SMART

GUIDELINES
Rapid SMART surveys for Emergencies

Developed by
ACF – International, SMART Initiative at ACF – Canada and CDC Atlanta

Version 1, September 2014

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Proper data is essential in understanding the extent of nutritional needs, as well as how to best formulate programs to most appropriately address those needs. During emergencies and when large-scale responses are needed, it is important to know where to respond and to concentrate supplies. Several different methods to rapidly assess a nutritional situation have been elaborated and endorsed by different humanitarian actors and scientific bodies. Nevertheless, none of them have been largely implemented and approved at international level. Moreover, the lack of standardized method of rapid nutrition assessment hampers the comparison of data in order to capture significant changes. The nutrition Global Cluster[1] is calling for a global guidance in Rapid assessments as there is limited time for preparations and consultations during the immediate response period of an emergency.

The method presented in these comprehensive guidelines is built upon Standardized Monitoring and Assessment of Relief and Transitions (SMART) Methodology. It proposes a way to rapidly collect reliable nutrition data and to address the above mentioned problems. To emphasize on its strong link with SMART and to differentiate it from the large variety of Rapid Nutrition Assessment (RNA) methods, it is called a *"Rapid SMART survey"*.

Since 2012, the Rapid SMART method has been field-tested in several settings, and where possible a full multi-cluster survey was conducted simultaneously to compare the results. The Rapid SMART methodology was tested in South Sudan, Afghanistan, India, Myanmar and Madagascar between November 2012 and July 2013[2]. After each test, the method was readjusted and further improved, orienting the development of the current Rapid SMART methodology.

The Rapid SMART methodology was technically endorsed by ACF International, the SMART Initiative at ACF–Canada and by the International Emergency and Refugee Health Branch at the Center for Disease Control and Prevention in Atlanta, US.

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[1] Global Nutrition Cluster News Bulletin, November 2013 – January 2014
[2] Other pilot tests for small-sample surveys were also carried out in Kenya and Uganda in 2010 using a different approach.

Overview of Rapid SMART surveys

> ### The **ONLY** contexts for which a Rapid SMART survey should be conducted instead of a full SMART:

> #### Need for **rapid** estimate of the nutritional status in a representative and accurate manner in **emergency** contexts

> #### Limited **time** for collecting the information in terms of accessibility due to **high insecurity**
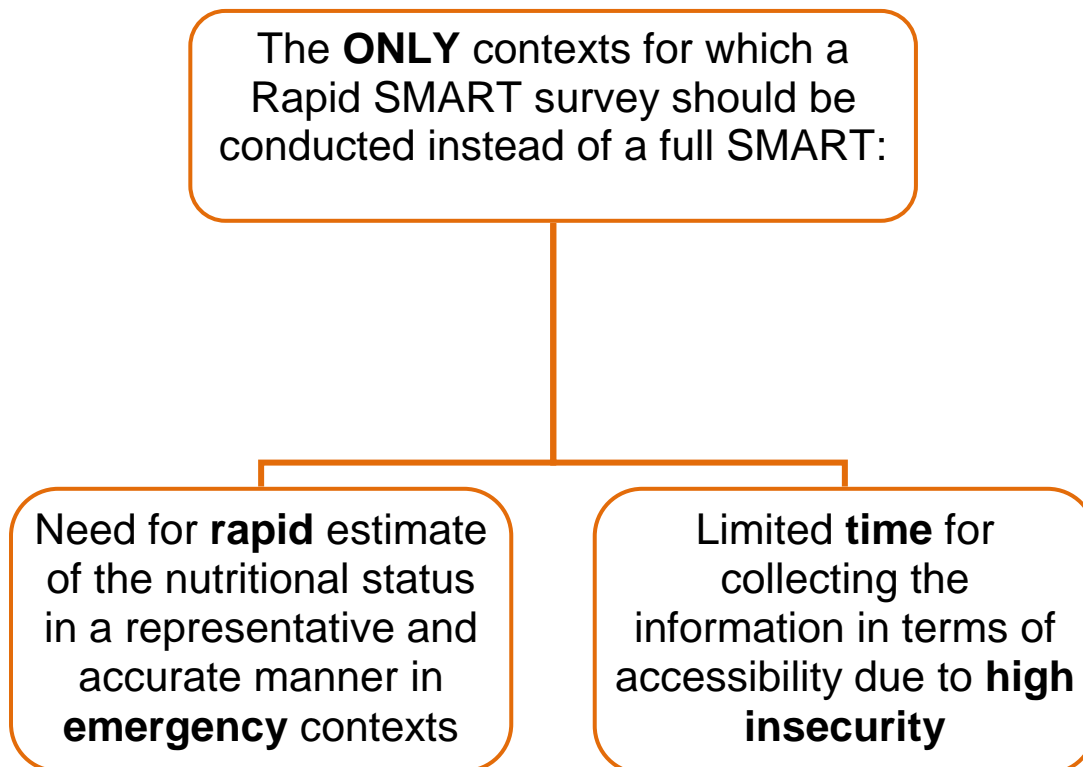
The main objectives and contexts in which Rapid SMART surveys are carried out are detailed above. The validity of Rapid SMART surveys is confirmed only after the **representativeness, accuracy and precision of the results** are evaluated (see details in the paragraph: "Validity of Rapid SMART results"). Assessment should only occur in a clearly delimited zone (e.g. group of villages, IDP/Refugee camps or settlements, urban slums and neighborhoods) whose population has similar patterns (affected by the crisis, having equal access to services, having similar culture, same livelihood zone etc.).

For the sake of accurate and precise **under-nutrition[3] prevalence estimation**, a full multi-cluster nutrition survey is recommended as soon as the situation gets stable and the population is accessible.

If it is judged that other information such as food security, Infant and Young Child Feeding (IYCF) and care practices as well as WASH situation are more necessary in a given emergency, then other adapted studies have to be prioritized over Rapid SMART surveys.

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[3] Under-nutrition is defined as the outcome of insufficient food intake and repeated infectious diseases. It includes being underweight for one's age, too short for one's age (stunted), dangerously thin for one's height (wasted) and deficient in vitamins and minerals (micronutrient malnutrition).
Source: http://www.unicef.org/progressforchildren/2006n4/undernutritiondefinition.html

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1. Limitations of Rapid SMART surveys

The testing of the Rapid SMART methodology based on the trials in various countries aforementioned have confirmed following limitations:

- **Rapid SMART surveys cannot be used for assessing GAM and SAM** prevalence of large geographical areas like provinces or other **larger zones** as population will have large variety of patterns, but rather in specific and defined administrative units/areas. In such case bigger design effect has to be planned and therefore much larger sample has to be studied. This can be done only through a full multi-cluster SMART survey.

- The results of **Rapid SMART surveys can neither be extrapolated** to larger than the zone of the assessment **nor disaggregated (not representative of one village out of the administrative unit surveyed)**.

- Aiming at collecting a lot of **additional data slows down the rapidity of the data collection** and its fast analysis and dissemination of results.

- The results of a Rapid SMART surveys cannot be used for long term programming[4]; it can only inform emergency response.

2. Validity of Rapid SMART results – via Plausibility Check

Based on the same epidemiological science and principles as the SMART methodology, Rapid SMART results are valid only when data collected from the field are from a **representative sample** and **good quality** measurements. The overall quality of the data collected is analyzed using the SMART plausibility check generated by the ENA for SMART software[5].

The respect of the sampling method and the good quality of collected anthropometric data ensures the **representativeness** of the sample. There should not be significant difference between sexes and age groups in the final sample (sex ratio close to 1 and an age ratio of children aged 6 to 29 months old to children 59 months old close to 0.85).

The key to good representativeness is the random selection of a sample among the target population so that the prevalence estimate is close to the true population value. By convention, results will use a 95% confidence interval which means that in absence of bias, once you have the estimate, you can be 95% sure (level of confidence) that the true population value of your indicator is within the limits of the interval calculated. The more representative the sample and the more accurate the measurements, the more certain you can be about the absence of bias and of having the true population value for the indicator within the confidence interval.

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[4] During the South Sudan crisis, information collected from Rapid SMART surveys was also used as a nutrition surveillance system to detect trends throughout the emergency.
[5] ENA for SMART software and SMART methodology are freely available for download at www.smartmethodology.org

If the sampling and the anthropometric measurements are not accurate, the 95% confidence intervals are too wide and the precision of the result is too low, and **the results are not representative for the target population**. These results will therefore no longer be recommended for emergency programming and response.

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Stages of Rapid SMART surveys

For each Rapid SMART survey, specific and context-adapted methodology has to be rapidly prepared. However, in order to guarantee the quality and the validity of the data, each Rapid SMART has to be prepared and conducted strictly following the stages outlined in **Annex 1**.

1. Deciding whether to do a Rapid SMART or full SMART survey

A full two stage cluster sampling survey using the SMART methodology will always be the best method to estimate acute malnutrition prevalence and all efforts should tend towards trying to implement such a survey, in the fastest time possible.

Rapid SMART rather than full SMART surveys would be considered in case when affected population:

a) **Live in a clear geographically delimited small administrative units such as IDP/refugee camps, urban slums, settlements or neighborhoods, group of villages;**

b) **Have similar access to public services and socio-economic patterns[6];**

c) **Live in an insecure and/or with limited access area where the survey team cannot spend long time on the ground.**

And it is combined with at least one of following factors:

1. Limited time: emergency situation due to epidemics, drought, calamities, displacement, high insecurity in the zone.

2. Urgency for decision making: rapid information of nutritional situation in a representative and accurate manner is needed.

However, if there is no possibility to organize and conduct Rapid SMART surveys in a week, than the best choice is a full SMART survey. **Rapid SMART surveys have to remain RAPID as they aim to inform emergency response**.

2. Defining the objectives of Rapid SMART surveys

The main objective of Rapid SMART surveys is to quickly assess whether there is a nutrition emergency or not. Rapid SMART surveys allow a rapid estimation of the prevalence of GAM and SAM based on WHZ, MUAC and nutritional bilateral pitting œdema.

Only in situations in high security, GAM and SAM prevalence can be estimated based on low MUAC and nutritional bi-lateral pitting œdema with <u>extremely limited</u> time for data collection due to high insecurity. A Rapid SMART surveys based only on estimate of low MUAC and œdema can be quite far from the estimation of the

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[6] Rapid SMART surveys have been previously at county-level incorporating different livelihoods zones but presented a homogenous distribution of the GAM prevalence (low heterogeneity for the main survey indicator).

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prevalence using all the criteria defining acute malnutrition[7] and the interpretation of its data quality is more limited than with weight and height measurements.

Remember that **the smaller the number of variables collected during Rapid SMART surveys, the better the chances to rapidly collect accurate data with respect to sampling procedures. Including too many additional indicators may hinder the quality of the anthropometric measurements. If there is a real need for more quantitative data, it is better to reconsider the choice of conducting a Rapid SMART survey and to go for full multi-cluster SMART survey**.

Rapid SMART surveys do not advise to rapidly collect qualitative data during field work. If information from other sources potentially linked to the nutritional situation sectors is completely unavailable or have not been collected for an extended period of time, then semi-structured interviews and focus group discussions can be rapidly organized. An additional member of the assessment team must be specifically designated for this role.

Any additional information, such as measles vaccination or program enrollment, should be limited and closely linked with the ongoing emergency so the quality of the nutritional (anthropometric) data collection is not affected.

3. Defining the geographic area and population group(s) to be assessed

As mentioned above, Rapid SMART surveys can be conducted only when it is possible to clearly delineate the geographic area (group of villages, camps, settlements, urban slums, etc.) and when the target population is homogenous (similar living conditions and socio-cultural patterns). The good determination of the geographical zone and the population group will improve the representativeness of the results. If the geographical zone or the population groups are not well defined, the results will be at great risk to be discarded later on.

Before making a decision on the survey area and the objectives for a Rapid SMART survey, a good analysis of all available secondary information on the situation prior to the emergency (covering at minima aspects such as security, food, water, nutrition, health, shelter etc.) is necessary. It is important to collect any population figures that may be available with other governmental or non-governmental sources. Furthermore, this analysis will help to define the objectives of the assessment and whether to conduct a Rapid SMART survey or other rapid study.

> The results of a Rapid SMART survey cannot be extrapolated to neighbouring areas that were not included in the sampling frame.

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[7] Indeed it has been shown that the cases identified using the other criteria for acute malnutrition, namely a low weight-for-height z-score, yet not by a low MUAC, often represent a large part if not the majority of the burden of acute malnutrition. Also the extent and the velocity at which low MUAC prevalence is affected after a crisis is largely unknown, so that the interpretation of these results in link with the severity of the crisis, particularly in the acute phase of an emergency needs to be interpreted with caution.
http://www.who.int/nutrition/publications/guidelines/updates_management_SAM_infantandchildren_review1.pdf

For Rapid SMART surveys, it is important to previously know and map services providing MAM and SAM treatment in the assessed zone that children detected with the following diagnosis can be referred appropriately for treatment:

- MUAC between 115mm ≤ and <125mm, and/or Weight-for-Height (WFH)≥-3Z-scores, and no œdema for MAM.
- MUAC <115mm, Weight-for-Height (WFH) <-3 Z-scores and/or œdema for SAM.

4. Informing national and local authorities and coordination

Similarly to a full SMART survey, approvals from national and local authorities are required before launching any evaluation. The decision on whether to conduct Rapid SMART surveys has to be coordinated with local authorities and coordinated with the Nutrition Cluster if present in the country. When possible, it is recommended to engage local nutrition staff to take part in the survey as survey team members. Before the start of the survey, the target population should be made aware of the survey process and objectives.

5. Resources required to carry out a Rapid SMART survey

Similarly to a full SMART survey, it is important to acquire the necessary resources before starting the data collection for a Rapid SMART survey. Below is an example of the required resources (assuming 1 week data collection) for a Rapid SMART survey that will need to be adapted to local prices:

Items	Unit 1	Quantity 1	Unit 2	Quantity 2	Local price	Total
Training room rental + lunch and refreshment	days	3	persons	14*		
Transportation	days	8	teams	5		

*Assuming 5 teams with 2 surveyors, 3 field supervisors and 1 survey manager.

Stationary/equipment	Unit 1	Quantity 1	Unit 2	Quantity 2	Local price	Total
Incentives for mothers - training of anthropometry	pce	1	person	3		
Incentives for mothers - standardization test (if necessary)	pce	1	person	12		
Snacks and water - standardization test	pce	1	person	12		
Transportation for mothers	pce	2	person	15		
Notebook	pce	1	person	12		
Manuals (150 pages)	pce	1	person	12		

Training CD	pce	1	person	12		
Plastic cover (folder)	pce	1	person	12		
Flip chart paper	ram	1	pce	1		
Marker pen	pce	1	pce	5		
Height Board	pce	10		1		
Scale, electronic, mother/child,150kgx100g	pce	10		1		
MUAC Tapes (50 per pack)	pack	2		1		
Pen	pce	1	person	15		
Batteries	packs	4	scale	10		
Plastic ruler 30cm	pce	1	pce	12		
Clipboard	pce	1	team	5		
A4 recycled paper	ram	1	ram	3		
Scissors	pce	10	survey	1		
Plastic tablet	pce	10	survey	1		
White chalk	box	10	survey	1		
Correction pen	pce	10	survey	1		
Stapler	pce	10	survey	1		
Staples	box	10	survey	1		
W/H Chart (color and lamination 2 pages)	pce	1	persons	5		
Phone credit card 10$	pce	1	team	5		
Wooden stick 110cm marked at 65cm	pce	1	team	10		
Standard weight 2kg	pce	1	team	10		
Water bottle 20L	pce	1	team	10		
Backpack	pce	1	team	10		
Photocopies						
Human Resources: salary for survey manager, surveyors, drivers, logistician	days					

6. Determining the data collection methodology

6.1 Selecting the sampling method

The choice of sampling method depends on the geographical zone and the population group to be assessed.

> Keep in mind that a large area which you cannot survey in 1 week is no longer a Rapid SMART survey but has to be a full multi-cluster SMART survey.

6.1.1 If there is ONE settlement to assess (1 camp or 1 block of houses in city or 1 village etc.) and:

    A. If target population is less than 200 households[8] then conduct **exhaustive assessment** on all eligible children living in the area. The team has to exhaustively visit all households in the settlement. **Asking local leaders to gather all children under-5 in one place is strictly forbidden** during Rapid SMART surveys. There is a great risk that some sick children will not come.

    B. If target population is above 200 households, then follow the decision tree in **Annex 2** for simple or systematic random sampling methods for household selection. The description of each of the mentioned random sampling methods can be found in **Annex 3** (Sampling for SMART, June 2012).

In the case of a population above 200 households, a **sample size of minimum 150** children would be enough to gather relatively meaningful GAM prevalence. The design effect of 1 is assumed. The precision of the results would vary as shown in the table below (third column).

Expected GAM Prevalence	Minimum Sample size	Precision
20%	150 children	+/- 6.4%
15%	150 children	+/- 5.7%
10%	150 children	+/- 4.8%
5%	150 children	+/- 3.5%

6.1.2 If there is MORE THAN ONE settlement and if the population is dispersed: Cluster sampling has to be used.

For Rapid SMART surveys, it would be best to **select at least 25 clusters** using Probability Proportional to Size (PPS) in order to cover all of the targeted population in the geographical zone. To select the clusters, an estimated number of the population living per settlement is necessary. The random selection of the

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[8] As a reminder: most commonly a "household" is defined as people who slept in the house last night and eat from the same pot.

clusters can be made using ENA for SMART software. To **determine the method of the second stage of random sampling (simple or systematic),** use the decision tree in **Annex 2[9]**.

For cluster random sampling, a sample size of minimum **200 children** would be enough to estimate GAM prevalence. **The Design Effect of 1.5** is assumed. The precision would vary as following in the table below.

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%

6.2 Converting number of children into number of households to select in case of cluster sampling

The sample size in number of children should be converted into number of households to select based on the percentage of children under 5 years for each country of intervention. To reach required number of households to sample, Rapid SMART methodology does not take into account the average household size for that given country but proposes a simplified rule:

A. When the percentage of children under age of 5 years is **below 15%**, the final sampling procedure will be: **25 clusters each comprised of 12 households**.

B. When the percentage of children under age of 5 years is **above 15%**, the final sampling procedure will be: **25 clusters each comprised of 10 households**.

6.3 Household Selection

Household selection methods for Rapid SMART surveys are the same ones used in the SMART methodology. Details of the mentioned random sampling methods can be found in **Annex 3**. Remember that **selected households without children under-5 years of age must be included/accounted for in the cluster.**

6.4 Selection of children to be included in Rapid SMART surveys

All children from 6 to 59 months of age living in selected households must be included in the cluster. Age of children between 6-59 months will either be determined by using official documents stating their date of birth (birth certificate,

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[9] Simple and systematic random sampling are preferred, since the modified EPI method runs the risk of not meeting the conditions for representativeness, i.e. probabilistic selection and independence of selection.

baptism certificate, etc.) or by using a local events calendar if the birthdate is not known. The surveyors will estimate the age of the child in months based on the mother's or caretaker's memory of important events for the target population.

Make sure that the event calendar used during the survey corresponds to the local calendar to avoid introducing bias and confusion from the population.

7. Organizing Rapid SMART surveys

7.1 Preparing the assessment equipment, supplies, and materials

Logistics including vehicles, phones or other communication means, and, ideally, brand new measurement equipment should be provided to each team. The standard list of materials needed per team for Rapid SMART surveys is presented in **Annex 4.** Security assessments must be conducted prior to sending the teams to the field.

7.2 Assessment teams and training

Teams of 2 surveyors should be sufficient to conduct Rapid SMART surveys. One additional team member might be necessary if semi-structured interviews and focus group discussions are planned. The number of teams depends of the zone to be covered and the time available for the assessment. The minimum clusters per day and per team must tentatively be 2 in order to complete the data collection between 2.5 and 3 days[10] (5 teams X 2 clusters X 2.5 days). **If the circumstances do not allow a minimum of 2 clusters per team and per day then the Rapid SMART methodology is not the best choice for the situation (too large zone) or objectives were not properly set (too many objectives).**

Elements for the training as well as generic job description for the team leader and data collectors are in **Annex 5**.

The training session should last maximum 2-3 days depending on the experience of the surveyors. A standardization test should be done if the surveyors are not experienced in taking anthropometric measurements. Theoretical presentations of the objectives of the surveys and practical exercises on random sampling and anthropometric measurements should be given, including the use of the event calendar for age determination.

Elements for the training as well as generic job descriptions for the team leader and surveyors are in **Annex 5**.

> A roster of trained people may be available for a given country from the Ministry of Health or Nutrition Cluster. A list of roster members, previously trained on SMART or Rapid SMART surveys, and their capacity level (supervisor or data collector) and their contacts, can be used to recruit surveyors on short notice (under 2 weeks) for field data collection.

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[10] In some contexts, data collection may take longer but never more than one week.

7.3 Management and supervision of Rapid SMART surveys

Field supervisors should be specifically appointed with the overall responsibility for training team members, visiting teams in the field, ensuring that households are selected properly, and ensuring the necessary equipment is available and in good condition, and that measurements are taken and recorded accurately. It is particularly important to check cases of œdema in order to verify the medical status of those children (in the absence of the supervisor, the team can take a picture of the œdema cases diagnosed). Unexpected problems nearly always arise during an assessment, and the supervisor is responsible to decide how to overcome them.

The field supervisors are also responsible for overseeing data entry and quality data check.

The Rapid SMART survey manager is responsible for overall implementation and for data analysis & report writing as well. The manager has to be trained on Rapid SMART methodology, to be able to read and interpret nutrition data as well as plausibility check.

8. Data collection

The variables collected during Rapid SMART surveys have to be as concise and easy-to-collect as possible. Thus, data collection and analysis will go much faster than a full SMART.

8.1 Main data to collect

The data recommended to be collected during Rapid SMART surveys are: location (settlement or village name), date, cluster number, team number, population estimate, sex, age, weight, height, MUAC, bi-lateral pitting œdema, referred to nutrition program or not.

A simple tally sheets instead of a questionnaire could be used where surveyors would simply write down these data for each child (see the example in **Annex 6**). The number of the child in the household and the number of the household in the cluster is recorded too.

- **Sex** has to be recorded with codes: **f = female** and **m=male**. Note that it is important as much as possible to have mixed teams of surveyors, according to the context, to facilitate communication approach between surveyors and families.

- **Age** will be written in **months based on the estimation given by the use of the local events calendar**. The teams have to be at maximum sensitized to the importance of the age record.

- **Weight (in kg):** Children are weighed to the nearest 0.1 kg by using ideally an Electronic Uniscale (or SECA) or a Salter Scale. The children who can easily stand are asked to stand on the weighing scale and their weight is

recorded. In a situation when the children cannot stand, the double weighing method is applied[11].

- **Height (in cm):** A measuring board is used to measure bare headed and barefoot children. The precision of the measurement is 0.1 cm. Children less than 2 years of age are measured lying down and those equal to or above 2 years of age are measured standing up (**Annex 7**)

- **MUAC** must only be taken on the **LEFT** arm (see **Annex 8**) using MUAC tape. The MUAC measurement must be recorded **in mm**. The use of simplified MUAC tape such as MSF model having a precision to nearest 2 mm is fully accepted.

- All children should also be checked for **œdema** (**Annex 9**). If a child is suspected to have nutritional œdema then the supervisor MUST confirm this. It is essential that all staff is well trained to check for œdema.

All children detected as SAM whether by presence of bilateral pitting œdema and/or weight-for-height <-3 z-score and/or MUAC < 115 cm, need to be referred to the nearest facility or agency responsible for therapeutic care for immediate treatment. The team should have already decided on a referral process before the assessment goes ahead so the facility or agency knows that children are referred from the assessment team. If possible, the locations of the nearest facilities are identified and a referral paper is used to ensure smooth referral. An example of referral paper is presented in **Annex 10**.

8.2 Special Cases

In the field, teams might encounter various difficulties, some of which are addressed in this section. Details on various scenarios are provided in **Annex 11.** Teams should therefore use a tool such as a cluster control form (**Annex 11**) to summarize what has been done in each cluster and keep track of which household refused to participate, which had eligible household members absent and need to be re-visited, etc.

If a scenario is common in a given context, it is important to foresee this situation and provide all teams with the same recommendation on what should be done so that it remains standardized. These details should also be provided in the final report.

9. Data record, data entry and data quality check

All information gathered is recorded on the questionnaire tally sheet. Information must be recorded during the data field collection in order to avoid oversights and mistakes. One team member is in charge of the record while the other is in charge of the anthropometric measurements. Both must participate during height measurements. The teams must prepare daily reports summarizing the work done during the day. An example of a daily report is presented in **Annex 12**.

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[11] The first measurement is the weight of the caretaker 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.

As data are collected, data entry can be done using Microsoft Excel or ENA for SMART. The quality of the entered data is analyzed with ENA for SMART (free for download at http://www.smartmethodology.org). ENA for SMART automatically generates the **Plausibility Check** that can be used to identify possible mistakes in measurements during data collection, as well as to validate the quality of the overall dataset using SMART flags. For any questions regarding the interpretation of the Plausibility Check, the survey manager must consult a specialist. This can be done via the SMART Forum on www.smartmethodology.org/forums

The main criteria to be followed are:

    a) Sex ratio must be close to 1.

    b) Age distribution must be close to 0.85.

    c) Digit preference for weight, height and MUAC per team must be within acceptable ranges.

For more details refer to **Annex 13: Ensuring data quality by Mike Golden**.

10. Data analysis

After data have been entered and quality checked, ENA for SMART software will generate gender specific tables for wasting, stunting and MUAC results with commonly accepted cut-offs and confidence intervals (example in **Annex 14)**. Confidence intervals will be automatically calculated by the software each time (except for exhaustive sampling) depending on the sampling method (simple or cluster).

A survey report can be generated automatically through ENA. If all anthropometric measurements are collected, then ENA will generate results for Acute Malnutrition (WHZ), Stunting (HAZ), and Underweight (WAZ)[12]. Results are presented in **% with 95% Confidence Interval**.

These are defined as follows:

	Acute Malnutrition	Underweight	Stunting
Global	WHZ <-2 z scores and/or œdema	WAZ <-2 z scores	HAZ <-2 z scores
Moderate	-3 < WHZ < -2 z scores	-3 < WAZ < -2	-3 < HAZ < -2 z scores
Severe	WHZ < -3 z scores and/or œdema	WAZ < -3 z scores	HAZ < -3 z scores

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

ENA generates automatic tables for MUAC results using cut-offs presented below:

Classification	Normal	Moderate Acute Malnutrition	Severe acute malnutrition
MUAC	= or > 125mm	= or > 115 and < 125mm	< 115mm

Additional quantitative data can be analyzed using MS Excel or ENA for SMART, according to the level of mastery of the assessment team.

11. Reporting and Interpretation of the Results

11.1 Assessment report

The assessment report must follow the format proposed in **Annex 15**. It must, at minima, contain the following main chapters:

a) Executive summary and summary of key anthropometric findings.

b) Introduction explaining why a Rapid SMART survey has been undertaken and why this method was preferred instead of full multi-cluster SMART survey.

c) Context chapter resuming all information that was collected during the preparation of the Rapid SMART survey.

d) Summary of chosen sampling method (the methodology) and how the teams were trained and organized.

e) Results corresponding to the sampling method that has been applied in the field. Sub-chapters containing:

- Point GAM and SAM estimates according WHZ and/or œdema and low MUAC with 95% confidence intervals in case of random sampling, or as one unique value (considered as the true value) in case of exhaustive survey;

- Additional quantitative and qualitative data. Results of additional data do not need to be presented with confidence intervals. These results can be interpreted as "proxies" of "aggravating factors" because of risks of biases (limited time for the interviews, low quality of age identification for measles vaccination, etc.).

- Validation of accuracy, representativeness and precision of the data. These have to be supported with the plausibility check to be added in annex.

- The limitations of the results.

f) Discussion including the interpretation of the results.

g) Conclusions and recommendations.

h) Annexes: maps, tools used, plausibility check, row data, etc.

Reports should be short (no longer than 10 pages) and released within 2-3 days after field data collection has been completed, especially if the situation is of urgent concern.

Information from key informants and their recommendations must be captured in the contextual information, especially regarding the needs highlighted by the community and the actions they would consider.

11.2 Discussion and interpretation of the results

The field tests of the method have suggested that when proper sampling is respected, measurements are accurate, and the precision is within accepted limits, Rapid SMART surveys can provide GAM and SAM estimates which are representative for the studied population (children from 6 to 59 months) living in the delimited zone.

The results of Rapid SMART surveys have to be used carefully as they can represent several limitations:

- If the option of having collected ONLY MUAC and œdema is preferred due to extremely limited time of access or strong insecurity, Rapid SMART survey low MUAC/ œdema-based prevalence cannot strictly be compared to a prevalence of global acute malnutrition defined by WHZ <-2 and/or presence of bilateral pitting œdema. Rapid SMART surveys can give proxy information to decision makers whether to launch life-saving emergency response. However, in the above case, the results cannot be used for mid and long term programing and eventual under-nutrition caseload calculation. Conducting full multi-cluster survey is the ONLY way to provide such information.

- Results will be representative of the initial area from where the sample was drawn if the sampling was random whether simple or systematic. The sex and age ratios in the plausibility check inform representativeness of the results. Rapid SMART results cannot be extrapolated to a larger zone or neighboring populations.

- In case of systematic or cluster sampling, results must be presented with a point estimate and associated confidence intervals. In such a case it is important to interpret the value of the confidence interval (CI). The precision of the results has to be compared with the precision that was initially expected (see 6.1 Selecting the sampling method). If the CI is too wide, the precision is low, and the Rapid SMART results might not be able to deliver precise point estimate of GAM, but only confidence intervals. If this is the case, decision makers using results of Rapid SMART surveys should know that the final results are not precise and they should consider the Minimum and Maximum values that are given by the confidence interval.

- To qualify the urgency of the situation, the following thresholds of severity of the situation (WHO 2000) can be used:

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Severity of the situation	Prevalence of Wasting (-2 Z-score and/or œdema)
Acceptable	**< 5%**
Poor	**5 – 9 %**
Serious	**10 – 14 %**
Critical	**> 15 %**

- "Additional information" can be used as proxy of eventual aggravating factors to nutritional situation. Aggravating factors must also be considered to decide whether intervention should take place or not.

Where necessary, if the Rapid SMART survey indicates an area of concern, recommendations for a more detailed assessment such as full multi-cluster survey should be made.

12. Validation procedure and Results Dissemination

According to the analysis outputs, recommendations are submitted in order to present identified needs of the targeted population and feasible interventions. Recommendations should be appropriate, realistic and relevant.

Findings of the Rapid SMART surveys should be shared with the Ministry of Health, the Nutrition Cluster (if present in-country), and other relevant nutrition technical persons. All data and results must be critically evaluated for their quality and reliability. Recommendations must be assessed for their appropriateness and consistency with the results. After evaluating all elements of the survey, in case of methodological or data quality problems it might be decided to discard the results.

Once Rapid SMART survey results are approved, **the survey report must be widely disseminated within 1 week** to Ministry of Health, Nutrition Cluster and all relevant stakeholders. The Rapid SMART survey results must also be shared with all donors that might be interested to support the recommended interventions.