 (significant difference)

Overall age distribution for boys: p-value = 0.017 (significant difference)

Overall age distribution for girls: p-value = 0.186 (as expected)

Overall sex/age distribution: p-value = 0.001 (significant difference)

Team 7:

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	20/13.0 (1.5)	25/13.5 (1.9)	45/26.5 (1.7)	0.80
18 to 29	12	20/12.7 (1.6)	18/13.1 (1.4)	38/25.8 (1.5)	1.11
30 to 41	12	5/12.3 (0.4)	7/12.7 (0.6)	12/25.0 (0.5)	0.71
42 to 53	12	10/12.1 (0.8)	7/12.5 (0.6)	17/24.6 (0.7)	1.43
54 to 59	6	1/6.0 (0.2)	1/6.2 (0.2)	2/12.2 (0.2)	1.00
6 to 59	54	56/57.0 (1.0)	58/57.0 (1.0)		0.97

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.851 (boys and girls equally represented)

Overall age distribution: p-value = 0.000 (significant difference)

Overall age distribution for boys: p-value = 0.002 (significant difference)

Overall age distribution for girls: p-value = 0.000 (significant difference)

Overall sex/age distribution: p-value = 0.000 (significant difference)

Team 8:

Age cat.	mo.	boys	girls	total	ratio boys/girls
6 to 17	12	8/6.0 (1.3)	4/5.6 (0.7)	12/11.6 (1.0)	2.00
18 to 29	12	7/5.9 (1.2)	7/5.4 (1.3)	14/11.3 (1.2)	1.00
30 to 41	12	3/5.7 (0.5)	7/5.3 (1.3)	10/11.0 (0.9)	0.43
42 to 53	12	4/5.6 (0.7)	4/5.2 (0.8)	8/10.8 (0.7)	1.00
54 to 59	6	4/2.8 (1.4)	2/2.6 (0.8)	6/5.3 (1.1)	2.00

```
-------------------------------------------------------------------------------
6  to 59     54      26/25.0 (1.0)      24/25.0 (1.0)                        1.08
```

The data are expressed as observed number/expected number (ratio of obs/expect)

Overall sex ratio: p-value = 0.777 (boys and girls equally represented)

Overall age distribution: p-value = 0.819 (as expected)

Overall age distribution for boys: p-value = 0.535 (as expected)

Overall age distribution for girls: p-value = 0.761 (as expected)

Overall sex/age distribution: p-value = 0.274 (as expected)

Evaluation of the SD for WHZ depending upon the order the cases are measured within each cluster (if one cluster per day is measured then this will be related to the time of the day the measurement is made).

Team: 1

```
Time                                              SD for WHZ
point                0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3
01: 0.73 (n=03, f=0)
02: 0.14 (n=03, f=0)
03: 1.12 (n=03, f=0)  #############
04: 0.73 (n=03, f=0)
05: 0.32 (n=02, f=0)
06: 0.52 (n=03, f=0)
07: 0.07 (n=03, f=0)
08: 0.53 (n=02, f=0)
09: 0.23 (n=03, f=0)
10: 0.34 (n=03, f=0)
11: 1.29 (n=03, f=0)  ####################
12: 0.46 (n=03, f=0)
13: 1.41 (n=03, f=0)  ##########################
15: 1.01 (n=02, f=0)  #########
16: 1.55 (n=03, f=0)  ################################
17: 1.21 (n=03, f=0)  ################
19: 1.83 (n=03, f=0)  ##########################################
20: 1.10 (n=03, f=0)  #############
21: 1.81 (n=03, f=0)  ##########################################
22: 0.92 (n=03, f=0)  #####
23: 2.20 (n=02, f=0)  ############################################################
25: 0.46 (n=02, f=0)
```

(when n is much less than the average number of subjects per cluster different symbols are used: 0 for n < 80% and ~ for n < 40%; The numbers marked "f" are the numbers of SMART flags found in the different time points)

Team: 2

```
Time                                              SD for WHZ
point                0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3
```

```
01: 0.76 (n=03, f=0)
02: 1.23 (n=03, f=0)  ##################
03: 0.98 (n=03, f=0)  ########
04: 0.90 (n=03, f=0)  ####
05: 4.89 (n=03, f=1)  ######################################################################
06: 0.07 (n=03, f=0)
07: 1.36 (n=03, f=0)  ########################
08: 0.50 (n=03, f=0)
09: 0.87 (n=03, f=0)  ###
10: 1.17 (n=03, f=0)  ###############
11: 0.74 (n=03, f=0)
12: 1.38 (n=03, f=0)  ########################
13: 0.66 (n=03, f=0)
14: 0.39 (n=02, f=0)
15: 0.78 (n=03, f=0)
16: 0.58 (n=03, f=0)
17: 0.08 (n=02, f=0)
18: 0.84 (n=02, f=0)  OO
20: 1.55 (n=03, f=0)  ################################
21: 0.65 (n=03, f=0)
22: 1.15 (n=02, f=0)  OOOOOOOOOOOOOO
23: 1.42 (n=03, f=0)  ############################
25: 0.66 (n=02, f=0)
```

(when n is much less than the average number of subjects per cluster different symbols are used: 0 for n < 80% and ~ for n < 40%; The numbers marked "f" are the numbers of SMART flags found in the different time points)

Team: 3

```
Time                                                SD for WHZ
point                 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3
01: 1.29 (n=03, f=0)  ####################
02: 1.22 (n=02, f=0)  ##################
03: 0.27 (n=02, f=0)
04: 0.33 (n=03, f=0)
05: 1.47 (n=03, f=0)  ############################
06: 0.68 (n=03, f=0)
07: 1.44 (n=03, f=0)  ############################
08: 0.89 (n=02, f=0)  ####
09: 1.08 (n=03, f=0)  ############
10: 3.98 (n=03, f=1)  ######################################################################
11: 2.01 (n=03, f=0)  ##################################################
```

12: 2.84 (n=03, f=1) ##

13: 0.11 (n=03, f=0)

14: 0.69 (n=03, f=0)

15: 0.70 (n=03, f=0)

16: 0.74 (n=02, f=0)

17: 0.22 (n=03, f=0)

18: 2.20 (n=02, f=0) ##

19: 2.08 (n=03, f=1) ##

20: 0.26 (n=02, f=0)

(when n is much less than the average number of subjects per cluster different symbols are used: 0 for n < 80% and ~ for n < 40%; The numbers marked "f" are the numbers of SMART flags found in the different time points)

Team: 4

Time SD for WHZ

point 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3

01: 0.67 (n=03, f=0)

02: 1.46 (n=03, f=0) ############################

03: 1.41 (n=03, f=0) ##########################

04: 0.99 (n=03, f=0) ########

05: 0.78 (n=03, f=0)

06: 0.37 (n=03, f=0)

07: 0.10 (n=03, f=0)

08: 1.74 (n=03, f=0) ##

09: 0.88 (n=03, f=0) ###

10: 0.90 (n=03, f=0) ####

11: 0.83 (n=03, f=0) #

12: 1.11 (n=02, f=0) OOOOOOOOOOOOO

13: 1.72 (n=03, f=0) ##

14: 1.29 (n=02, f=0) OOOOOOOOOOOOOOOOOOOO

15: 1.94 (n=02, f=0) OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

16: 0.38 (n=02, f=0)

17: 0.68 (n=02, f=0)

(when n is much less than the average number of subjects per cluster different symbols are used: 0 for n < 80% and ~ for n < 40%; The numbers marked "f" are the numbers of SMART flags found in the different time points)

Team: 5

Time SD for WHZ

point 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3

01: 1.02 (n=03, f=0) #########

02: 1.51 (n=03, f=0) ##############################

03: 0.61 (n=03, f=0)

04: 1.33 (n=02, f=0) ######################

05: 1.04 (n=02, f=0) ##########

06: 1.17 (n=03, f=0) ################

07: 0.93 (n=03, f=0) ######

08: 0.72 (n=03, f=0)

09: 1.36 (n=03, f=0) ########################

10: 1.27 (n=03, f=0) ####################

11: 0.80 (n=03, f=0)

12: 0.62 (n=03, f=0)

13: 0.98 (n=02, f=0) ########

14: 0.17 (n=02, f=0)

15: 1.62 (n=02, f=0) ##################################

16: 1.58 (n=02, f=0) ##################################

17: 1.09 (n=02, f=0) ############

18: 1.86 (n=02, f=0) ##

20: 0.07 (n=02, f=0)

21: 0.08 (n=02, f=0)

22: 1.49 (n=02, f=0) ##############################

(when n is much less than the average number of subjects per cluster different symbols are used: 0 for n < 80% and ~ for n < 40%; The numbers marked "f" are the numbers of SMART flags found in the different time points)

Team: 6

Time SD for WHZ

point 0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3

01: 1.43 (n=03, f=0) ############################

02: 0.26 (n=03, f=0)

03: 1.73 (n=02, f=0) OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

04: 0.74 (n=03, f=0)

05: 0.55 (n=03, f=0)

06: 1.47 (n=03, f=0) ############################

07: 0.84 (n=03, f=0) ##

08: 0.69 (n=03, f=0)

09: 0.86 (n=03, f=0) ##

10: 2.15 (n=02, f=0) OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO

11: 1.45 (n=02, f=0) OOOOOOOOOOOOOOOOOOOOOOOOOO

12: 1.37 (n=02, f=0) OOOOOOOOOOOOOOOOOOOOOOOO

13: 1.34 (n=03, f=0) ########################

14: 1.70 (n=03, f=0) ######################################

15: 1.01 (n=03, f=0) #########

16: 1.72 (n=03, f=0) ######################################

17: 1.80 (n=03, f=0) ##

18: 0.39 (n=02, f=0)

19: 0.20 (n=02, f=0)

20: 2.28 (n=02, f=0) OOOO

```
34: 1.55 (n=02, f=0)  ################################
36: 1.12 (n=02, f=0)  ##############
37: 0.82 (n=02, f=0)  #
38: 0.03 (n=02, f=0)
39: 1.03 (n=02, f=0)  ##########
40: 0.87 (n=02, f=0)  ###
```

(when n is much less than the average number of subjects per cluster different symbols are used: 0 for n < 80% and ~ for n < 40%; The numbers marked "f" are the numbers of SMART flags found in the different time points)

Team: 8

```
Time                                              SD for WHZ
point                0.8 0.9 1.0 1.1 1.2 1.3 1.4 1.5 1.6 1.7 1.8 1.9 2.0 2.1 2.2 2.3
01: 1.44 (n=03, f=0)  ############################
02: 1.59 (n=03, f=1)  ################################
03: 0.49 (n=03, f=0)
04: 0.51 (n=03, f=0)
05: 0.56 (n=02, f=0)
06: 0.76 (n=03, f=0)
07: 0.74 (n=03, f=0)
08: 0.83 (n=03, f=0)  #
09: 1.96 (n=03, f=0)  ##################################################
10: 0.36 (n=03, f=0)
11: 0.91 (n=03, f=0)  #####
12: 1.40 (n=03, f=0)  ########################
13: 0.13 (n=02, f=0)
14: 0.98 (n=02, f=0)  OOOOOOO
15: 0.18 (n=02, f=0)
16: 1.68 (n=02, f=0)  OOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOOO
17: 1.48 (n=02, f=0)  OOOOOOOOOOOOOOOOOOOOOOOOOOO
18: 0.44 (n=02, f=0)
19: 0.46 (n=02, f=0)
```

(when n is much less than the average number of subjects per cluster different symbols are used: 0 for n < 80% and ~ for n < 40%; The numbers marked "f" are the numbers of SMART flags found in the different time points)

(for better comparison it can be helpful to copy/paste part of this report into Excel)

Annex 3: RNA tally sheet for women

Location موقعت: _____ Date: تاریخ _____(Cluster No کلسترنمبر :) _____Team No: ټیم نمبر _____

S/ No مسلسل نمیر	HH No د کورنی نمبر	Physiological status: فزیولوژیک حالت 1 = Pregnant/حامله 2 = Lactating شیدی ورکونکی / 3 =None of both / یو هم نه	Age /years) عمر په کال	MUAC (mm) ### د بازو اندازه	Oedema پرسوب 1=Y هو 2=N نه

Annex 4: RNA Tally sheet for children

Date of interview (dd/mm/yyyy) تاریخ سروی	Cluster Number د کلستر نمبر	Team Number تیم نمبر	Village Name : کلی	Households No دکورنی نمبر

Child No د ماشوم نمبر	Sex جنس F/M	Exact Date of Birth د پیدایښت تاریخ	Age month عمر به میاشت	Weight (kg) وزن به کیلوګرام	Height (cm) قد به سانتی متر	Oedema پرسوب 1=Y هو 2=N نه	MUAC (cm) موک په سانتی متر	Has your child had diarrhea in the past two weeks? ایا ستاسی ماشوم په تیرو دوه هفتو کی اسهال شوی ؟ 1=Y هو 2=N نه	Has your child had ARI in the past two weeks? ایا ستاسی ماشوم په تیرو دوه هفتو کی په حاده تنفسی ناروغی اخته شوی توخی با سینه بغل) ؟ 1=Y هو 2=N نه	Have your child been vaccinated against measles? ایا ستاسی ماشوم د شری واکسین اخیستی دی (9 میاشتنی) ؟ 1=Yes Card: هو کارت لری 2=Yes No card هو کارت نه لری 3=No : نه 4=DK: نه بوهیژم
1										
2										
3										
4										
5										

10. REFERENCES

- WHO standards 2006
- CSO: updated population 1396 (2017-2018)
- ACF assessment : estimated population August 2016
- ENA software 2011 updated 9th July 2015