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Guidance on end user monitoring

Routine monitoring of the availability and use of Ready-to-Use Therapeutic Food (RUTF) and vitamin A at the last mile

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Acronyms

CHW	Community healthcare worker
CI	Confidence interval
e-LMIS	Electronic logistics management information system
EUM	End user monitoring
HF	Healthcare facility
LMIS	Logistics management information system
mHealth	Mobile health
MoE	Margin of error
MOH	Ministry of Health
RUTF	Ready-to-Use Therapeutic Food
SAM	Severe acute malnutrition
SDP	Service delivery point
UNICEF	United Nations Children's Fund
VAS	Vitamin A supplementation

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Introduction

This document accompanies the report entitled *Routine Monitoring of the Availability and Use of Ready-to-Use Therapeutic Food (RUTF) and Vitamin A at the Last Mile: Options and Considerations for Implementing End User Monitoring.* The document on options and considerations discusses the key factors involved in the selection and refinement of an end user monitoring data collection methodology.

What is different about this version is that it includes vitamin A alongside RUTF, which until now was the only product whose use was monitored to the last mile.

However, while the use of RUTF is monitored at household level, monitoring of vitamin A is limited to the service delivery point.

Vitamin A is a fat-soluble vitamin that supports the immune system, cell integrity and vision. Vitamin A deficiency may cause hemeralopia and an increased susceptibility to infection and death (Sommer A., 1996). Worldwide, an estimated 190 million children of preschool age are vitamin A-deficient (World Health Organization, 2009). Studies show that high-dose vitamin A supplementation twice a year reduces all-cause child mortality by 12–24% in regions where vitamin A deficiency is prevalent (Imdad A., 2017). The World Health Organization recommends high-dose vitamin A supplementation in newborns and infants aged 6–59 months in regions where vitamin A deficiency is a public health problem. Since the late 1990s, there has been large-scale vitamin A supplementation in infants aged 6–59 months in countries where deficiency is considered a public health problem. Annual global two-dose coverage increased from 27% in 2000 to a peak of 78% in 2009, but fell to 62% in 2017.

Vitamin A capsules have mainly been distributed as part of campaigns run in several countries. These include Child Health Days and supplementary polio and measles immunisation initiatives. Data shows that in the early 2000s, supplementary polio immunisation initiatives were the main platform for distributing vitamin A, but this was overtaken by Child Health Days in 2016 (UNICEF, 2018). With fewer polio immunisation initiatives and reduced funding available, several countries are exploring other sustainable platforms for vitamin A distribution, such as routine distribution by the healthcare system. This could take place throughout the year or at specific times. It may therefore be necessary to adjust how inputs are managed in the country.

In 2007, Accenture Development Partnerships conducted a supply chain review in seven countries where vitamin A was primarily distributed through campaigns. This review identified problems with supply, forecasting, logistics, inventory management, capacity and data management constraints on the distribution of vitamin A. UNICEF helped countries to prepare annual forecasts for vitamin A capsules, taking into account their target population, planned distribution platforms and expected coverage, to ensure sufficient quantities were available.

A gap analysis comparing the inputs supplied to countries with the number of children reached showed that only 39% of countries that received in-kind donations of vitamin A capsules from Nutrition International in 2017 could explain a gap of around 20% or less. Monitoring with country focal points often pointed to a lack of accountability for supplies at hierarchical levels below central level was the reason for the large gaps.

This guide seeks to provide detailed guidance on how to implement a specific data collection technique for illustrative purposes: the continuous survey.

This document describes the continuous survey method in detail, discusses the statistical implications of the survey plan, introduces the relevant forms and indicators, explains how to set up the survey and select sites to be sampled, and makes proposals on the selection of data collectors and on how it takes place in practice. It

is accompanied by a tool consisting of detailed indicator tables, survey forms/questionnaires and examples of indicator calculations (see Table 2 for information on indicators, and Annex 1 to view the forms/questionnaires and calculation examples).

The implementation method and the collection tool offer a starting point to be adapted for use in a given country through in-depth discussions and significant stakeholder involvement. The consensus on national priorities and objectives for the visibility of RUTF and vitamin A availability and usage, and other country-specific contextual considerations will inform national adaptations, as will lessons learned from the experience of other countries that have chosen to monitor end users of RUTF and vitamin A.

While conditions exist that make the implementation of a continuous survey possible in the majority of countries, this does not mean this method is the most suitable for all countries. For example, it may not be suitable for countries that already have functional and effective reporting systems and are seeking to expand end user monitoring to hard-to-reach areas and people. Nor is the continuous survey the most suitable method for extreme emergency situations, given the existence of other more rapid and targeted measures. The ease and speed of implementing a continuous survey may, however, make it an appropriate tool for more general and less extreme emergency situations. However, in emergency situations, end users could be monitored through more frequent continuous surveys – on a monthly or fortnightly basis, for example. This would allow problems to be detected and resolved more rapidly.

1 Continuous survey

The continuous survey differs from other surveying methods because it aims to collect a representative sample over a given period, usually one year.

In other words, the continuous survey is a hybrid form of surveying that combines elements of large-scale surveys, aimed at collecting a statistically representative sample in a single exercise, and small-scale surveys aimed at collecting a non-statistical sample by visiting a small number of service delivery points in a single exercise.

In a large-scale survey, the sampling basis is created upstream, and relies on having a sufficient number of healthcare facilities to obtain a representative sample. However, in the continuous survey, data collection is broken down into several components implemented over a specific period of time. In the small-scale survey, the single exercise does not allow for a sufficient number of facilities to be included to obtain a statistically representative sample. Unlike this type of survey, which usually only takes place once, the continuous survey takes place in several stages organized within a specific time frame.

In practice, the continuous survey is usually conducted by a relatively small data collection team, for example 20 members, depending on the size of the samples involved. This team must take part in several data collection exercises (as a general rule, one per quarter over one year).

A sampling basis is defined at the outset, to obtain a representative sample. This is then broken down into several sub-samples spread over the quarterly data collection exercises. The time spent on each exercise depends on the size of the samples involved and the number of data collection teams deployed. Each exercise may cover a set of service delivery points selected across the country, which would provide a non-statistical but national sample, or a set of service delivery points selected from a sub-set of specific regions of the country, which will help reduce costs and the time required for each collection exercise and will produce a non-statistical sample covering only certain regions for each exercise. Whatever method is used, a statistical sample will be compiled during the data collection exercises organized over the year.

The continuous survey offers the following advantages: it can usually be conducted by a relatively small collection team, while creating a sample that is representative over time and ensuring regular feedback with each exercise.

It also has drawbacks: the exercises are not individually statistically representative and require a degree of continuity and the regular availability of team members, to minimize the need for constantly training new data collectors and ensuring that the information is gathered in a uniform way.

2 Choice of sample at patient level

According to our forecasts, the continuous survey would not provide a statistically representative sample of individuals receiving treatment for severe acute malnutrition (SAM).

The method we propose here seeks instead to gather a non-statistical sample of these people as part of collecting a representative sample of healthcare facilities. This is due to the difficulty of creating a random representative sample of SAM patients where their distribution between healthcare facilities is largely uncertain. To create a statistically representative sample of SAM patients, a national list of all patients needs to be kept, with their name, contact information, exact geographic location and the name of the service delivery point providing them with RUTF and vitamin A. This list should also be updated in real time as new patients join and others complete their treatment.

Unfortunately, few – if any – countries keep or maintain such a list.

In addition, household data collection through a continuous survey should be limited to households linked to the service delivery points surveyed. This is primarily because, from a practical perspective, when visiting these surveyed healthcare facilities, all data collection teams are likely to rely on information gathered locally to locate neighbouring households surveyed and to plan their itinerary for visiting them.

Secondly, a feature of the continuous survey is that the data collection framework is established beforehand, while the data collection itself takes place over an extended period of time. This problem does not exist when the sampling basis consists of service delivery points, since the number of facilities of this type in a country is unlikely to change rapidly or radically. Where the data collection takes place over four quarters, the service delivery point population in the fourth exercise is therefore broadly the same as the first. The population of patients receiving SAM treatment, meanwhile, will change steadily at an individual (ideally, patients receiving treatment at the start of the year will not be the same ones receiving treatment at the end of the year) and global level. This means that the total number of patients receiving treatment will vary over time, and more specifically in line with seasonal changes.

Thirdly, random sampling of patients receiving SAM treatment may cover a much wider geographic area than the sampling of service delivery points, which would further complicate

the exercise. Let us assume a scenario where the team chooses five service delivery points in a given region to be included in a data collection exercise; these facilities must always be located in up to five different communities. The logistics for accessing each community over a short period of time are therefore relatively simple. By contrast, if the team randomly selects 30 or more patients to sample in the same region, they could potentially be located in 30 different communities, which would substantially complicate those logistics.

The balance achieved in the method proposed here involves suggesting the organization of home visits to 2–3 patients per service delivery point surveyed. This will provide a sample of households that is both informative – though not statistical – and practical, in terms of time spent and the costs associated with data collection within the confines of a continuous survey. It is also possible to sample additional "households" in the interviews organized at the end of the treatment carried out at the service delivery point (rather than in the patient's home). The availability of patients/caregivers for interviews at the end of treatment, which depends on the distribution schedule of RUTF and vitamin A at the relevant service delivery point and how this aligns with the data collection team's visit, together with the total number of patients at the facility concerned are all information that the team cannot access before their visit. We therefore also invite these teams to organize as many ad hoc interviews as possible at the end of the treatment, as their schedule allows and at their own discretion.

In addition, refugee camps are a separate case for which it may be appropriate, given their limited geographical boundaries, to attempt to obtain a representative sample of patients. This will, however, depend on several factors specific to the particular situation, which should therefore be assessed by a monitoring and evaluation expert when designing EUM monitoring methodology.

3 Forms and indicators

The data collection tool consists of key indicators that measure the availability, quality and use of inputs. Because the primary objective of this tool is to determine whether RUTF and vitamin A are effectively provided to patients, indicators measuring the presence (availability) of RUTF and vitamin A are given priority.

In addition, the sources of information used to collect data on the use of RUTF and vitamin A may vary from country to country, due in particular to national differences as regards the existence and role of community health workers. Each country should review these indicators to determine if they are applicable in their national programme context and whether it is possible collect data about them. Finally, the guidelines on calculating the indicators accompanying the tool will probably need to be adapted based on national adjustments to the tool, which may lead to data collection differences.

3.1 Forms

The data collection tool consists of four main forms or questionnaires. Table 1 sets out the type of information collected in each form, and the facilities at which these forms should be completed.

The data collection tool also includes instructions for using each form and for calculating the indicators. The forms must always be adapted to the national context, even if only to use terminology appropriate to the country concerned. As already noted, if the Ministry of Health or its implementing partners are already using forms of this type, it may be more appropriate to adapt or combine them during end user monitoring.

Table 1

Data collection forms

Name of the form	Location	Type of survey activity
Stock status	Healthcare facility or other service delivery point	Count the stocks of RUTF and vitamin A and review inventory records
Survey of facilities	Healthcare facility or other service delivery point	Interview facility staff and review patient records and charts
Storage	Healthcare facility or other service delivery point/ warehouse	Observe the space and storage conditions
Households	Household or healthcare facility/service delivery point (end-of-treatment interview)	Interview caregivers and observe the use of RUTF

In addition, Annex 1 provides a sample consent form for the respondent within the household. This can be adapted to the country where it is used.

3.2 RUTF and vitamin A end users monitoring indicators

The data collection tool offers a total of 29 indicators that can be used to monitor end users of RUTF and vitamin A, placed into three categories – availability, quality and use – corresponding to the areas identified by the Theory of Change framework for monitoring end users of RUTF and vitamin A. Table 2 below summarizes the indicators, their determinants, their calculation formulae and their format or source.

Table 2

All base indicators for RUTF and vitamin A EUM

Indicators	Determinants	Calculation formula
Availability		
Percentage of healthcare facilities surveyed with usable (undamaged, unexpired) RUTF in stock	To determine if RUTF is reaching the sampled facilities and is made available to patients	*Numerator:* all facilities where the Physical Inventory of Usable RUTF ≠ 0
		Denominator: all the facilities surveyed
Average number of days the facilities surveyed were stocked out of RUTF in the last three months	To determine if there is a persistent problem with availability	*Numerator:* total number of days stocked out across all the facilities surveyed
		Denominator: all facilities surveyed
Percentage of facilities surveyed that are appropriately stocked, in line with the policies established for maximum/minimum stock levels, among those facilities that have records available	To determine the extent of stock imbalances; whether the quantity of products in stock is sufficient to meet user needs; and whether there is risk of stock out or expiry	N*umerator:* number of facilities that have appropriate stock levels, based on national minimum/maximum stock guidelines *Denominator:* all facilities surveyed
Percentage of facilities in [period] with usable RUTF on hand as per the logistics management information system (LMIS) report	To determine if RUTF is reported as being available in all the facilities	*Numerator:* all the facilities where the reported balance of RUTF ≠ 0
		Denominator: all the facilities that reported
Percentage of facilities surveyed with usable vitamin A capsules (in good condition, not expired) in stock	To determine if vitamin A capsules are reaching patients and available at the sampled facilities	*Numerator:* all facilities with a physical inventory of usable vitamin A capsules
		Denominator: all the facilities surveyed
Average number of days the facilities surveyed were stocked out of vitamin A capsules in the last six months	To determine if there is a persistent problem with availability	*Numerator:* total number of days stocked out across all the facilities surveyed
		Denominator: all the facilities surveyed
Quality		
Percentage of facilities surveyed with expired RUTF	To determine if RUTF is expiring before being issued to patients	*Numerator:* total number of facilities surveyed that had expired RUTF
		Denominator: all the facilities surveyed
Percentage of facilities surveyed that had damaged RUTF	To determine if RUTF is being damaged before reaching patients	*Numerator:* total number of facilities surveyed that had damaged RUTF
		Denominator: all the facilities surveyed
Percentage of facilities surveyed that had damaged RUTF	To determine if RUTF is being damaged before reaching patients	*Numerator:* total number of facilities surveyed that had damaged RUTF
		Denominator: all the facilities surveyed

Indicators	Determinants	Calculation formula
Average percentage of proper storage practices for RUTF applied by the facilities	To measure the extent to which appropriate storage conditions exist	*Numerator:* total score obtained for all the facilities surveyed based on a list of basic storage criteria
		Denominator: all the facilities surveyed x total number of storage criteria assessed
Percentage of facilities surveyed with expired vitamin A capsules	To determine if vitamin A expired before being d istributed	*Numerator:* number of facilities with expired vitamin A capsules
		Denominator: all the facilities surveyed
Use		
Percentage of records examined where a child received the correct amount of RUTF as laid down in national guidelines	To determine if the correct quantities of RUTF are being dispensed	*Numerator:* number of records where the quantity of RUTF dispensed is in line with national treatment guidelines
		Denominator: all the records surveyed
Percentage of facilities where nutrition staff know the correct quantity per day for a child as laid down in the protocol	To determine if healthcare facility staff understand how to use RUTF	*Numerator:* number of facilities where the staff in charge of prescribing dosages correctly describe the national protocol to be followed
		Denominator: all the facilities surveyed
Percentage of facilities where staff report that RUTF is being sold on the market	To determine if selling RUTF on the market is commonplace	*Numerator:* number of healthcare facilities where at least one nutrition staff reported that RUTF is sold on the market
		Denominator: all the facilities surveyed
Rate of recovery/cure for patients in outpatient SAM treatment	To determine if nutrition outcomes are improving	*Numerator:* number of SAM patients in outpatient treatment discharged from the healthcare facility in the last three months, based on the records reviewed
		Denominator: total number of patient records reviewed where the child was not transferred to another treatment centre
Average length of stay in treatment of children discharged as cured/recovered from SAM treatment	To determine how effective the treatment is for children in treatment	*Numerator:* total number of days in treatment for all patients records reviewed that were discharged as cured/recovered
		Denominator: total number of patients records reviewed that were discharged as cured/recovered
Average weight gain, in grams per kilogram per day, of children discharged as cured/ recovered from SAM treatment	To determine how effective the treatment is for children in treatment	*Numerator:* sum of individual weight gains of patients discharged as cured/recovered, according to the records reviewed
		Denominator: total number of patients records reviewed that were discharged as cured/recovered
Percentage of caregivers that are familiar with RUTF and know what it is for	To determine if caregivers know what RUTF is and understand what it is used for	*Numerator:* number of caregivers who answered correctly
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers surveyed that received RUTF at their last visit	To determine if caregivers were able to obtain RUTF on their last visit	*Denominator:* number of caregivers who received RUTF on the last visit
		Denominator: all surveyed caregivers of SAM patients

Indicators	Determinants	Calculation formula
Percentage of caregivers surveyed that were unable to obtain RUTF on their last visit because it was stocked out	To determine if stock-outs were a barrier to caregivers obtaining RUTF on their last visit	*Numerator:* number of caregivers that were unable to obtain RUTF on their last visit because it was stocked out
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers surveyed that were unable to obtain RUTF on their last visit because there were no qualified staff to provide it	To determine if a lack of availability of staff was a barrier to caregivers obtaining RUTF on their last visit	*Numerator:* number of caregivers who were unable to obtain RUTF on their last visit because there were no qualified staff to provide it
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers who have the correct number of sachets of RUTF on hand, as per distribution schedule	To determine if caregivers are providing infants with RUTF at the correct dosage between two healthcare facility consultations	*Numerator:* number of caregivers who had an appropriate number of sachets on hand, per the prescribed dosage and distribution schedule
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers given the correct information on RUTF use by the healthcare worker	To determine if healthcare workers are providing appropriate instruction to caregivers on RUTF use	*Numerator:* number of caregivers that correctly answer a series of questions on RUTF use
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers who know the correct daily dose for the patient	To determine if caregivers know the correct dosage of RUTF	*Numerator:* number of caregivers who report the correct dosage, according to facility record of prescribed dosage
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers who gave the correct quantity (correct number and fully consumed) to their child the day before the survey	To determine if patients are receiving and consuming the correct dosage	*Numerator:* number of caregivers reporting that they gave the correct quantity, and it was fully consumed the previous day
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers that report sharing RUTF with one or more other person in household	To determine the extent of sharing	*Numerator:* number of caregivers claiming to share RUTF
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers that report RUTF is being sold or exchanged	To determine if there is loss due to the selling/exchanging of RUTF	*Numerator:* number of caregivers reporting RUTF that is sold or exchanged
		Denominator: all surveyed caregivers of SAM patients
Percentage of caregivers satisfied with the amount of RUTF they have received	To determine level of satisfaction with the programme	*Numerator:* number of caregivers reporting satisfaction with quantity of RUTF received
		Denominator: all surveyed caregivers of SAM patients
Percentage of facilities where the staff know the correct dose for a child's age	To determine if healthcare Facility staff know how to use vitamin A capsules	*Numerator:* number of facilities where the staff responsible know the correct doses for the 6–11 month and 12–59-month age brackets
		Denominator: all the facilities surveyed

4 Preparing for and conducting a continuous survey for RUTF and vitamin A end user monitoring

4.1 Outlining an implementation strategy

- **Representativeness of the data.** The size of the sample and the selection of facilities within it must, to the extent possible, be representative of the overall situation in the country or regions targeted. Sampling strategies are likely to involve a stratification of the facilities and/or the creation of clusters (see the "Selecting facilities" section below). Possible stratification criteria include the type of healthcare facility, geographic location (by province, for example), the districts most affected by malnutrition or SAM, the facilities with the most patients or facilities with a history of poor supply chain management.

- **Frequency of data collection.** For regular SAM control programmes, the end users should ideally undergo regular monitoring through continuous surveying, for example every quarter or twice a year. In emergency situations, this monitoring may be more frequent, for example every month or every fortnight, to detect and resolve problems more rapidly.

- **Management of local contributions to data collection tools.** Countries that are planning to use the indicators and forms set out in this document are encouraged to first conduct an in-depth analysis of them in collaboration with the competent divisions/units of the Ministry of Health and other key stakeholders. The purpose of this is, firstly, to reach a consensus on the exercise, its benefits and the types of information it can yield and, secondly, to secure their support and backing. Some stakeholders may also want to add other indicators, products, or questions. These potential additions (where possible) can help to ensure that the EUM results are as useful as possible for national stakeholders. There are other key considerations, however. For example, an additional round may prolong the time needed for surveying at each facility to the point that the potential number of sites surveyed may have to be reduced. Prolonging the surveying period could also affect the quality of the data collected at each site, while adding indicators, products or questions to the survey could ultimately affect the resources required for end user monitoring.

- **Development of training materials.** Once the data collection tools have been finalized, training materials for data collectors should be developed, to ensure that each of them fully understands all relevant indicators and the data they will be responsible for collecting.

4.2 Sampling and selection of sites for end user monitoring

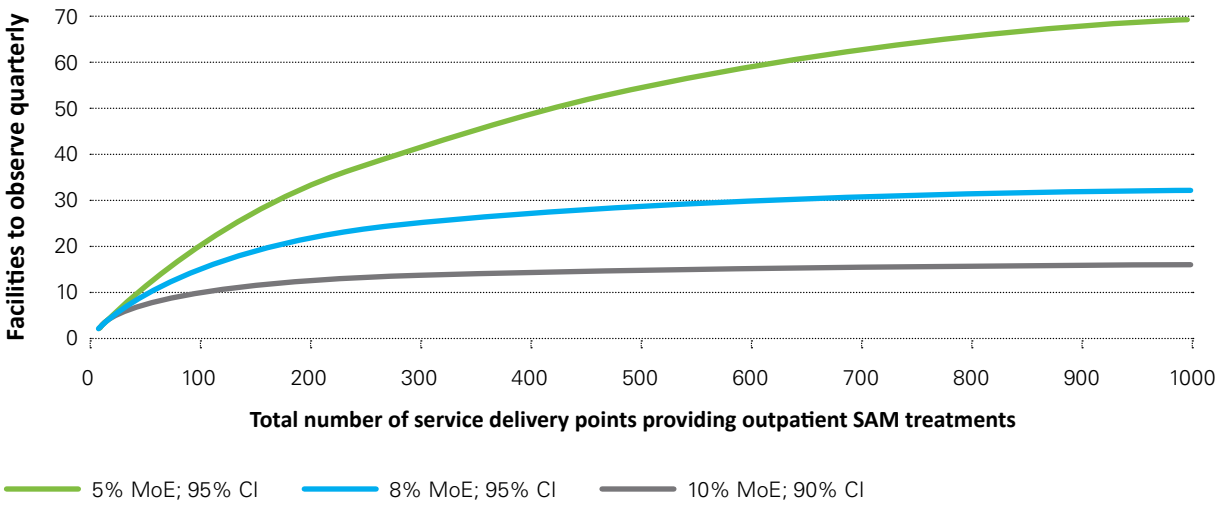
- **Defining the total sample size.** End user monitoring through a continuous survey seeks to provide a representative sample of healthcare facilities or service delivery points over a year, and to paint a picture of the situation beyond the facility, i.e., at household level. Although larger samples generally increase the accuracy of the results, they will also, by definition, be more difficult and costly to compile. Ultimately, the size of the sample will depend on the human and financial resources available for organizing end user monitoring surveys and, secondly, on the desired level of accuracy, given the margin of error (MoE) and confidence interval (CI) sought.

In statistical surveys, the margin of error and confidence interval interact to determine the sample size required. Although their technical definitions are more complex than this, for practical purposes these two concepts can be viewed in the following way: when compiling a statistical sample, the data collected will result in the estimation of a precise value for an indicator. The margin of error is the likelihood of the true value for the total population coming close to this estimated precise value, while the confidence interval is the likelihood of this true value falling within that margin of error. See the example in Annex 2.

The figure below shows the number of facilities that need to be surveyed every quarter to obtain three illustrative levels of statistical rigour, based on the desired margins of error and confidence intervals. We generally assume that an 8% margin of error and a confidence interval of 95% allow most countries to strike a balance between reliability in the results obtained and the cost of data collection. We recognize, however, that budgetary and time constraints may sometimes create a need to compile smaller samples.

Figure 1

Number of facilities to observe quarterly, depending on the desired level of statistical rigour



In the interests of simplicity, the table below shows the recommended sample sizes based on the number of healthcare facilities or service delivery points providing outpatient SAM treatment The figures shown below are based on an 8% margin of error and a 95% confidence interval.

Table 3

Recommended sample sizes

Total number of healthcare facilities providing SAM treatment	Recommended healthcare facility sample size for one quarter	Total recommended healthcare facility sample size for the year
< 100	16	64
100 - 200	22	88
200 - 500	29	116
500 - 1,000	33	132
> 1,000	37	148

8% margin of error and 95% confidence interval

We nevertheless recognize that it is not always possible to sample as many healthcare facilities as needed for this degree of statistical rigour. We therefore present below a list of sample sizes based on a 10% margin of error and a 90% confidence interval. We believe this is in line with the minimum level of rigour required to achieve results that are still statistically significant. With this level of statistical rigour, estimates would be used mainly to identify approximate values for the indicators, but it would be difficult to make statistically meaningful comparisons on changes in the indicators over time.

Table 4

Recommended minimum sample sizes

Total number of healthcare facilities providing SAM treatment	Recommended minimum healthcare facilities sample size for one quarter	Recommended health facility minimum sample size for the year
< 100	11	44
100 - 200	13	52
200 - 500	15	60
500 - 1,000	16	64
> 1,000	17	68

10% margin of error and 90% confidence interval

As stated in section 3, it would be difficult and costly to compile a representative random sample of patients receiving SAM treatment. We recommend two to three household visits per facility surveyed, and as many interviews as possible on the day of data collection after the end of treatment. We believe that this will provide a true, albeit non-statistical, picture of the use of RUTF and vitamin A at household level.

- **Selecting health facilities to observe.** The sampling basis on which the facilities are selected should include all those providing outpatient SAM treatment together with RUTF and vitamin A, including healthcare centres and posts, as well as central and district hospitals.

  Stratified random selection will ensure that the facilities chosen are representative of the facilities in the sampled region. Stratification is defined as the process of dividing the sampling basis (in this case, all the healthcare facilities offering SAM outpatient treatment) into small groups and ensuring that sufficient healthcare facilities are selected in each of these groups. Let us assume, for example, that there are 500 healthcare facilities in country A, of which 120 are to be observed in one survey. Let us also assume that this country A has 10 regions. Stratification can take the form of a (random) selection of 12 healthcare facilities in each region, to guarantee uniform sample coverage. Better still, if there is unequal national distribution of healthcare facilities, proportional stratification can be carried out, i.e., to select (randomly) a certain number of facilities in each region based on the total percentage of facilities present in the region concerned. In our example, if healthcare facilities are particularly densely distributed in region 1, e.g., if 20% of healthcare facilities are located in that region, compared with just 5% in region 10, proportional stratification will involve randomly selecting 24 facilities in region 1 but only six in region 10.

  In a continuous survey, the team must identify at the outset which facilities to observe during the year and then distribute them over several data collection exercises. The team will therefore visit each facility in one data collection exercise; in other words, all the facilities surveyed will only be visited once during the data collection exercises held during the year – four exercises if they take place quarterly.

  Alternative facilities: even if every effort is made to ensure the sampled facilities are open and functional, during the collection process the team may find that some are operating poorly, are inaccessible or simply closed on the day of the visit. The team must then go to the alternative facilities, replacing the inaccessible facility with another facility, to ensure that the data can be analysed. The two main methods for selecting these alternative sites are as follows:

  1. Random selection (at the start of the year) of additional alternative facilities that the data collection team could visit should one or more of the initially sampled facilities be closed or unavailable.

2. Once in the field, if the data collection team discovers that a facility cannot be surveyed, it must select the nearest open facility of the same type. This method is potentially more viable, since it reduces the transport requirements.

All data collection teams should use the same sampling method for the alternative facilities. This method should be specified in the survey plan before the start of the exercise itself.

- **Selecting households to visit.** As indicated above, we recommend selecting two to three households to visit per facility surveyed. The households to be visited should be selected based on the list or register of patients receiving RUTF. The selection must be either a systematic random or deliberate sample, and a convenience sample must never be compiled. For example, a systematic random sample may be compiled by asking the data collectors to sample the third, the fifth and eighth patient on the list. Deliberate selection, meanwhile, involves selecting households located nearby and others further away. The sampling method and procedures for selecting alternative households are the same for all data collection teams and should be clearly explained before the start of the exercise itself.

- **Selection of caregivers in order to hold end-of-treatment interviews with them.** It will not necessarily be possible to compile a sample for end-of-treatment interviews if the number of patients seen in one day is low. As many interviews as possible should be organized, given the limitations of the data collection timetable. Countries may wish to set expectations in this regard before the start of the exercise, depending on priorities and available resources.

4.3 Before the survey

- **Preparing the budget.** Costs relating to these activities include the daily payment of the project staff, transport and per diem allowances during training and data collection periods, reproduction costs, training costs, licensing and data storage costs when using a mobile healthcare application (mHealth) for data collection (e.g., Magpi, SurveyCTO, etc.) and communication costs (mobile phone cards, fax, e-mail). If qualified healthcare workers are unavailable locally, countries may sometimes plan a budget for recruiting external staff that are experienced in data collection.

- **Establishing a timetable.** In a continuous survey, four data collection exercises are generally organized during a year; one per quarter. The timetable for each exercise must include the following:

  Data collector training: three to five days for the initial training; one to two days for refresher training in subsequent exercises;

  Data collection: the timing will depend on several factors, such as the number of teams and people involved, how end user monitoring activities are combined with other supervisory activities, and the number of healthcare facilities included in the sampling base. If the timing is unrealistic, data collectors' other obligations and commitments may affect the quality of the exercise;

  Data analysis, calculating indicators and drafting the report: the results will ideally be released within four weeks from collection, to guarantee their timely usage.

- **Training the data collection teams.** Where possible, healthcare workers with a knowledge of the nutrition and supply chain management programmes should be sent to the field to collect data. These people may have different backgrounds within UNICEF, or could be from partner NGOs in the country concerned, or could be national healthcare service staff, usually at national, regional or provincial level. They may also be responsible for supervising service delivery points, or deployed within ministries, depending on what is most appropriate for the UNICEF staff supervising the activity.

  It is preferable to use the same people for all visits made during the year if the timetable allows. Choosing different people for each exercise will require the organization of new training sessions for each field deployment. The relevant staff should schedule the time needed for activities in the field in their timetable each quarter. This will entail drafting terms of reference at the start of the activity and having them signed by participants, to ensure all those involved understand what is expected of them.

- **Preparing a database for inputting and analysing data (where applicable).** Before beginning the end user monitoring data collection, the format of the questions and of the form's response fields should be reviewed. The questions/responses for the indicators selected should be encoded, and a database should be set up to capture the data produced. When using an mHealth survey tool, the database or product will be created (in .csv, Excel or Access format) based on the forms created for the activity. In other cases, Excel, Access, SPSS, Stata and any other commonly used programme may be used to create the database. Analysis of the relevant indicators takes the form of simple frequencies and tables, which do not require complex statistical analysis programming. To streamline and standardize the process for certain indicators, embedded calculations or formulas may expedite the process and reduce the risk of error or the need for recalculation. The design and development of databases, and the preparation of the analysis, should be an integral part of a preliminary phase of testing or piloting the continuous survey intended for RUTF and vitamin A EUM. These tools could become examples for other countries.

- **Training.** It is recommended that initial training lasting three to five days is organized to test and finalize the tool, together with training on the survey method and the importance of obtaining high quality, unbiased data.

  To assist in planning, a competency framework has been developed that outlines the skills required to collect the full range of indicators listed below. This competency framework can assist countries in determining which staff have the appropriate skills for conducting data collection and which staff may require training.

Table 5

Skills and knowledge required for EUM

Items	Skills required
Physical count	Data collectors must know how to count the usable products (this includes separating usable from unusable products), understand the importance of the unit issued, ensuring that products are counted in all parts of a facility (not just the storeroom), and be familiar with standard packaging.
Expiry dates	Data collectors must understand how to find and read an expiry date
Storage	Data collectors must understand good storage practices and be able to assess the storage conditions in a storage area.
Record reviews	Data collectors must be able to find information in records and extract the correct information for each question
Interview techniques	Data collectors must understand good interview techniques to ensure good data quality and so as not to bias the respondents' answers If countries choose to include the collection of qualitative information, data collectors must be able to probe/formulate follow-up questions

In addition to training data collectors, it is necessary to ensure programme managers have the skills to analyse and act on data. Staff need to have the skills or be trained in how to organize, visualize and interpret the data.

Regular refresher training is also recommended; needs will depend on the rotation of data collectors and the frequency of end user monitoring visits. This refresher training is recommended even for data collectors who remain in the same post, to ensure the entire team continues to apply the collection methods in a consistent manner.

Country-specific design and development of training materials should be part of a preliminary phase of testing or piloting for RUTF and vitamin A EUM and could become examples for other countries.

- **Data collection.** Introductory and informative correspondence is often required for healthcare facilities to authorize external staff to inspect the site or ask questions. This correspondence must be prepared before the data collectors begin visiting the facilities.

  Most of the data needed for this activity can be gathered in three hours from a small or lower-level facility by a team of two people, provided the journey time is less than two hours and begins promptly. Where possible, data collectors will endeavour to visit households on the same day or the following day.

It is recommended that the nutrition programme supervisor who knows the location of the healthcare facilities is involved (and is able to locate any staff temporarily absent from the site) and can assist with access to them. However, the name of the facilities chosen for the survey must not be disclosed to the district offices until the day of the visit. It is also advisable to allow time to meet the local doctor (district, county, region, province) responsible for the facilities that will be visited.

The households will be selected on the day of the visit, and it is therefore preferable for the data collector to contact the caregiver by telephone from the healthcare facility to ensure they are at home. It is also likely that a staff member from the facility, or a community health worker, will need to accompany the data collector to guide them and introduce them to the caregiver.

- **Quality assurance.** A quality assurance protocol must be in place to ensure that the data collected is accurate. For example, if mobile healthcare software is used, the survey coordinators must check the forms completed at the end of each day to identify any general issues across the teams, or to identify specific data collection teams that need to make changes. Teams can be contacted and asked to return to the sites or make any necessary adjustments to correct data issues. In the week after the data collection activity, the activity coordinator and/or the designated data analyst should review and clean up all the data submitted before calculating the requisite indicators.

- **Technical support.** Countries may request specialist technical support for some of the above tasks, for example to assist stakeholders in making key decisions about adapting surveys, the stratified random selection of healthcare facilities to visit, based on the sampling base, drafting reports or setting up a database. If the capacities required for these tasks are not easily available locally, UNICEF or its partners may have the possibility of providing technical assistance to help countries to develop and implement their continuous survey and to assist them in the first round of data collection; subsequent collections will most probably require less (or no) technical assistance.

5 Reporting and disseminating results

The data collection tool provided includes an example indicator calculation sheet detailing how each indicator can be calculated based on the data collected.

Some of these calculations may require modifications, depending on the changes a country introduces to the indicators and data collection forms in its specific national implementation, but we believe they are simple enough to be used by technically competent staff without the need for specialist training. Standard reporting templates should be designed during any testing or piloting of RUTF and vitamin A EUM. However, they should be tailored to each specific implementation process in a given country.

Data availability alone is not enough for supply chains and healthcare systems to improve performance and get critical healthcare products into the hands of clients.

In addition to building end user monitoring activities or systems, it is important to plan how the results will be disseminated to stakeholders, to process the data and prepare the results in a format that can be rapidly generated, easily reviewed and used by stakeholders to make decisions and take actions to improve performance.

For example, a short report could be produced after each data collection round, primarily in graph format, accompanied by a very brief explanatory note focusing on the main observations, the necessary background, the measures taken and the recommendations to be implemented.

The section on the main observations and recommendations should highlight trends that might not necessarily be visible from the data alone and may indicate the way forward. It is important that the report is brief and succinct, so that stakeholders can easily benefit from and follow up on the necessary measures taken and any actions yet to be taken, for instance as part of existing operational and strategic meetings within the health care system.

Annex 1
Data collection forms for continuous surveys

RUTF and Vitamin A end users monitoring tool
In-facility survey questionnaire

RUTF EUM TOOL Facility identification questionnaire	
DATE OF VISIT (dd/mm/yy):	
DATA COLLECTOR:	
FACILITY NAME:	
FACILITY CODE:	
FACILITY TYPE:	1. Hospital
	2. Healthcare centre
	3. Therapeutic treatment unit
FACILITY OPERATED BY:	1. Government
	2. NGO
	3. UNICEF
	4. Private body
	5. Religious organizations
PROVINCE/STATE NAME:	
PROVINCE/STATE CODE:	
NAME OF THE DISTRICT or other geographical/administrative entity:	
DISTRICT CODE:	
NAME(S) AND TITLE(S) OF THE PEOPLE INTERVIEWED AT THE HEALTHCARE FACILITY:	
1	
2	
3	
4	
NAME(S) AND TITLE(S) OF THE PEOPLE INTERVIEWED IN THE HOUSEHOLD:	
1	
2	
3	
4	

RUTF EUM TOOL In-facility survey questionnaire

Interview the facility staff member responsible for prescribing RUTF doses to patients today.

FS01	**Do you have the therapeutic protocol manual, guidelines or work tool? Can you please show them to me?** (Tick the response below)
	a) Yes, seen b) Yes, not seen c) No
FS02	**Can you describe the national guidelines on dosage for SAM treatment? How many RUTF sachets should you prescribe for [weight range 1] [weight range 2] [weight range 3]?**
	(Insert "Yes" if the person interviewed correctly describes the therapeutic guidelines for the number of sachets to prescribe for each weight range shown below)
	[Weight range 1] [Weight range 2] [Weight range 3]

Interview all facility staff members working on SAM treatment and ask them if they are aware of anyone selling or exchanging RUTF on the market.

FS03	**Have you seen or heard of people selling or exchanging RUTF at home or on the local market?**
	Possible responses: Yes = 1 No = 0
FS04	**How frequently do planned distributions occur at this healthcare centre?**
	Possible responses: Weekly = 1 Bimonthly = 2 Other = 3

Ask to see the medical records of 20 patients currently receiving treatment at this facility. If fewer than 20 patients are receiving treatment, ask for the medical records of all patients receiving treatment.

FS05	**How many records of patients receiving treatment were you able to see at this facility today (up to 20)?**
	Number of records:

For each record, complete the table below based on the most recent entry:

FS06		(i.) **Weight of the child in last entry in their record**	(ii.) **Number of sachets administered at the last visit**
	Record 1		
	Record 2		
	Record 3		
	Record 4		
	Record 5		
	Record 6		
	Record 7		
	Record 8		
	Record 9		
	Record 10		
	Record 11		
	Record 12		
	Record 13		
	Record 14		

FS06	Record 15		
	Record 16		
	Record 17		
	Record 18		
	Record 19		
	Record 20		

Ask for the facility's record of outpatient consultations and review the entries for the last 20 patients whose outpatient treatment has stopped (successful or unsuccessful completion) in the last three months.

If there are fewer than 20 patients, review the entries of all patients whose outpatient treatment has stopped in the last three months.

FS07	**How many entries of patients whose treatment stopped in the last three months were you able to review today (up to 20)?**
	Number of patients:

FS08 **How are the blue and red vitamin A capsules distributed by age group?**

[Note: the blue capsules (100,000 IU) are intended for infants aged 6 to 11 months, and the red capsules (200,000 IU) are for infants aged 12 to 59 months. All children should receive vitamin A twice a year at no more than 4-month intervals].

For each patient, complete the table below based on the facility's record of outpatient consultations.

	(i.) **What was the child's weight at the time of admission, in kilograms?**	(ii.) **For how many days has the child been receiving treatment at this facility?**	(iii.) **Was the child discharged as cured when the treatment at this facility ended?** Possible responses: Yes = 1 No = 0	(iv.) **If the response in column (iii.) is 0, was the child transferred to another facility before the end of the treatment?** Possible responses: Yes = 1 No = 0 n/a = 0	(v.) **What was the child's weight in kilograms in the last entry (whether or not the child successfully completed treatment)?**
Patient 1					
Patient 2					
Patient 3					
Patient 4					
Patient 5					
Patient 6					
Patient 7					
Patient 8					
Patient 9					
Patient 10					
Patient 11					
Patient 12					
Patient 13					
Patient 14					
Patient 15					
Patient 16					
Patient 17					
Patient 18					
Patient 19					
Patient 20					

RUTF EUM TOOL Questionnaire on inventory status

Note: before data collection begins, the programme managers must decide on a shared definition of the expression "last three months" to be used by all data collectors.

This could, for example, refer to three full calendar months (January to March for data collection carried out in mid-April), or the past 90 days (i.e., from 16 January to 15 April for a data collection starting on 16 April).

			Note:
SS0	**How many sachets of RUTF are usable (not damaged, not expired) today?**		Include all RUTF that exists at the facility, regardless of location.
SS02	**Is there usable RUTF in stock today?** Possible responses: Yes = 1; No = 0		If the number of usable RUTF is other than 0, the response to this question must be "yes".
SS03	**Is there expired RUTF at this facility today?** Possible responses: Yes = 1; No = 0		Include all expired RUTF at the facility, even if they have been set aside for destruction.
SS04	**Is there damaged RUTF at this facility today? (Torn, pierced, open sachets, or sachets chewed by pests, or other damage making them unusable.)** Possible responses: Yes = 1; No = 0		Include all damaged RUTF at the facility, even if it has already been included as expired RUTF, and even if it has been set aside for destruction.
SS05	**How many sachets of RUTF are unusable (damaged or expired) today?**		Include all damaged or expired RUTF at the facility.
SS06	**Is there a stock list or inventory record for RUTF?** Possible responses: Yes = 1; No = 0		Check for a stock list or inventory record in the dispensing room and storage room or pharmacy if applicable. If there is a stock list or inventory record anywhere at the facility, enter "Yes".
SS07	**Does the stock list or inventory record include a complete record for the past three months?** Possible responses: Yes = 1; No = 0		"Complete record", in this context, means that the stock list/inventory record has been regularly updated and does not contain any major discontinuity in dates in the last three months.
SS08	**According to the stock list/inventory record, how many days was RUTF stocked out in the last three months?**		Count the number of days that indicate 0 stock on the stock list/inventory record.
SS09	**Is there a record or checklist for the number of RUTF sachets distributed to patients or caregivers? Can you please show it to me?** Possible responses: Yes, shown to the interviewer = 1; Yes, not shown to the interviewer = 0; No = 0		This document should be separate from the stock list and should list the number of RUTF sachets distributed to patients or caregivers.
SS10	**If there is a checklist or record, does it provide a complete record of RUTF distributed to patients or caregivers for the last three months?** If there is no checklist or record, does the stock list or inventory record provide a complete record of RUTF withdrawn from inventory or distributed to patients or caregivers for the last three months? Possible responses: Yes = 1; No = 0		"Complete record," in this context, means that the checklist or record has been regularly updated and does not contain any major discontinuity in dates in the last three months.
SS11	**According to the checklist, what quantity of RUTF has been distributed from this site to patients or caregivers during the past three months?**		Count all RUTFs recorded as having been distributed on the checklist/record during the last three months.
SS12	**Do you have vitamin A capsules available at the facility?**		
SS13	**Have you experienced a stock-out of vitamin A capsules in the last six months?**		Visual confirmation of the stock-out must be confirmed on the stock record

RUTF EUM TOOL Questionnaire on storage conditions				
Assess the main location where RUTF is stored at this facility (usually a storage room or a pharmacy, or a treatment room for smaller facilities), based on the criteria below		Yes	No	n/a
ST01	The boxes and products are in good condition (not crushed, pierced, stained or damaged in any other visible way).			
ST02	There is no obvious sign indicating the presence of rodents or insects in the storage area (visually inspect the storage area, looking for signs of rodents [droppings] or insects that may damage or contaminate the products).			
ST03	The RUTF is stored in a dry, well-lit and well-ventilated room (visually inspect the ceiling, walls and floor of the room).			
ST04	The boxes and products are protected from direct sunlight.			
ST05	The storage area is dry and watertight.			
ST06	The products are stored away from insecticides, chemicals, hazardous materials, old records, office supplies and equipment.			
ST07	The boxes are stored on shelves or pallets, not on the floor.			
ST08	Unusable products, including expired or damaged products, are stored separately from usable products.			
ST09	RUTF is stored and organized in a way that enables FIFO (First In, First Out) procedures to be applied, and is accessible for counting and general inventory management.			
ST10	RUTF is stacked at least 30 cm away from walls and other rows or stacks of products (to avoid contact with external walls, and to allow access to the RUTF), at a height less than or equal to 2.5 m.			
ST11	The RUTF is placed on shelves so that the identification labels, expiry dates and manufacture dates are clearly visible.			
ST12	The RUTF was stored within the temperature range (less than 40 °C) on the day of the visit.			
ST13	The storage room is locked but accessible during normal working hours. Only authorized staff can enter it.			
ST14	Fire safety equipment is available and accessible (any object identified as being used for fire safety must be included).			
ST15	Do you have expired vitamin A jars at the facility? (Visual confirmation of the expired product must follow.)			

RUTF EUM TOOL Household questionnaire			
[Space reserved for consent form, see Annex 2]			
HH01	Date of visit		
HH02	Province name		
HH03	District name		
HH04	Village name		
HH05	Name of the data collector		
HH06	Name of the child		
HH07	Daily prescribed dose according to the healthcare facility record		sachets
INTERVIEW WITH CAREGIVER			
HH08	Do you recognize the sachet of [name of the RUTF, Plumpy'Nut]? [Show a sample sachet]		1. Yes 2. No
HH09	Do you know what this is for? (Possible responses)	a) Treating malnutrition b) Given to all children c) Given to pregnant women d) Other (please specify)	
HH10	When was the last time you sought Plumpy'Nut for [child's name]?		
HH11	When you last sought Plumpy'Nut, were you to able to get [child's name]'s ration?		1. Yes 2. No
HH12	If you were unable to obtain the ration of Plumpy'Nut for [child's name] at the clinic on the most recent distribution day, why was this?	1. The clinic didn't have any. 2. No staff member could supply it. 3. Other reason (please specify)	
HH13	How many sachets did [child's name] consume yesterday?		Sachets
HH14	Was [child's name] able to finish all the daily ration yesterday?		1. Yes 2. No
HH15	Did the health worker tell you how many sachets of Plumpy'Nut [child's name] should consume each day?		1. Yes 2. No
HH16	IF RESPONSE TO QUESTION HH15 ABOVE IS "YES", ASK: How many		Sachets
HH17	How many days will it be before the next scheduled distribution when you expect to receive more Plumpy'Nut?		Days
HH18	How many sachets of Plumpy'Nut do you have at home today? (Ask to see the sachets and count them)		Sachets
HH19	Did the health worker tell you to return the Plumpy'Nut to the clinic if [child's name] refuses to eat it or becomes unwell?		1. Yes 2. No
HH20	Did anyone else eat the Plumpy'Nut intended for [child's name]?		1. Yes 2. No
HH21	Did the health worker tell you that this Plumpy'Nut is a medicinal product for [child's name] and should not be shared with others?		1. Yes 2. No
HH22	IF RESPONSE TO QUESTION HH20 ABOVE IS "YES", ASK: why was [child's name]'s Plumpy'Nut shared with someone else? (Tick all that apply)	a) The person was also unwell. b) It tastes good. c) The person was very hungry/had not eaten. d) The child does not like Plumpy'Nut. e) Other reasons (please specify)	

HH23	Did the healthcare worker tell you that this Plumpy'Nut is a medicinal product for [child's name] and should never be sold?	1. Yes 2. No
HH24	Have you ever seen people selling or exchanging Plumpy'Nut outside the clinic?	1. Yes 2. No
HH25	Are you satisfied with the quantity of Plumpy'Nut that [child's name] has received from the clinic?	1. Yes 2. No
HH26	If not, why?	a) Insufficient quantity to feed the child. b) Insufficient quantity to share it. c) Quantity received less than the quantity indicated by the health worker for [child's name]. d) Other reasons (please specify)

RUTF EUM TOOL **Indicator calculation example**			
	Indicator	**Method of calculation**	
		Numerator	**Denominator**
1	Percentage of healthcare facilities surveyed with usable (undamaged, unexpired) RUTF in stock	Sum of the values in box SS02 for all facilities surveyed	Total number of facilities surveyed
2	Average number of days the facilities surveyed were stocked out of RUTF in the last three months	Sum of the values in box SS08 for all facilities surveyed where SS07 = 1	Sum of the values in box SS07 for all facilities surveyed
3	Percentage of facilities surveyed that are appropriately stocked, in line with the policies established for maximum/minimum stock levels, among those facilities that have records available	Sum of the values in column (F.) below for all facilities surveyed	Sum of the values in column (A.) below for all facilities surveyed

For all facilities surveyed:	(A.) **Complete list available? (response from box SS10)**	(B.) **Consumption over the past three months (response from box SS11)**	(C.) **Average monthly consumption: if (A.) = 1, divide (B.) by 3, if not leave empty**	(D.) **Physical count (response from box SS01)**	(E.) **Number of months of stock: if (A.) = 1, divide (B.) by (C.), if not leave empty**	(F.) **Stock in accordance with expectations: 1 if the value of column (E.) falls between the minimum and maximum values, otherwise 0**
[Facility 1]						
[Facility 2]						

4	Percentage of facilities in [period] with usable RUTF on hand as per the LMIS report	According to the most recent LMIS report, total number of facilities where the available stock is above 0	According to the most recent LMIS report, total number of facilities having submitted a report indicating available stock (even if 0)
5	Percentage of facilities surveyed with expired RUTF	Sum of the values in box SS03 for all facilities surveyed	Total number of facilities surveyed
6	Percentage of facilities surveyed that had damaged RUTF	Sum of the values in box SS04 for all facilities surveyed	Total number of facilities surveyed
7	Average number of RUTF sachets that are unusable per facility	Sum of the values in box SS05 for all facilities surveyed	Total number of facilities surveyed
8	Average percentage of proper storage practices for RUTF applied by the facilities	Total number of affirmative responses to questions ST1 to ST14 for all facilities surveyed	Total number of facilities surveyed, multiplied by 14 (the number of storage practices surveyed)
9	Percentage of records reviewed where a child received the correct amount of RUTF as laid down in national guidelines	Sum of the values in column (G.) below for records reviewed as part of question FS06, in all facilities surveyed	In all facilities surveyed, total number of records reviewed as part of question FS06, for which column (E.) below is not ticked

For all records reviewed as part of question FS06, in all facilities surveyed:	(A.) **Weight of the child (response from box FS06-(i.))**	(B.) **Sachets actually distributed (response from box FS06-(ii.))**	(C.) **Frequency of distribution (response from box FS04)**	(D.) **Theoretical daily dose based on the national guidelines (compare weight in column (A.) with national guidelines)**	(E.) **Theoretical quantity to distribute: if (C.) = 1 or 2, multiply (C.) x 7 days x (D.); if (C.) = 3, put a cross**	(F.) **Variance in quantity distributed: if column (E.) is not ticked, subtract (E.) from (B.). If the result is negative, multiply it by -1 to make it a positive number.**	(G.) **Correct quantity distributed: 1 if (F.) is less than (D.); otherwise 0**
Record 1							
Record 2							
[etc.]							

10	Percentage of facilities where nutrition staff know the correct quantity per day for a child as laid down in the protocol	Total number of facilities surveyed for which box FS02 indicates "Yes" for all weight ranges included	Total number of facilities surveyed
11	Percentage of facilities where staff report RUTF is being sold on the market	Total number of facilities surveyed for which box FS03 = 1	Total number of facilities surveyed
12	Cure rate for patients in outpatient SAM treatment	Total, for all patient records reviewed as part of question FS08-(iii.), in all facilities surveyed	Total number of patient records reviewed as part of question FS08, for which box FS08-(iv.) = 0
13	Average length of stay of children discharged as cured/recovered following SAM treatment	In all facilities surveyed, sum of values from box FS08-(ii) for all patient records reviewed as part of question FS08 for which box FS08-(iii.) = 1	Total number of patient records reviewed as part of question FS08, for which box FS08-(iii.) = 1, in all facilities surveyed
14	Average weight gain, in grams per kilogram per day, of children discharged as cured/recovered following SAM treatment	Sum of the values in column (D.) below for patient records reviewed as part of question FS08, in all facilities surveyed	Sum of the values in column (E.) below for patient records reviewed as part of question FS08, in all facilities surveyed

For all patient records reviewed as part of question FS08, in all facilities surveyed:	(A.) **Child's weight at the time of admission (response from box FS08- (i.))**	(B.) **Number of days of treatment (response from box FS08-(ii.))**	(C.) **Successful treatment (response from box FS08- (iii.))**	(D.) **Final weight (response from box FS08- (v.))**	(E.) **Weight gain: if (C.) = 1, subtract (A.) from (D.); otherwise leave empty.**	(F.) **Weight gain in g/kg: if (C.) = 1, divide (E.) by (A.); otherwise leave empty.**	(G.) **Weight gain in g/kg/day: if (C.) = 1, divide (F.) by (B.); otherwise leave empty.**
Patient 1							
Patient 2							
[etc.]							

15	Percentage of caregivers that are familiar with RUTF and know what it is for	Total number of household surveys conducted for which boxes HH08 = 1 and HH09 = a)	Total number of household surveys conducted
16	Percentage of patients/caregivers surveyed that received RUTF on their last visit	Total number of household surveys conducted for which box HH11 = 1	Total number of household surveys conducted
17	Percentage of patients/caregivers surveyed that did not receive RUTF on their last visit because it was stocked out	Total number of household surveys conducted for which box HH11 = 2 and box HH12 = 1	Total number of household surveys conducted
18	Percentage of caregivers surveyed that did not receive RUTF on their last visit because there were no staff trained to provide it	Total number of household surveys conducted for which box HH11 = 2 and box HH12 = 2	Total number of household surveys conducted
19	Percentage of caregivers who have the correct number of sachets of RUTF on hand, as per distribution schedule	Sum of the values in column (F.) below for all household surveys conducted	Total number of household surveys conducted

For all household surveys conducted:	(A.) **Number of sachets per day understood by the caregiver (response from box HH16 if HH15 = 1; otherwise put a cross**	(B.) **Number of days to next distribution (response from box HH17)**	(C.) **Number of sachets available (response from box HH18)**	(D.) **Theoretical number of sachets to be available: multiply (A.) by (B.)**	(E.) **Gap: subtract (C.) from (D.) If the result is negative, multiply it by -1 to make it a positive number.**	(F.) **Appropriate number available: 1 if (E.) is less than or equal to (A.); otherwise 0**	(G.) **Weight gain in g/kg/ day: if (C.) = 1, divide (F.) by (B.); otherwise leave empty.**
Caregiver 1							
Caregiver 2							
[etc.]							

20	Percentage of caregivers given the correct information on RUTF use by the healthcare worker	Sum of the values in column (I.) below for all household surveys conducted	Total number of household surveys conducted
21	Percentage of caregivers who know the correct daily dose for the patient	Sum of the values in column (E.) below for all household surveys conducted	Total number of household surveys conducted
22	Percentage of caregivers who gave the correct quantity (correct number and fully consumed) to their child the day before the survey	Sum of the values in column (D.) below for all household surveys conducted	Total number of household surveys conducted

For all household surveys conducted:	(A.) **Number of sachets per day per record (response from box HH07)**	(B.) **Number of sachets per day understood by the caregiver (response from box HH16)**	(C.) **Number of sachets consumed the day before (response from box HH13)**	(D.) **Appropriate number of sachets consumed the day before: 1 if (A.) = (C.); otherwise 0**	(E.) **Appropriate number of sachets indicated: 1 if (A.) = (B.); otherwise 0**	(F.) **Return to clinic (response from box HH19)**	(G.) **Medicinal product for child only (response from box HH20)**	(H.) **Medicinal product should not be sold (response from box HH23)**	(I.) **Correct information received: if the responses in columns (E.) to (H.) are all equal to 1, enter 1 here; otherwise enter 0**
Caregiver 1									
Caregiver 2									
[etc.]									

23	Percentage of caregivers that report sharing RUTF with one or more other person in household	Total number of household surveys conducted for which box HH20 = 1	Total number of household surveys conducted
24	Percentage of caregivers that report RUTF is being sold or exchanged	Total number of household surveys conducted for which box HH24 = 1	Total number of household surveys conducted
25	Percentage of caregivers satisfied with the amount of RUTF they have received	Total number of household surveys conducted for which box HH25 = 1	Total number of household surveys conducted

Annex 2
Sample household respondent consent form

Adapted from end user monitoring in Afghanistan

Informed consent and information form for caregivers

Hello, my name is _____ and I am an interviewer working for the Ministry of Public Health [country's ministry of health] and UNICEF. The Ministry of Public Health and UNICEF want to ensure that all children in [country] have access to quality nutrition and care services, and that parents and families are provided with the necessary knowledge and resources to fulfil their role as caregivers. To ensure that the current nutrition services and equipment are up to standard, the Ministry of Public Health and UNICEF are conducting a survey of users in this community and asking caregivers to take part.

Ask the head of the household: your household has been randomly selected, and we would like your permission to interview the caregiver. By caregiver, we mean the person who has primary responsibility for the health and well-being of the child.

Do you agree? 1. Yes 2. No

Read to the caregiver: you have been randomly selected, and we would like your permission to ask you some questions. The information you provide will be confidential and will help us to improve the services we offer to children. The interview will only take 10 to 15 minutes of your time. Your participation is voluntary. If you do not want to participate, this is not a problem. If you would like to participate now, but change your mind later, this is fine too. You can stop at any time. If you agree to participate, you are not required to answer all the questions and you can stop the interview at any time. Your decision to participate in this survey or to answer certain questions will have no impact on the services you receive.

We will answer any questions you may have before you agree or decline to participate. If you agree to participate, you can ask me questions at any time. Do you have any questions at this stage? [Pause and answer any questions] If other questions come later, you can contact the survey coordinator at

_____.

Do you agree to take part in the survey? 1. Yes 2. No

By answering "Yes", you have agreed to provide the relevant information. Thank you.

For the interviewer:

THE PERSON HAS AGREED TO BE SURVEYED: 1

THE PERSON HAS DECLINED TO BE SURVEYED: 2 END

Annex 3
Example: statistical significance, margin of error and confidence interval

The margin of error and confidence interval are important factors to take into consideration during sampling, and some stakeholders may not have in-depth knowledge in the field of statistics. The following brief example is therefore designed to explain these concepts and how they interact.

Let's imagine your country has 416 healthcare facilities and you want to know how many of them are open on a Friday evening. You want your sample to provide an estimate that ensures a 5% margin of error and a 95% confidence interval. This means you need to collect data from 200 of the 416 healthcare facilities. Although 200 is a high number, it is more feasible than 416. The drawback is, however, that at the end of the survey, you cannot be sure what the result would have been if you had surveyed all 416 facilities. You collect the data and establish that 160 out of the 200 healthcare facilities are open on Friday evenings. The indicator is therefore 160/200 = 80% of facilities. The 5% margin of error means that the actual percentage of healthcare facilities open on Friday evenings, out of the 416 in your country, is probably around 80%, i.e., between 75% and 85%. What is the degree of probability? The 95% confidence interval indicates that there is 95% chance that the actual percentage among the 416 health facilities is within the margin of error, i.e., between 75% and 85%.

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