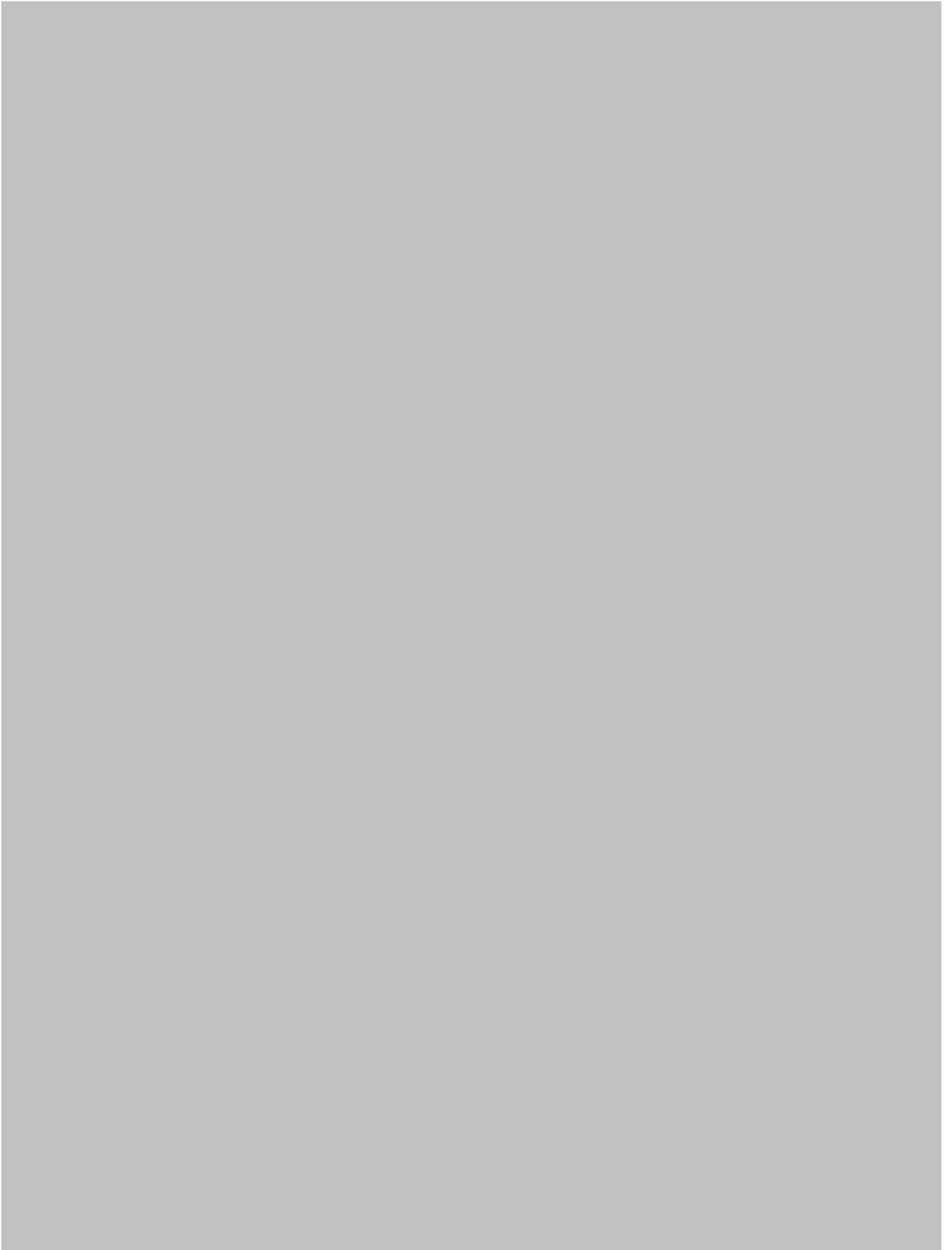


UNHCR STANDARDISED EXPANDED NUTRITION SURVEY (SENS) GUIDELINES FOR REFUGEE POPULATIONS

ADDENDUM FOR OUT-OF-CAMP SETTINGS

A PRACTICAL STEP-BY-STEP GUIDE
VERSION 3 (2018)







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INTRODUCTION

UNHCR's Standardised Expanded Nutrition Survey (SENS) guidelines were published in 2011 describing in detail how to conduct nutrition surveys in refugee populations. The SENS is based on SMART (Standardised Monitoring and Assessment of Relief and Transitions) methods for survey design and anthropometric measurements, and includes in addition a number of other relevant indicators such as anaemia, infant and young child feeding, demography, food security, water sanitation and hygiene, and mosquito net coverage. The SENS guidelines provide step by step guidance including data collection methods, the type of information to collect, and how to analyse and present data.

The SENS guidelines v3 are designed to cover most refugee camp emergencies and all stable, refugee camp situations. However adaptation is needed for use in urban and other out-of-camp settings. This document is an Addendum to the SENS guidelines v3 from 2018 (released in October 2019) and provides updated information and additional guidance on conducting a SENS in rural and urban areas outside of camps. The Addendum specifically addresses how to define, locate and sample the refugee population in urban and rural areas, and how to adapt the questionnaire to suit the urban and other out-of-camp settings.

Comments, feedback and requests for further guidance should be directed to:

HQPHN@unhcr.org

For more details on the SENS guidelines, its associated tools and reference material, refer to:

<http://sens.unhcr.org/>

HOW TO USE THIS ADDENDUM

This guidance should be used when designing and implementing a SENS in out-of-camp settings, and is aimed at UNHCR health and nutrition field staff and partners responsible for the implementation of the survey. The Addendum should be used in combination with the original SENS guidelines v3. This Addendum does not aim to provide all relevant information for conducting a SENS, but refers to the original SENS guidelines v3 for parts that are similar and provides only additional information where needed. In general, information that is relevant for both refugee camps *and* urban and other out-of-camp settings is not repeated here. Analysis and presentation of data should not change.

→ *Specific references to UNHCR SENS Pre-module v3, 2018 can be recognised by an arrow and text in italic bold blue font as shown here. Under these sections there are references to the Survey Steps in the UNHCR SENS Pre-module v3 guidelines, where this addendum adds to or replaces the original guidelines. Survey Steps in the original guidelines that are not referred to are still applicable for SENS in settings outside of camps.*

ACKNOWLEDGEMENTS

The *SENS Addendum for out-of-camp settings* was compiled by Prisca Benelli and Ellen Cecilie Andresen on behalf of UNHCR in close collaboration with the Centers for Disease Control (CDC). The contributions made by all those involved in providing content, reviewing, and commenting on the various drafts of this document is gratefully acknowledged.

Contributors: Prisca Benelli and Fanny Cassard consultants for UNHCR; Oleg Bilukha and Eva Leidman, Centers for Disease Control (CDC); Paul Spiegel, Marian Schilperoord, Caroline Wilkinson, Mélody Tondeur and Ellen Cecilie Andresen, UNHCR.

This *SENS Addendum for out-of-camp settings* is dedicated to Claudine Prudhon who sadly passed away in October 2019. Claudine was an inspiration to many and always understood and encouraged the need for good quality data in humanitarian situations, collected in a simple and robust manner. Claudine was also the major influence in the creation of the SENS database in UNHCR and will be very much missed.

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LIST OF ACRONYMS

ENA for SMART	Name of the SMART nutrition survey software
EPI	Expanded Programme on Immunisation
FICSS	Field Information and Coordination Support Section
GIS	Geographic Information System
HIS	Health Information System
JAM	Joint Assessment Mission
KAP	Knowledge, Attitude and Practice survey
NGO	Non-Governmental Organisation
PPS	Probability Proportional to Size
ProGres	Registration database for refugee population data
PSU	Primary Sampling Unit
SENS	Standardised Expanded Nutrition Survey
SMART	Standardised Monitoring and Assessment of Relief and Transitions
UN	United Nations
UNHCR	United Nations High Commissioner for Refugees
UNICEF	United Nations Children’s Fund
WASH	Water, Sanitation and Hygiene

GLOSSARY OF TERMS

Food assistance: food assistance refers to the set of interventions designed to provide vulnerable and food insecure populations with access to food. It includes instruments such as in-kind food, vouchers and cash that assures access to food of a given quantity, quality and value. Cash grants and/or vouchers, are increasingly being used (often alongside in-kind) to meet food needs.

General Food Ration (GFR): a general food ration is a basket of in-kind food commodities, typically distributed by household. An energy requirement of 2,100 kcal per person per day is typically used as the planning figure to calculate the amount of in-kind food assistance for refugee households but this can be adapted based on the needs, ambient temperature, demographic profile, and activity level. The general food ration is typically the same for all households, amounts determined by number of household members though, irrespective of age or sex (i.e. same quantity and type of foods).

Household: There is no universal definition of a household to be used in a nutrition and health survey. However, a classic definition used in nutrition surveys to define a household is: **a group of people who live together and routinely eat out of same pot**. For example, if two families share the same pot, they should be assessed as one household. **If accurate and updated population lists are available from ProGres** for sampling, a household should be defined as it appears in ProGres, i.e. **use the registration group as a proxy for household**. A registration group is one or more individuals who are registered together. For example, a registration group could be a family or it could be a household registered together for assistance purposes. An individual must always belong to a registration group. An individual can only belong to one registration group at any point in time.

Mixed-households: households including both refugees and host community, either where a refugee is married to a member of the host community, or where refugees are living in a host community household and eating out of the same pot.

Out-of-camp setting: refers to areas where refugees live outside of camp structures, including refugees residing in dispersed rural areas, villages, settlements or urban areas.

ProGres population list: ProGres is the UNHCR registration database that contains basic information on all registered refugees and asylum seekers, such as nationality, family structure, address, phone numbers, and photographs. Population and/or households list may be derived from ProGres for the purpose of sampling.

Refugee density: describes the number of refugees living in a specific area in relation to the total population (refugees and non-refugees) living in that specific area. This is calculated as: # refugees in the area/ # total population (refugees + non-refugee) in that area.

Refugee distribution: describes the number of refugees living in one specific sub-area (e.g. neighbourhood) in relation to the total number of refugees living in the whole area to be surveyed (e.g. city). This is calculated as: # refugees in one specific area/ # refugees in the whole area.

Refugee status determination: an examination by a government authority or UNHCR of whether an individual who has submitted an asylum application or otherwise expressed his or her need for international protection is indeed a refugee. If recognised as a refugee they will be entitled to a number of important rights and benefits as well as protection and assistance depending on the context.

Vouchers: a paper, token or e-voucher that can be exchanged for a set quantity or value of goods or services, denominated either as a cash value (e.g. \$15) or predetermined commodities (e.g. 5 kg maize) or specific services (e.g. milling of 5 kg of maize), or a combination of value and commodities. Vouchers are restricted by default, although the degree of restriction will vary based on the programme design and type of voucher. They are redeemable with preselected vendors or in 'fairs' created by the implementing agency. The terms vouchers, stamps, or coupons might be used interchangeably¹.

¹ Glossary of terminology for cash and voucher assistance (CaLP)
<http://www.cashlearning.org/resources/glossary#Voucher>

A. DECIDE ON THE NEED FOR A SENS SURVEY AMONG REFUGEES RESIDING IN OUT-OF-CAMP SETTINGS

- a. **When does a SENS survey in urban or other out-of-camp settings need to be considered?**
- b. **What needs to be considered before conducting a SENS survey among refugees outside of camp settings?**
- c. **Are there other ways to find out about the nutrition situation among refugees residing outside of camp settings?**
- d. **What are the budgetary needs for conducting a SENS survey among refugees residing outside of camp settings?**
- e. **What support can be provided from UNHCR Public Health Section or Regional Nutrition Offices?**

→ *This section comes in addition to UNHCR SENS Pre-module v3, Survey Step 1 (p: 8-10 – PDF version)*

a. **When does a SENS survey in urban or other out-of-camp settings need to be considered?**

- When there is a large refugee population;
- When there has been a significant influx of refugees into the rural or urban areas;
- When little information is available on the nutrition situation of the refugees living outside of camps;
- To establish baseline data to estimate if the nutrition status is of concern among the refugee population;
- To estimate the severity of the nutrition situation and possibly the groups most affected or at risk;
- To assess the needs for nutrition interventions and identify the most effective interventions to prevent or minimize the nutritional concern; and
- To monitor the nutrition situation.

b. **What needs to be considered before conducting a SENS survey among refugees outside of camp settings?**

- Which type of assistance will be provided if an elevated prevalence of malnutrition is identified?
- How, by whom and to whom will the assistance be provided?

- How can the survey help to identify the need for assistance and how to target beneficiaries for assistance? The answers to these questions will help decide which population to target for the survey.²
- Note that a survey among urban and rural refugees is often more expensive than one conducted in camp settings, and its findings are – regardless of the method employed – often less reliable than those of a traditional survey in camp settings³.

c. Are there other ways to find out about the nutrition situation among refugees residing in outside of camp settings?

- Nutrition surveys remain the best way to estimate the prevalence of malnutrition at the population level.
- Records of cases of malnutrition at health centres or during routine or rapid screening cannot be considered representative of the population. They can, however, give an indication of trends in the number of cases of malnutrition. This is the same with data of admissions to feeding centres. Any significant increase should trigger further investigation.
- National nutrition surveys that include refugees can provide useful information. Even though the national survey might not be disaggregated to separate refugees from nationals, looking at information from cities or regions where a large proportion of the population are refugees might give a fairly good picture of the nutritional situation among the refugees.

d. What are the budgetary needs for conducting a SENS survey among refugees residing outside of camp settings?

→ See [UNHCR SENS Pre-module v3, step 1c \(p: 9 – PDF version\)](#) for more details on budget planning.

- For a SENS survey in urban or other out-of-camp settings, additional costs may apply. The final budget is very much influenced by the choice of methodology. If only registered refugees are included, the sample is randomly drawn from ProGres population lists and households are easy to find, the cost will be lower than if several population groups are included, no updated population list exists,

² E.g. if assistance is only provided to registered refugees – will the survey only include registered refugees to identify need for intervention, or will it include all refugees to also reveal the situation among un-registered refugees?

³ This is largely due to the risks of under-representation of specific minority or poorer groups, such as refugee populations, in urban or other out-of-camp situations in surveys. Amongst the methodological challenges are: outdated census or population data resulting in undercounting of informally settled households who are also often mobile and more fragile; de facto exclusion in some surveys of homeless or institutional populations; potential under-sampling for example in multi household dwellings where the detailed definitions of the households are not applied, resulting in exclusion of some members (e.g. domestic workers); misclassification of newly settled peri-urban areas or slum areas as rural, thereby underestimating the informal urban populations.

population groups are scattered and households are generally hard to reach – in which a complex and more intricate sampling approach needs to be applied.

- Additional costs include:
 - Longer preparation phase to determine target population and geographical distribution;
 - Additional time for sampling and data collection – how long depends on the methodology, the density of the survey population, the structure of the rural and urban areas, and the security concerns in these areas;
 - Additional time and resources for several representative surveys if area and/or survey population is heterogeneous⁴; and
 - External support may be required for support with sampling or to conduct the survey.

e. What support can be provided from UNHCR Public Health Section or Regional Nutrition Officers?

- UNHCR Public Health Section / Regional Nutrition Officers can provide technical guidance on SENS surveys in urban and other out-of-camp settings, such as methodology, data analysis, interpretation, advice on equipment, and identification of external resources.
- It will be important to share at the early stages the implementation plans including protocols, and in a timely manner share any draft reports and data of survey findings.

Issues to note:

- Before conducting a SENS survey in an urban or other out-of-camp setting it is important to inform and include local authorities to obtain approval.

⁴ This may be the case if you need to divide up urban or other out-of-camp areas to obtain a representative sample of different population groups or areas that you would expect to be very different from each other.

B. GATHER BACKGROUND INFORMATION

- a. What secondary data should be collected?
- b. How should the information be triangulated?
- c. How should the information be put on a map?

→ *This section comes in addition to UNHCR SENS Pre-module v3, Survey Step 2 (p: 11 – PDF version).*

This is one of the key phases of the survey. Information gathered at this stage concerning size, distribution and characteristics of the refugee population will have major implications on the survey methodology and outcomes of the survey.

a. What secondary data should be collected?

- The first step in survey preparations is to gather all available information using secondary data. The objective is to review and consolidate baseline data regarding the refugee population, as there might already be significant data available. Information gathered through secondary data will guide the definition of the target population, the geographical area to cover, which SENS modules and questions to include in the survey, the expected levels of malnutrition, sample size calculations, and the sampling methodology to be applied.

Some relevant information sources to obtain them from:

- Population characteristics and demographic figures on refugees (e.g. total number of refugees, number of refugees by age group, number of refugee households, average household size, country of origin of refugees), as well as the location of refugees in the rural and urban areas and, if possible, the density of refugees in these areas
 - UNHCR ProGres
 - UNHCR colleagues in registration, GIS and social services
 - Household listings, school listings, or population head counts done by partners
- Population data on refugees and/or host population from host government statistical office and other UN agencies, administrative division and structure of the areas, both formal and informal (e.g. neighbourhoods, districts, blocks, etc.)
 - Host government offices
 - Local key informants
- Situational context

- Previous surveys and assessments including nutrition surveys, rapid assessments, mass screenings, malaria surveys, water sanitation and hygiene (WASH) surveys, Age Gender and Diversity Mainstreaming, and Joint Assessment Mission or JAM reports
 - UNHCR colleagues (e.g. working in nutrition, health, food security, livelihoods and WASH)
 - Partners outside UNHCR (e.g. field partners, other non-governmental organisations (NGOs) working in the areas, refugee leaders, health workers from areas with high refugee presence, refugees, local government, etc.)
 - Situation reports on security and political situation (Sitreps)
- Health statistics and nutrition programme admission numbers
 - UNHCR Health Information Systems (HIS) / iRHIS: <http://his.unhcr.org>
 - National health centres and/or health centres run by national or international NGOs
 - Food security and livelihood opportunities, including programmes delivered by UNHCR and partners such as Multi-Storey Gardens, kitchen gardens, vouchers, cash grants, income generating activities etc.
 - UNHCR food security and livelihood colleagues and partners in these areas
 - If relevant, food basket composition and monitoring data
 - UNHCR food security colleagues
 - Post-distribution monitoring reports and food basket monitoring reports
 - Maps
 - UNHCR Field Information and Coordination Support Section (FICSS)

It is important to note that the various lists available describing the number and locations of refugees are likely to present different figures. It is important to find out which process/method was used to compile the different lists and based on that, evaluate the reliability and completeness of the source:

- Did refugees on the list actively seek to be registered?
- Was the list compiled using snowball method or other sampling method?
- Did those who compiled the list go door to door in the whole town/region/country, or did they go door to door in specific areas only?
- When and how was the list updated?
- Are there any incentives – or discouragements – to being included on the list?

b. How should the information be triangulated?

- Secondary data should be complemented and triangulated with other sources of information, including:
 - Semi-structured interviews with individual key informants, e.g. members of the government, representatives of health centres, community-based organisations, religious centres and NGOs working with refugees, refugee leaders, and UNHCR staff from other divisions and sections, especially local staff;
 - Focus group discussions with refugees and host communities; and
 - Direct observations in areas where refugees live or that are regularly attended by refugees.
- All these sources can provide useful information on population numbers, distribution, and socio-economic characteristics to complement, or at times challenge, the secondary data collected.

c. How should the information be put on a map?

- Information about the location of refugees should be compiled and used to create a map. The map could be prepared together with the GIS officer, if available, in Google Earth or by using colour markers over a printed copy of the map. The purpose of the mapping is to get a sense of which areas are inhabited by refugees, the number of refugees in each sub-area in relation to the total number of refugees in the whole area (the relative distribution of refugees), and the number of refugees as a proportion of the total population (refugees and non-refugees) of the area (the density of refugees)⁵. The geographic boundaries of each area should be marked precisely, and effort should be made to capture the expected number, distribution and density of refugees accurately⁶.

⁵ More details on how to estimate distribution and proportion of refugees can be found under 'Define the target population's size, distribution and density' section.

⁶ Number = actual number of refugees in that sub-area or area; distribution = # of refugees in a sub-area/ total # of refugees in the whole area; density = # of refugees in a sub-area/ total population (refugees and non-refugees) in that sub-area.

C. DEFINE SURVEY OBJECTIVES FOR A SENS IN OUT-OF-CAMP SETTINGS

- a. What are the objectives of UNHCR Standardised Expanded Nutrition Survey (SENS)?
- b. What are the objectives recommended to be included in a SENS outside of camp settings?
- c. How should the household-based modules be adjusted?

→ *This section replaces UNHCR SENS Pre-module v3, Survey Step 3 (p: 12-20 – PDF version).*

a. What are the objectives of UNHCR Standardised Expanded Nutrition Survey (SENS)?

- UNHCR’s SENS for refugee settings is comprised of seven modules covering standardised objectives. Three modules are individual-based (Modules 2-4: Anthropometry and Health, Anaemia and Infant and Young Child Feeding) and four modules are household-based (Modules 1 and 5-7: Demography, Food Security, Mosquito Net Coverage and WASH). For the full list of indicators measured through these standardised modules, see SENS Pre-Module tool: [Tool 4-SENS List of Indicators].



b. What are the objectives recommended to be included in a SENS outside of camp settings?

- The individual-based modules (Modules 2-4) are relevant in rural and urban areas outside of camp setting and do not need adjustments. The household-based modules (Modules 1 and 5-7) need to be adapted to the out-of-camp setting and depend largely upon the local context. These modules should be adjusted on a case-by-case basis.

c. How should the household-based modules be adjusted?

(1) Module 5: Food Security

- In most urban and other out-of-camp settings refugees will not receive general in-kind food distributions and cooking fuel assistance, and any food assistance will in most cases be targeted and be provided through cash grants or vouchers. As such, question strictly related to in-kind food assistance will not be relevant. Questions related to negative coping strategies and household food consumption will be relevant in their current form.

(2) Module 6: Mosquito net coverage

- The standardised SENS mosquito net coverage questionnaire is relevant in out-of-camp settings where malaria is endemic. Assessing utilisation and coverage of mosquito nets is important in settings where these are distributed to monitor the outcome of distributions and utilisation campaigns, or in areas where mosquito nets are not systematically distributed, to assess the need for interventions.

(3) Module 7: WASH

- In urban and other out-of-camp settings water and sanitation facilities are likely to be different from camp settings and the role of UNHCR in WASH may be different as well. In formal urban areas people might live in more permanent structures with piped water and/or more advanced sanitation sewage systems. In informal urban areas/urban slums or rural areas, access to water and sanitation facilities might be more limited than in camps. It is not recommended to implement the WASH module in settings outside of camps where the situation is likely to be different from that in camps. If an objective for WASH is to collect information on access to WASH, a health assessment and utilisation survey or other WASH specific assessment such as an ad-hoc urban WASH Knowledge Attitude and Practice (KAP) survey could be better tools to use.

When additional data collection is needed, the objectives of adding the information need to be clearly set out. In addition, it must be possible for the information to be quickly and reliably obtained during a short visit to the household. The following questions need to be deliberated for each additional data that is considered for inclusion in the SENS survey:

- Can the data be obtained from other sources e.g. from the compiled secondary background information, UNHCR HIS, or other food security, livelihood, WASH, or mosquito net coverage surveys?
- Was the data collected in the last nutrition survey? Is it necessary to collect the same data in the current survey?
- If additional data are collected, can the results be used to guide implementation?
- Can analysis of the results impact on overall programme interventions and management?
- Is there a plan for presentation of the data in the final survey report (i.e. table of results, graphs, figures)? A presentation of proposed tables, graphs or figures should be included in the protocol.

For all modules:

- Questions should *not* be added simply because the answers will be interesting. Each added question should have a justification for why it is included, and this justification should be included in the protocol.

- Each additional piece of data that is collected will prolong the training and the survey itself, thereby requiring more financial resources and complicating the analysis.
- If too much additional data is added to the survey, it might undermine the quality of the whole survey due to surveyor and respondent fatigue.
- The required sample size and the population to be surveyed may vary for different information.

D. DEFINE GEOGRAPHIC AREA AND POPULATION GROUP TO INCLUDE

- a. Which geographic area should be included?
- b. Which survey population should be included?
- c. What definition of refugees to use?
- d. When should the surrounding host population be included?

→ *This and the next section replace UNHCR SENS Pre-module v3, Survey Step 4 (p: 21-22 – PDF version).*

Which geographic areas and population groups to include depends on the presence and number of urban and other out-of-camp refugees, the aim of the survey, resources available, and security considerations.

a. Which geographic area should be included?

- Will the survey cover all rural and urban areas in a country? Or will the survey focus on a specific city or specific urban areas that are more densely populated by refugees? Consider the biases when selecting certain areas only – are the refugees living in areas not included likely to be different from the refugees living in the selected areas?
- What level of representativeness within the selected areas is desired? Make sure that each representative sample has similar conditions within the sampled area, e.g. similar access to health services, WASH, etc.
- Are all rural and urban areas safe for survey teams to visit? If not, how will this affect the survey implementation and survey results?

b. Which survey population should be included?

- The population to be assessed when using the present guidance are refugees and other relevant population groups living in urban and out-of-camp settings. You could consider including the surrounding host community. How the survey population is defined will have practical implications on the methodology, the budget required, the results that may emerge, and possibly even the way assistance will be provided in case of malnutrition.
- The decision on how to define refugees in the survey should be made carefully, taking into account the implications for the programmes, the ethical implications for refugees, and the implications on the relationship with the host government.

c. What definition of refugees to use?

- There are three main options for how to define refugees within the selected area:
 1. Registered refugees: include only those who have gone through registration;
 2. Registered refugees and asylum seekers: include those who have gone through registration or have asylum-seeker status; or
 3. Include all individuals from the same country of origin, regardless of their status.

- Before choosing option 3, consider the following:
 - Individuals from the same country of origin may not all be actively seeking refugee status.
 - Individuals from the same country of origin may have unsuccessfully applied for refugee status, and stayed in the country afterwards.
 - Individuals from the same country of origin may be living in the country under a different type of visa (e.g. business, student, married to a national etc.).

- Which definition of refugee to use, should be guided by the aim of the survey:
 - If the aim of the survey is to map all individuals from the same country of origin with significant refugee population, regardless of their legal status and regardless of their access to services and support, then all individuals from the same country of origin should be included.
 - If the aim of the survey is to guide existing or planned nutrition programmes, then the existing/planned target group for programmes should be the target population group for the survey. E.g. if nutrition programmes are providing services to registered refugees only, then only registered refugees need to be included. Including population groups which will in any case not receive support can lead to misconceptions among the groups, skewed malnutrition levels compared to those who will be targeted for programmes, and use of unnecessary extra resources during the survey (human and financial resources).
 - However, if one wishes to advocate for improved support for vulnerable populations that are currently not targeted for programmes, such as unregistered refugees, all population groups should be targeted.

Issues to note:

- The assumption of how different registered refugees are compared to non-registered refugees is often unknown and context specific. In some settings, sampling only registered refugees for the urban SENS may provide a sufficient picture of the overall situation among all persons from the same countries of origin.

d. When should the surrounding host population be included?

- The surrounding host population is often included for the following reasons: one wish to compare refugees to host; refugees and host are included in the same nutrition programmes; host government requires host population to be included; or other relevant reason. If the host population is to be included in the SENS and comparisons are to be made between the host population and refugees then they should form a completely separate sample. Similar to refugees, the host population to be included in the survey needs to be defined. When defining the host population, there are two decisions to be made: one conceptual and one geographical.
 - Conceptual definition:
 - Citizens of the host country; or
 - Anyone who is not covered by the definition of refugees.
 - Geographical definition:
 - Only those who live in the same areas where the refugees are concentrated; or
 - The inhabitants of the whole city/village/region.
- When deciding who to include, a key criteria should be the type of assistance that will follow the survey. If high malnutrition is detected, will UNHCR provide assistance to refugees and the host population, or refugees only? Will the host government, other UN agencies or NGOs, provide assistance to the host community? Will the assistance be provided in the whole city/village/region, or concentrated around areas where the refugees are residing?

Issues to note:

- In rural and urban areas outside of camp settings, it is more common to have households with members from both refugee and host population. The survey team has to decide whether mixed refugee-host households should be included in the refugee target population or host target population. If the survey is targeting refugee households only, it is recommended to include mixed households in this target group.

E. DEFINE THE TARGET POPULATION'S SIZE, DISTRIBUTION AND DENSITY

a. How should the target population's size, distribution and density be defined?

→ *This and the previous section replace UNHCR SENS Pre-module v3, Survey Step 4 (p: 21-22 – PDF version).*

a. How should the target population's size, distribution and density be defined?

The size, distribution and density of the target population will influence which sampling methodology to choose. This section will focus on how to determine these variables for the refugee target population.

- First, the number of refugees can be derived from population lists or key informants.
- Next, determine the geographic location of refugees and the distribution of refugees across the geographic locations. This will guide what areas to sample from. It is only necessary to sample in areas where refugees are living.
- Lastly the density of refugees should be estimated for the various geographic areas where refugee households are present. As the refugees are likely to be spread throughout the city or region/country, refugee density will vary from area to area. The refugee density is estimated by the number of refugees in that area compared to the total population (refugees and non-refugees) in that area. For sampling purposes the various areas should be rated as **high**, **medium** and **low** density areas. How to define the density cut-offs should be decided on a case-by-case basis, but the following cut-offs are suggested: refugees constitute more than 2/3 of total population in that area = high density area; refugees constitute between 1/3 and 2/3 = medium density area; and refugees less than 1/3 = low density area.
- Refugee population figures and geographic locations of refugee households can be derived from population lists or from key informants.
 - **UNHCR ProGres:** If more than 80% of refugees are believed to be registered in UNHCR ProGres, this list should be used as the sampling universe. ProGres should provide addresses for all refugee households, and hence geographic distribution of refugees can be determined based on this list.
 - **Other population lists:** Where UNHCR ProGres population lists are not available or not updated and complete, alternative refugee population lists can be used. Such lists can be found with the host government, with NGOs responsible for providing assistance to refugees, school enrolment lists from UNICEF or local authorities, etc. Although such lists may not provide a detailed list of households to be used for simple random sampling, they can give a picture of the distribution of refugees in various areas of the city.

(E.g. primary school enrolment lists can provide the number of refugee children enrolled in the various areas – both to inform which areas are more populated with refugees and the density of refugees within the total population). Sometimes multiple lists are available and can be cross-checked with each other.

- **No lists are available:** If no lists are available, or the quality of the lists available are poor, new lists can be created or information on refugee population distribution can be collected from key informants and local partner organisations. Creating a new complete list (e.g. by going from house to house in the whole targeted area) can be very time and resources consuming and often impossible to pursue in practice. If information is rather collected from key informants and local partner organisations, triangulating from the perspective of a range of informants will allow for more certainty about the information according to local key informant knowledge. Note that if information about the refugee population is collected this way, both the population estimates and the sampling would include more bias and hence produce less confidence in the generalisability of the survey results. To get information about refugee population size, distribution and density from key informants, the following steps should be followed:
 - Consult with key informants who are working or living in the local community through focus group discussions or individual meetings. In these consultations the key informant should be provided with a map of the city, area or region, and show where on the map the refugees are living.
 - Ask the key informant to estimate refugee population figures in the different areas. The estimates should include approximate number of refugees in each area, or at least which areas contain more refugees than others. With some cross-checking and probing during interviews this method should provide reasonable numbers.
 - Furthermore, ask the key informant to estimate the proportion of refugees in the various areas compared to the total population (refugees and non-refugees) in that area (the refugee density). The refugee population density will be useful during sampling.
 - The outcome of this exercise will be an approximate map and list of neighbourhoods with approximate number of refugee families in each neighbourhood, or at least the relative distribution of refugees in the various areas – the size of the refugee population in different areas proportionate to each other (e.g. one area may have about 3 times refugees than the other, etc.) and the approximate density of refugees to total population (refugees and non-refugees) in the various areas.

F. SAMPLING METHODOLOGIES FOR SENS IN OUT-OF-CAMP SETTINGS

- a. What sampling methodology should be used?
- b. How should simple or stratified random sampling be conducted?
- c. How should two-stage cluster sampling be conducted?

→ This section replaces UNHCR SENS Pre-module v3, Survey Step 8 (p: 31-43 – PDF version).

→ For more detailed description of sampling methodologies, please see SMART Manual Sampling Paper (www.smartmethodology.org)

a. What sampling methodology should be used?

The sampling methodology depends on the level of population information available. In this section we will present an overview of the recommended methodologies for the most likely scenarios, and then describe how to apply these methodologies. Figure 1 illustrates the different sampling possibilities.

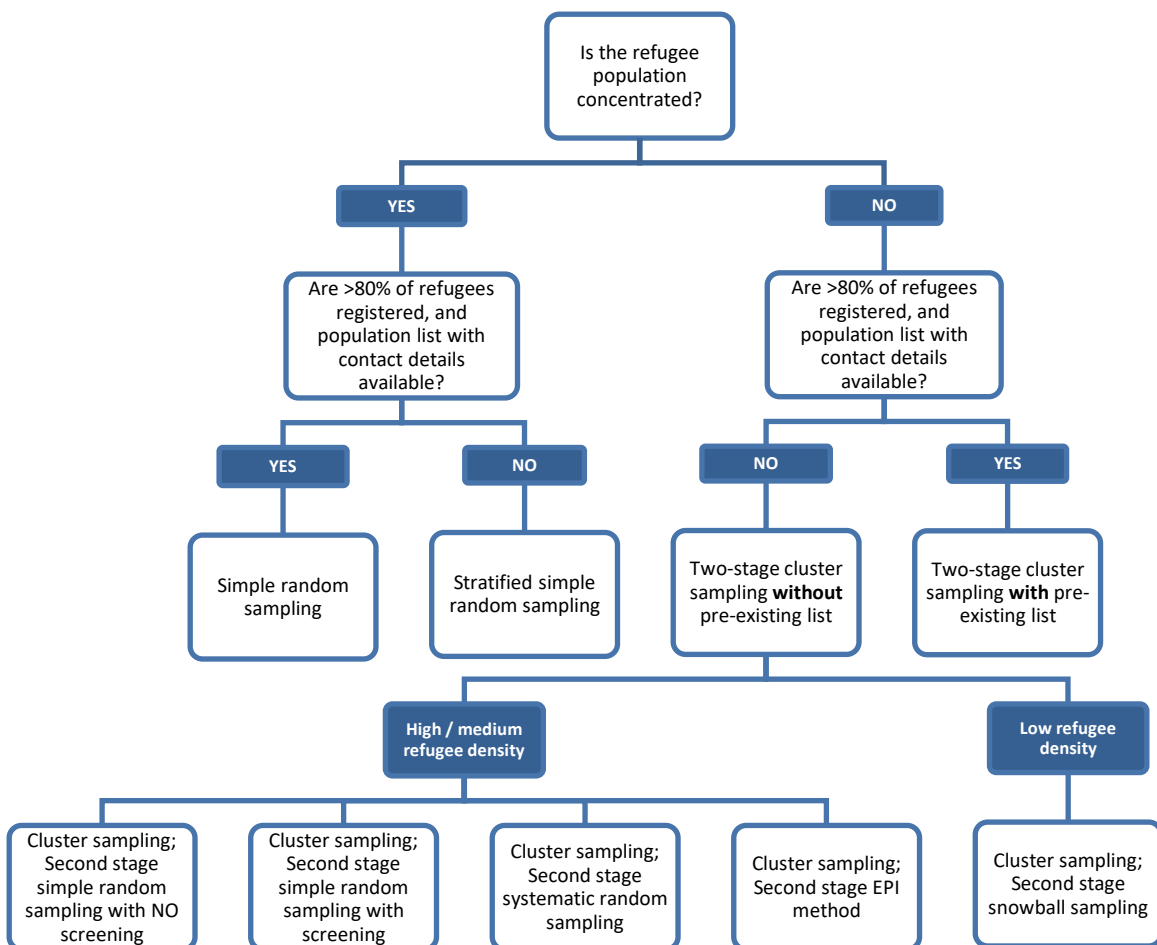


Figure 1: Sampling decision tree

Note that in the descriptions below we are using the term ‘*refugee(s)*’ or ‘*refugee household(s)*’ when talking about target population simply to make the text easier to read. However, the sampling methodologies described could be applied with any of the definitions of target population described on pages 19 - 20 above.

Number of surveys

- If information about two or more distinctive, separate populations (e.g. different cities or villages, very different socioeconomic parts of cities, or cities and rural areas) is to be obtained, two or more separate surveys with separate representative samples should be conducted.

Scenarios

- **Scenario 1:** A large proportion (>80%) of individuals from the same countries of origin are registered, or the study population is defined as registered refugees and the refugees are concentrated in one relatively compact area (e.g. in one city, or in few towns and villages within few kilometres from each other):
 - Simple random sampling from an updated and reliable refugee household list with addresses and contact details.
- **Scenario 2:** A large proportion (>80%) of individuals from the same countries of origin are registered, or the study population is defined as registered refugees and the refugees are living in the areas spread out over a large geographical reach:
 - Two-stage cluster sampling with a pre-existing updated and reliable refugee household list with addresses and contact details.
- **Scenario 3:** Target population is not accurately captured in existing lists and the refugees are concentrated in one relatively compact area (e.g. in one city, or in few towns and villages within few kilometres from each other):
 - Stratified random sampling with no list available prior to sampling activity.
- **Scenario 4:** Target population is not accurately captured in existing lists and the refugees are living in areas spread out over a large geographical reach:
 - Two-stage cluster sampling with no list available prior to sampling activity.

Issues to note:

- With all methods you need to identify whether the household you visit is a refugee household through a screening question: e.g. “Is there anyone living at this address who is from [insert refugee country of origin], or from other non-[insert host

population] population group?”⁷ Surveyors should be briefed to accept the responses given and not to apply their own definitions or opinions.

b. How should simple or stratified random sampling be conducted?

- Scenario 1: If an **updated and reliable population list is available**, e.g. from UNHCR ProGres, the list of households should be based on a random sample from this list.
 - The list should be updated and contain addresses and/or contact details (phone numbers).
 - Sample size should be based on ENA for SMART calculations. Select desired number of households randomly from the household list. If the list contains telephone numbers, the households should be contacted by phone prior to data collection to inform them about the household visit and verify their current location.
 - It is advised to do a small pilot and call at least 50 households to verify the reliability of the telephone numbers. If more than 25-30% cannot be reached or refuse to participate, the method should be excluded and the alternative method for ‘no existing list available’ (Scenario 3) described below should be used.
 - Refugees living in urban or other out-of-camp settings are more fluid population groups than refugee camp-based refugees. So even though you have called the household to verify household address prior to your visit, there is a larger risk that the household has moved or is not present upon your visit. Hence, you should over-sample when calculating in ENA for SMART. Assume a 20% non-response rate unless better information is available.

- Scenario 3: If there is **no existing list available** but the refugees are concentrated in one relatively compact area the following stratified simple or systematic random sample procedure is recommended.
 - **This method is NOT cluster sampling**, it is stratified simple random sampling.
 - This method is most appropriate for surveying refugees in one town or urban centre.
 - The first step is to clearly delineate the boundaries of each small neighbourhood (<200 households) within the area, and make a list of the neighbourhoods.
 - Then, estimate the approximate number of refugee households in each neighbourhood and the total number of refugees in the whole area. A list may exist already or you may need to work with local representatives to estimate the approximate number of refugee households in each

⁷ The wording should be adapted based on the definition of refugee or target population in the relevant survey.

neighbourhood as well as the total number of refugees in the whole area (see pages 20-22 for guidance).

- Allocate sample size proportionate to the number of refugee households in each neighbourhood. The number of refugee households to be selected will be different in all neighbourhoods. Neighbourhoods with more refugees will be allocated more households to select. *This is different from cluster sampling where the same number of households is selected within each cluster.*
- In some neighbourhoods a list of all refugee households may be available or it may be relatively simple to create a list with local leaders or other relevant persons with knowledge of the population in the area. In these cases and if contact details can be obtained, perform simple random sampling based on the list of refugee households.
- In most neighbourhoods there will be no list of households available. But with some additional information, you can perform systematic random sampling for selecting the households. You would need to know the refugee population and total population (refugees and non-refugees) in that neighbourhood to derive the refugee density in that neighbourhood. Based on information about refugee density in that neighbourhood you can calculate the total number of households you need to visit in that neighbourhood to find your desired number of refugee households. E.g. if the refugee density is 50%, you would expect to find a refugee household in every second house. Hence you would need to double your sample, and from that estimate the sampling interval.
- Note that with the proposed methodology you would need to visit **all** of the neighbourhoods and select a sample of households in each of the neighbourhoods. *This is different than cluster sampling when we select a subset of neighbourhoods randomly.*

c. How should two-stage cluster sampling be conducted?

- The objective of cluster sampling is to divide the target areas into smaller geographic areas in which simple or systematic random sampling can be conducted. It is a multi-stage sampling method often completed in two stages.

First stage sampling: random selection of clusters

- The first stage sampling would be similar with or without an existing list. In this stage you would divide the selected areas into small distinct geographic areas such as villages, districts, urban quarters, etc. called primary sampling units (PSU), and then allocate clusters within the PSUs.
 - First, identify the above mentioned small distinct geographic areas of the urban centres and create a list of the areas. These geographic units will be your primary sampling units.
 - Next, obtain the estimated number of refugees in each PSU and consider the refugee distribution across the PSUs and the refugee density within

each PSU. Only areas where refugees live will be included in your list of PSUs.

- Clusters should be allocated within the different PSUs according to probability proportional to size (PPS) sampling so that areas with larger refugee population will have more clusters than areas with smaller refugee populations. The definition of a cluster should, if possible, follow natural boundaries such as blocks, streets, rivers, etc. so that the teams are clear which households belong to a given cluster.
- Selection of clusters to include in sample should be carried out using PPS random procedure using ENA for SMART software.
- Note that sample size calculation must, as for all sampling methodologies, follow SENS guidelines v3 using ENA for SMART software. The number of clusters to include in sample is a reflection of the targeted number of households divided by the number of households teams can realistically do in one day.

Second stage sampling: random selection of refugee households within clusters

- Which methodology to apply for the second stage sampling, the household sampling, depends on whether you have an updated and reliable household list of refugees living in a given cluster or not, and on the refugee density in the given area.
- Scenario 2: If an **updated and reliable population list is available**, e.g. from UNHCR ProGres, the second stage sampling should be based on a random sample for each cluster from this list. The households on the list must be grouped by their location and assigned to their relevant clusters. Then, a random sample can be drawn from each selected cluster.
- Scenario 4: If there is **no existing list available** you have the following options depending on refugee density within the cluster, the structure of buildings/houses in the cluster, and the information provided by key informants.
 - i. **High or medium refugee density (more than 1/3 of total population (refugee and non-refugee) in that area are refugees):** In areas of high or medium refugee density you have the following options: random sampling based on enumeration without or with screening, systematic random sampling or EPI method.
 - **Simple random sampling based on enumeration with NO screening:** This includes walking through the cluster before data collection to list or map *all households* (refugee and non-refugee) in that cluster – often guided by a key informant with local knowledge. From the newly created list or map you would draw a random sample of households to visit. As this list will include both refugee and non-refugee households, you should know the density of refugees in the cluster to take that into account when deciding the sample size. E.g. if you need to visit 10 refugee households and the

refugee density is 50%, you would need to randomly select 20 households to visit.

Note that when approaching a household you need to start by asking your screening question whether it is a refugee household or not, and then only include refugee households in the survey.

- **Simple random sampling based on enumeration with screening:** This includes walking through the cluster to list or map *all refugee households* in that cluster – often guided by a key informant with local knowledge. As opposed to the methodology explained above you will with this methodology identify refugee and non-refugee households while creating the list and not during the actual data collection. You can create your list of refugee households either based on information from your key informant, or by approaching households with a screening question (asking whether this household is a refugee household or not). From the created list of refugee households you would draw a random sample of households to visit.
 - **Systematic random sampling:** Systematic random sampling can be applied when the buildings/houses in the cluster are systematically laid out and you know the number of households in the cluster (e.g. from household count prior to sampling). The number of households to target would need to take into account the refugee density (see above), and the sampling interval must be calculated based on the total number of households in the cluster divided by the number of households to be visited. This methodology might be appropriate when the cluster consists primarily of apartment building(s).
 - **EPI method:** If it is not possible to create a list of refugee households in the cluster you should apply the EPI method. When applying the EPI method you need to locate the centre of the cluster and proceed from there – see SMART Manual for a detailed description. Note that where the centre of the cluster falls on an apartment building the teams must be pre-instructed on how to choose the first household, as well as how to proceed within the apartment building. As refugee households constitute a sub-sample of all households you would need to start with the screening question. You might sometimes have to visit quite a few households before finding a refugee household when using the EPI method, so you could alternatively, to more quickly locate refugee households, ask the current household to identify one or more refugee households and then choose the closest to your right to visit next. This is different from snowball sampling in that the first household is randomly sampled and not purposively selected.
- ii. **Low refugee density (less than 1/3 of total population (refugees and non-refugees) in that area are refugees):** In areas where the refugee density is low,

applying strictly random methods will be very time and resource consuming, and one should rather apply purposive sampling. In SENS we recommend to use snowball sampling.

○ **Snowball sampling:**

- Within each cluster, instead of starting off from a randomly selected household, you would select one or more ‘seeds’ to start from. The seeds can either be a central location in the cluster where you are likely to find refugees or people who know refugees, or a household known to be refugee from key informants. This seed is asked to identify and refer you to one or more refugee households who live within the relevant cluster. The respondent should provide the surveyors with contact details including phone number and/or address or physically accompany the survey team to the next household. The second household will in turn refer you to a third household within the cluster, who can refer to a fourth, and so on until the cluster is completed.
- If the chain meets a dead-end, a new seed should be selected within the same cluster until the cluster is completed.
- For the method to work well and increase the likelihood of representing the whole target refugee population, the seeds should be identified as different from each other in terms of socio-economic status, duration of displacement, and religion/ethnicity if relevant.
- Note that the snowball method is biased by who you select as a seed, and you can get overrepresentation within a certain population group or a certain clan, people from the same religion, people with same cultural background, friends or family with similar socioeconomic status, etc. You are likely to experience less bias if you have more seeds, the seeds are more diverse, and you use fewer referrals from each seed. If feasible, we recommend that each seed refer to maximum three households and that each of these households only refer to one each. The referral chain should have maximum four links or referral steps away from the original seed.

Issues to note:

- In some surveys one may have to apply a combination of sampling methodologies in different clusters due to low and high refugee density in different clusters.
- All sampling methodologies come with some sort of bias. Sampling populations that are not captured in lists, that are moving around and that are hard to locate and identify is linked to more bias. Also information on lists can be biased depending on who created the lists and when the lists were created. Sampling from a complete and updated list with contact details is normally less biased than sampling from lists that are derived from key informants. Before deciding on your sampling strategy you need to critically go through all your sources of information, and if possible triangulate with different sources and approaches. The more detailed information you can get about the population size, location and

distribution before sampling the more precise and less biased your sampling will be.

- Timing of your household visits needs to be planned to increase the likelihood of household members being at home. In SENS the targeted individuals are the main caretaker, children 6-59 months and women 15-49 years. When the survey is conducted during regular working hours, caretakers who work and/or young children attending school or day care activities are less likely to be at home. In these cases the teams should return to the same household at a later time whenever possible. In sites where logistical concerns (travel time, security) prohibit returning later, the teams should work at different times or during weekends when the relevant target group is more likely to be at home.
- People or populations without permanent home are most likely to be left out of the sampling methods described above. Considering that these might be important vulnerable groups to capture, a separate small-scale survey focusing on key indicators with a purposive sample from these population groups might be considered. If you need support on purposive sampling, please contact UNHCR Public Health Section.

G. SPECIAL CASES

a. What are the special cases?

a. What are the special cases?

- **Definition of household:** There is no universal definition of a household to be used in a nutrition and health survey. However, a classic definition used in nutrition surveys to define a household is: a group of people who live together and routinely eat out of same pot. For example, if two families share the same pot, they should be assessed as one household. If accurate and updated population lists are available from ProGres for sampling, a household should be defined as it appears in ProGres, i.e. use the registration group as a proxy for household. A registration group is one or more individuals who are registered together. For example, a registration group could be a family or it could be a household registered together for assistance purposes. An individual must always belong to a registration group. An individual can only belong to one registration group at any point in time.
- **The following procedure should be followed when using ProGres lists for sampling using the Registration Group:**
 - To complete modules 2-4 (the individual-based modules-anthropometry, health, anaemia, IYCF), include only the children and women from the household(s) belonging to Registration Group that was randomly selected from the ProGres list. There might be additional children and women who live together and routinely eat out of the same pot, but belong to a different Registration Group. They should not be included in the survey for modules 2-4.
 - To complete modules 1 and 5-7 (the household-based modules-demography, food security, mosquito net coverage and WASH), include ***all household members who live together and routinely eat out of the same pot***. It is possible that you will need to include people who live together and routinely eat out of the same pot, but who belong to a different Registration Group. They should be included in the survey for modules 1 and 5-7.
- In urban areas you will most likely encounter mixed refugee-host households, so whether to include this as refugee household or not needs to be decided and standardised prior to data collection. The teams also need to pay attention to correctly include/exclude family and friends that are temporarily staying in the house or temporarily away – standardised definitions need to be decided prior to data collection.
- **Apartment buildings / compounds:** In your targeted urban areas you might encounter apartment buildings or compounds. Such buildings might require specific attention. If you are doing a household count prior to simple or systematic random sampling (either in the whole area or in a cluster) you need to count all households within the apartment building or compound as separate households to give all households an equal chance of being selected. And when sampling from

apartment buildings or compounds the teams must be instructed where in the building/compound to start (e.g. first household left of main entrance) and also how to proceed within the building/household (e.g. from left to right at ground floor, left to right at first floor, etc.). If you are applying the EPI method for sampling within clusters all survey teams must be instructed to follow same procedures if they encounter an apartment building or a compound. E.g. if the centre of the cluster falls on an apartment building the teams must know which of the households within the apartment building to start from (e.g. apartment top left), and they must also know how to proceed within the same floor and to other floors of the building.

- **Houses where large number of refugees live together:** In urban areas extended or several families often live together in large houses. Prior to data collection the survey team must have decided on how to sample household(s) within such houses to ensure standardised methodology for all survey teams. If sampling is based on identification of house, and not household head name, the households living inside larger houses will be under-represented as the multi-household house will have a similar chance of getting selected as a single-household house. For surveys sampling by house and where this is common, adapting the sampling strategy should be considered.
- **Obtain appropriate authorisations for surveyors:** In settings where there is a chance that authorities will interfere with the survey, adequate preventive measures need to be taken, including formally contacting the local authorities, sensitisation in the community, and providing surveyors with identification cards and relevant telephone numbers to use in case of emergency.
- **Trust between surveyors and respondents:** In some situations respondents may not feel comfortable allowing surveyors to enter their homes. Train surveyors to properly identify themselves and be respectful. Providing surveyors with vests or t-shirts with the name of the implementing organisation will indicate that they are conducting official work.