

TRAINING MANUAL: SMART SURVEY ENUMERATOR

SMART

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SECTION 1: TRAINING MANUAL INTRODUCTION

1. INTRODUCTION TO SMART SURVEY ENUMERATOR CURRICULUM

The SMART Survey Enumerator curriculum has been developed for Survey Managers who wish to train survey enumerators. The following curriculum was developed in 2014 based on current best practices for teaching SMART methodology in the field. While modules will continue to be improved both from a methodological and technical perspective, the following training manual has been developed to provide a standardized set of guidance for individuals training enumerators who will take part in SMART surveys.

This course provides a mix of classroom learning and a practical standardisation test which can be done in the training room or in a field setting (dependent on access and time). It is recommended to allot a minimum of 6 days for the training (including standardisation test and field test) in order to give the enumerators the opportunity to practice newly acquired skills.

1.1 Enumerator Targeting and Selection

Enumerators can be identified as survey team leaders and/or measurers. Each survey team leader is responsible for the overall quality of data collection of their team and measurers are primarily responsible for taking anthropometric measurements. Depending on the context and/or organization, enumerators can be recruited locally or they may be assigned by an organization conducting a SMART survey. When possible, it is recommended that team leaders and measurers are not determined before the training takes place.

Field Supervisor Profile:

- Experience leading teams in anthropometric surveys.
- Experience taking anthropometric measurements.
- Experience performing interviews and recording responses.
- Is physically capable to walk long distances during data collection.
- Displays leadership qualities.
- Basic computer skills.

Team Leader Profile:

- Experience leading teams in anthropometric surveys.
- Experience taking anthropometric measurements.
- Experience performing interviews and recording responses.
- Is physically capable to walk long distances during data collection.
- Displays leadership qualities.
- Basic computer skills if needed.

Most of the skills for the field supervisor and team leaders are similar. For the field supervisor there should be even more emphasis placed on survey field experience, leadership and problem solving abilities as well as computer skills.

Measurer Profile:

- Experience taking part in anthropometric surveys.
- Experience taking anthropometric measurements.
- Experience working with children.
- Is physically capable to walk long distances during data collection.

- Is able to work in a team environment.

1.2 Standardisation Test Organization

Each SMART Enumerator training is required to have a practical standardisation test which can take up to 6 hours to complete. The standardisation test can be completed in one full day or two half days. *Module 4: Quality Checks of Anthropometric Measurements* of this manual explains what is required to organize a standardisation test for this course.

1.3 Training Logistics and Administration

It is recommended to begin the preparation of the logistical and administrative tasks for a SMART Enumerator Training at least one month before the start of the data collection. For example, recruitment and the acquisition of the survey equipment (scales, height boards, MUAC tapes, etc.) may take longer than expected depending on the context.

2. ABOUT THIS TRAINING MANUAL

The training manual is made up of the following tools:

2.1 Trainer Notes

A proposed set of detailed interactive presentations and activities/exercises in accordance with principles of adult learning can be found in *Section 2 (Trainer Notes)* of this document. The notes are organized by learning objectives and provide trainers guidance on both content and methodology. Specific recommendations as to how to use the trainers notes is found in *Section 2*.

2.2 Visual Aids

A set of PowerPoint slides have been designed to accompany each training module. The slides highlight the key learning points from each session and can be used to assist trainers in the facilitation of the various modules.

2.3 Handouts and Resources

A set of mandatory handouts and complementary resources (handouts and technical resources) have been designed to accompany the training course. A list of all Handouts can be found in *Section 3* and Resources in *Section 4*.

The handouts are mandatory and must be used as a teaching tool. If a handout is required it is listed in the trainer's notes for the specific section see *Section 2: Trainers Notes*. The Resources are complementary information for the trainer.

3. TRAINING METHODOLOGY

Using adult learning concepts to underpin the training, participants will learn based on specific objectives the technical content of each module. Although participative and experiential methods are proposed, formal classroom style presentations are also included to be able to provide key materials and knowledge.

4. TRAINING COURSE AGENDA

The approximate time it takes to cover each module is noted in the table below as a guide for planning purposes. It is recommended to allot a minimum of 6 days for enumerator training (including standardisation test and field test). A field test day is mandatory before the start of a survey to apply the skills learned throughout the training. There should always be a minimum of one day between the end of training and the start of data collection.

Time guidelines per session

Session Code	Session Title	Time
1A	Enumerator Training Overview	65 min
1B	Survey Teams	45 min
2A	Questionnaire Design	40 min*
2B	Event Calendar	60 min
3A	Malnutrition	45 min
3B	Weight	105 min**
3C	Height/ Length	55 min
3D	MUAC	55 min
3E	Edema	30 min
3F	Interpretation of Measurements	35 min
4A	Quality Checks of Anthropometric Measurements	90 min***
4B	Data Entry (only for Field supervisor and/or Team Leaders)	
5A	Arrival to Village	35 min
5B	Segmentation and Random Number Table	75 min
5C	Simple Random Sampling	60 min
5D	Systematic Random Sampling	120 min
5E	Special Cases	30 min
6	Mortality and Demography	135 min

* Includes anthropometry and mortality. Does not include OTHER sections such as FSL, WASH, IYCF etc. More time should be allotted to 2A if tablets will be used during data collection.

** Includes 35 min digital scale, 70 min Salter scale.

*** Includes two options to perform a Standardization Test. Only one option will be used.

The following Sample Agenda has been developed for a survey that contains both an Anthropometric questionnaire and a Mortality questionnaire.

Each day will not exceed 9 hours including 1.5 hours for lunch and breaks.

Sample Agenda

Section Code	Section Title	Time
Day 1		
1A	Enumerator Training Overview	65 min
1B	Survey Teams	45 min
3A	Malnutrition	45 min
3B	Weight	105 min
3C	Height/ Length	55 min
3D	MUAC	55 min
3E	Edema	30 min
3F	Interpretation of Measurements	35 min
Day 2		
2A	Day 1 Recap	225 min
2B	Questionnaire Design	60 min
4	Event Calendar	45 min
	Quality Checks (including Standardisation Test organisation)	60 min
	Mock Standardisation Test	
Day 3		
	Standardisation Test (morning)	180 min
	Day 2 Recap	30 min
5A	Arrival to Village	35 min
5B	Segmentation and Random Number Table	75 min
5C	Simple Random sampling	60 min
5D	Systematic random Sampling	120 min
5E	Special Cases	30 min
Day 4		
	Standardisation Test (morning)	180 min
	Day 3 Recap	30 min
6	Mortality and Demography	135 min
	Anthropometric Questionnaire/ Mortality Questionnaire/ HH selection	90 min
	Practice	
	Data Entry for Field Supervisor and/or Team Leader*	
Day 5		
	Field Test	Full day
Day 6		
	Field test Feedback: entire team and individual teams	
	Practice identified areas of improvement: Last minute team preparations for first day of data collection	Full day

The Sample Agenda is a starting point for the trainer to tailor the agenda for their specific survey. Note that questionnaire design, sampling and survey team composition (e.g., some surveys may not have a designated field supervisor) are unique to each survey; therefore, the time to teach and practice these sections can vary depending on the survey design.

It is best practice to include the following when designing your training agenda:

- Allow two anthropometric practice sessions before the mandatory standardisation test.
- It is recommended, if possible, to split up the standardisation test on two separate mornings.
- After team leaders are selected (preferably after the standardisation test) a time saving technique is to split up the participants to practice/ teach the respective duties they will be performing in the field. E.g., the field supervisors and/ or team leaders can be taught data entry as the rest of the teams practice taking anthropometric measurements.
- Allow a full day for the field test which will include data entry.
- The day following the field test should include entire team feedback as well as individual team feedback. This feedback is crucial as it is the last time to make corrections before the start of data collection. Areas of feedback could include: anthropometric and mortality questionnaire interviews, recording interviewee responses, taking anthropometric measurements, mapping, segmentation etc.
- Allow at least one day before the start of data collection.

5. EQUIPMENT AND MATERIALS

5.1 Training Equipment and Materials

Item	Quantity	Specifications
Projector	1	
Laptop	1	For projections.
Flipchart Stand	2	
Flipchart Paper	4	Reams (Minimum of 50 sheets per ream).
Color Cards	2	Packs of mixed colours and shapes.
Masking Tape or Blue adhesive putty	2	Rolls or Packs
Permanent Markers (mixed colors)	4	Boxes
Whiteboard Markers (mixed colors)	2	Boxes
Note pad	1 /participant	For ~ 15 persons – exact number TBD.
Pen	1 /participant	For ~ 15 persons – exact number TBD.
Training documents (handouts)	1 /participant	For ~ 15 persons – exact number TBD. To be printed prior to training.
Holder for papers	1 /participant	For ~ 15 persons – exact number TBD. Either paper or plastic folder to hold all training documents

5.2 Standardisation Test Equipment and Materials

Item	Quantity	Specifications
MUAC Tapes	12	New MUAC tapes (not bent).
Height Boards	12	Height boards should be minimum 130cm and made of wood. Measuring tape on both sides of height boards if possible.
Scales	12	SECA/Electronic scales. At least 2 extra sets of batteries for scales (+ working batteries in scales).
Pens	1 per participant	
Standardisation Test forms	1 per participant	
Clipboards	10	If available.

With regards to the Field Test, all of the survey equipment that will be used for the actual data collection should be ready for the Field Test. This includes copies of the questionnaire, anthropometric equipment, cars and drivers, and the entirety of the survey logistics.

SECTION 2: TRAINER NOTES

The trainer notes are intended to provide extra information to the trainer that is not provided in the PowerPoint slides. Each module, with the exception of module 6, is broken up into several sections. Within each section there are guidance notes referring to specific slides. Not all slides have additional guidance notes.

The estimated time for each slide that has accompanying guidance notes is given on the left side. At the end of each section an additional guidance note is provided to note the additional time needed to complete the session.

All guidance notes are displayed in the same format. The example below illustrates the format in which all guidance notes are presented:

Example from 2A: Questionnaire Design

Timing	Guidance Notes
20 min	<p>Identifier Variables Method: Lecture <i>Slide: Adapt slide to the correct geographical terms found in the survey area (for example, if the term village is not used, replace with the local term).</i> <i>Note: Refer to the Identifier Variable Section of the draft questionnaire.</i></p> <ul style="list-style-type: none"> • HH: Household (HH) number is the number of the HH within a specific cluster. For example, if a cluster contains 15 HH then the HH number within the cluster would range from 1-15. • HH ID: is the actual house number that is located on the HH. This is to facilitate returning to an absent HH. Some HH/areas may not have HH IDs. In such circumstances the HH ID is not mandatory.

Explanation of guidance note format:

Line 1: **Slide Title**

- In the example, **Identifier Variable**, is the slide title. The title for each slide will be different.

Line 2: **Method**

- In the example, **Lecture**, is the training method that is used to teach the slide.
- All guidance notes will contain a **Slide Title** and **Method**.

Line 3: **Slide**

- In the example: '*Adapt slide to the correct geographical terms found in the survey area (for example, if the term village is not used, replace with the local term)*' is an instruction to the trainer to alter the slide to suit the requirements of the survey. All adaptations must occur **before** teaching the section.
- The word '**Slide**' will always be written in **bold italics**.
- If there are multiple adaptations to the slide then each additional change will be expressed as a bullet point along with italics.

Line 4: **Note**

- In the example: '*Refer to the identifier variable section of the draft questionnaire*' is an instruction intended for the trainer's benefit to help teach the material. **Notes** are generally not intended to be directly spoken to the enumerators.
- The word '**Note**' will always be written in **bold italics**.
- If there are multiple notes, each one will be expressed as a bullet point along with italics.

Line 5: **Bullet points**

- All bullet points that are NOT italicized are additional points that are intended for the enumerators.

All trainers **MUST** take a considerable amount of time reviewing the modules before presenting them. The *Enumerator Manual* was designed to contain most contexts that may be encountered in the field. As a result, the trainer must determine which sections of the module are specific to their survey. For example, a trainer should NOT teach mortality if it is not included in their survey. After the modules and specific sections of the modules are determined, the trainer must identify, adapt and/ create additional slides that are specific to their context.

Module 1: Overview of SMART Survey

Session Code: 1A	Session Title: SMART Enumerator Training Overview	Duration: 65 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> • Conduct intro exercise and share any experiences involving measuring children. • Review the timeline and components of SMART training. • Receive an overview of SMART methodology. • Review the local nutrition context. 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 1A PowerPoint slides

Detailed Training Notes

Timing	Guidance Notes
20 min	Exercise: Participant Introductions Method: Interactive exercise <i>Note: Start with trainer and then ask each participant (practice repeating each participant's name) where they are from, past experience measuring children (if yes, ask if the SMART method was used), favorite hobby.</i>
5 min	Discussion A Method: Brainstorming <i>Note: Ask participants what the group can do to maintain a good flow during the training. Write ideas on flip chart or white board.</i>
5 min	SMART Training Timeline Method: Lecture <i>Slide: Fill in the exact dates and the 'content' section of the table and adjust number of days as appropriate.</i>
2 min	Data Collection Timeline Method: Lecture <i>Slide: Fill in the exact dates and adjust number of days for data collection, breaks, and extra days of data collection (for reserve clusters) as appropriate.</i>
5 min	Discussion B Method: Brainstorming <i>Note: Ask participant what is SMART? Write ideas on flip chart.</i>
	Definition of SMART Method: Lecture <ul style="list-style-type: none"> • SMART methodology is an evidence-based survey field methodology and recognized by numerous NGOs, UN agencies and governments around the world. • All the steps that are taken to complete a SMART survey have been thoroughly

10 min	<p>tested to make sure that the information collected is accurate and represents the current situation where it was taken.</p> <p>SMART Methodology Method: Lecture <i>Slide: If the survey does not contain a mortality survey, remove mortality info on slide and mortality notes below.</i></p> <ul style="list-style-type: none"> • The nutrition data provides a snapshot of the current nutrition related situation. • The mortality data provides information over a specific period of time (recall period) that can be used along with the nutrition data to gain a better understanding of a situation. <p>SMART Delivers Method: Lecture <i>Slide: Delete or adapt slide if the trainer feels that it contains too much information for the present training.</i></p> <ul style="list-style-type: none"> • Preliminary reports of a SMART survey (anthropometric and mortality information) can usually be obtained within two weeks after the data has been collected and checked for errors. • Measurement data is collected and entered into a computer program. A report is produced that states the level of quality of the data collected.
15 min	<p>Discussion C Method: Group work <i>Slide: Fill in the survey location.</i> Note: In small groups ask why they believe a SMART survey is being conducted and present in plenary?</p> <p>Local Context Method: Lecture <i>Slide: Adjust slide to suit the local context: Potential topics to include are:</i></p> <ul style="list-style-type: none"> • List any local malnutrition statistics (Global Acute Malnutrition, Severe Acute Malnutrition, stunting etc.). • If there are not any malnutrition statistics but malnutrition seems to be prevalent explain how this survey is a baseline to be used for future interventions in that given area. • Discuss why the SMART survey is taking place. <p>Note: The purpose of this slide is to help the participants gain a sense of ownership for the information they will be collecting and how this information will be used to improve their community.</p>
3 min	Time to complete additional PowerPoint slides from module 1A that are not included in these trainer notes.

Session Code: 1B	Session Title: Survey teams	Duration: 45 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> Define clearly the role of the team leader and measurers. Define the role of each person on specific teams. 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 1B PowerPoint slides

Detailed Training Notes

Timing	Guidance Notes
5 min	<p>Survey Teams Method: Lecture Slide: Adjust slide if needed. For example, if anemia is included there would likely be a person on the team responsible for collecting hemoglobin. Note: Inform participants how many teams will be included in the survey.</p> <ul style="list-style-type: none"> Community members can assist teams in finding out information about a village, help with identifying village boundaries and HH selection. Community members/village leaders' assistance for HH selection will be discussed more in the sampling module.
15 min	<p>Team Leader: Main responsibilities Method: Lecture Slide: Adjust slide where needed.</p>
	<p>Measurer: Main responsibilities Method: Lecture Slide: Adjust slide where needed.</p>
	<p>Field Supervisor: Main Responsibilities Method: Lecture Slide: Adapt slide to the field supervisor responsibilities for the survey. Do not present slide if a field supervisor has not been identified.</p>
10 min	<p>Discussion Method: Group work (agree or disagree game) Note: Divide the participants into two groups. On a flip chart each team will write the characteristics of an efficient team. Each group will then switch flip charts and agree or disagree with the other group's statements. Each group will then present their flipchart.</p>
5 min	<p>Specific Survey Team Characteristics Method: Lecture Note: Compare the slide of specific survey team characteristics to both group's flip charts.</p>
5 min	<p>Typical data collection day for each team Method: Lecture Slide: Adjust slide where needed.</p>

5 min	Time to complete additional PowerPoint slides from module 1B that are not included in these trainer notes.

Module 2: Questionnaire and Event Calendar

Session Code: 2A	Session Title: Questionnaire Design	Duration: 40 min: Including <i>Identifier</i> and <i>Anthropometric</i> sections. Timing (and module) does NOT include <i>Other</i> sections that will be specific to each survey (e.g., FSL, IYCF, or WASH).
Learning Objectives (at the end of this session participants will):		
<ul style="list-style-type: none"> Identify and understand the different components of the survey questionnaire. Identify and understand the different components of the Cluster Control Form. 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 2A PowerPoint slides Draft questionnaire Cluster control form

Detailed Training Notes

- Trainer must take into account the time it will take to teach each additional section of the questionnaire, if any, that are not included in Module 2.
- Allocate additional time if tablets will be used to collect data.
- It is important that participants have a copy of the draft questionnaire in the local language that will be used during the data collection to follow along with. The final version of the questionnaire will be completed after the Field Test.
- Although not included in the slides, do not underestimate the importance of providing time during training for participants to practice reading and role playing using the questionnaire. Questionnaire role play is crucial for high quality survey results and especially important for the team leaders.

Timing	Guidance Notes
5 min	Content of the Questionnaire Method: Lecture Slide: <i>Delete mortality questionnaire from slide if survey does not contain mortality (also disregard note below).</i> <ul style="list-style-type: none"> The Mortality Questionnaire is a separate questionnaire that will be discussed in detail later on in the training.
	Introduction and Consent Method: Lecture Note: <i>Refer to the introduction section of the questionnaire.</i> <ul style="list-style-type: none"> Have all participants read the introduction and consent of the questionnaire that will be used for the survey out loud.

8 min	<p>Identifier Variables Method: Lecture Slide: Adapt slide to the correct geographical terms found in the survey area. For example, if the term village is not used, replace with the local term. Note: Refer to the identifier variable section of the draft questionnaire.</p> <ul style="list-style-type: none"> • HH: Household number is the number of the HH within a specific cluster. For example, if a cluster contains 15 HH then the HH number within the cluster would range from 1-15. • HH ID: is the actual house number that is located on the HH. This is to facilitate returning to an absent HH. Some HH/areas may not have HH IDs. In such circumstances the HH ID is not mandatory.
7 min	<p>Anthropometry Variables Method: Lecture Slide: Delete MUAC if it is not included in the survey. Note: Refer to the anthropometry variable section of the draft questionnaire.</p> <ul style="list-style-type: none"> • The listed variables are what will be used to help determine the nutrition status of the 6-59 month children in the survey. Each variable will be discussed in detail later on in Module 3: Anthropometry and Malnutrition. • These variables will provide a lot of useful information such as: <ul style="list-style-type: none"> • If malnutrition is occurring, what percentage of the 6-59 month population is being affected? • What type of malnutrition is occurring: wasting, stunting, underweight? • Is malnutrition more common among boys or girls? • Always start with the youngest child. • A child's number in the anthropometric section will keep the same number throughout all subsequent sections of the questionnaire. For example, child 1 in the anthropometric section will remain child 1 for all other sections of the questionnaire.
TBD	<p>Other Sections of Questionnaire (based on survey objectives) Method: Lecture Slide: Adapt to include other sections that will be included in the questionnaire. For example, if the survey also contains, IYCF and WASH sections, add the appropriate number of slides for each section.</p>

<p>15 min</p>	<p>Exercise Method: Drawing, Interactive Q and A <i>Slide: Delete slide if tablets are being used for data collection.</i> Note: A. Tape two flip charts on the wall.</p> <ul style="list-style-type: none"> • Ask four volunteers (two per flipchart) to write the numbers 0,1,2,3,4,5,6,7,8,9 vertically on the flip chart as fast as they can at the same time. The numbers should be large enough so that everyone can see them. • When finished ask the participants to write the numbers again on the flip chart with no time limit. There should be four columns of numbers on each flip chart. • Highlight to the participants the different ways that people write the same numbers and review possible mistakes that could occur during the data entry phase if everyone does not write 0-9 the same way. <p>B. Decide as a group how the numbers 0-9 will be written on the questionnaire.</p> <ul style="list-style-type: none"> • Ask participants to write the numbers 0-9 (as agreed upon) on the back of their draft questionnaire (to be used as a reference).
	<p>Cluster Control Form Method: Lecture <i>Slide: Adapt the cluster control form identifier variables as needed to reflect the survey area (province, district, and village/camp).</i> Note:</p> <ul style="list-style-type: none"> • Explain how and when the Cluster Control Form should be used, and explain each column in detail. • Note that field procedures have not been introduced yet. • Ensure that participants are comfortable with the Cluster Control Form before the field test; you will be able to debrief about it after the field test. <ul style="list-style-type: none"> • Comments section can include notes on absent households, whether a child had a physical disability, whether a child was measured opposite to protocol (can be verified with the questionnaire afterwards), etc.
<p>5 min</p>	<p>Time to complete additional PowerPoint slides from module 2A that are not included in these trainer notes.</p>

Session Code: 2B	Session Title: Event Calendar	Duration: 60 min
Learning Objectives (at the end of this session participants will):		
<ul style="list-style-type: none"> Use an event calendar effectively so that a child's age can be accurately determined. 		
Materials and Equipment: Projector; flip chart; markers; numbers 6-59 written on small pieces of paper; container to pick random number 6-59 (see Exercise 1, 2); draft local event calendar made on flip chart for participants to add to throughout training (see Exercise 3).	Handouts: 2B PowerPoint slides Event Calendar Example	

Detailed Training Notes

- If it is determined beforehand that every child will have documentation of their birth (for example in a long term camp setting) than this section does NOT need to be taught.
- It is important that participants have a copy of the Event Calendar Example to follow along with.
- Trainer must create a draft event calendar based on the local context and holidays on a flip chart in advance of the session.

Timing	Guidance Notes
5 min	<p>Estimating Age Method: Lecture <i>Slide: Adapt slide if the survey will take place in a context where it would be acceptable to record a child's actual birthdate without seeing a verified document. For example, in areas where there are mass movements of people due to conflict but it is determined that the mothers/caregivers are likely to know the child's exact birthdate (year, month AND day).</i></p> <ul style="list-style-type: none"> It is VERY important to determine the correct age of a child. If age is not determined correctly this will negatively affect the quality of the data that is collected. Determining the correct age of a child is as important as recording the correct weight, height, and MUAC. In many rural areas, the age of children is not known. Always start by asking to see the child's immunization card or birth certificate. In general, the younger the child is, the more accurately you can estimate the month of birth.
5 min	<p>Estimating Age From Events Calendar Method: Lecture</p> <ul style="list-style-type: none"> A local-events calendar shows dates on which important events took place during the past 5 years, including: local holidays, hailstorms, the opening of a nearby

	school or clinic and political elections, etc.
5 min	<p>Events Calendar Example Method: Lecture</p> <ul style="list-style-type: none"> For this example, the data collection started in October, 2013. The slide may be hard to read but it is the same as the handout. Note that any child born in October is less than one month old (they have not completed one full month) so their age will be recorded as '0' months. Always write months in whole numbers (completed months).
5 min	<p>How to Use an Events Calendar Method: Verbal Quiz <i>Note: After teaching the slide go back to the previous slide and give an example using the event calendar. Q: What event occurred at 29 months? A: Labour day. Repeat exercise a few more times.</i></p> <ul style="list-style-type: none"> The most important events are at 6 months, 24 months and 59 months (cut-offs for inclusion and for measurements). If the interviewer is not confident that the age of a child can be accurately determined even after using an event calendar, leave AGE blank in the questionnaire and make a note of it. This should occur only in extremely rare circumstances.
15 min	<p>Exercise 1 Method: Role Play Note:</p> <ul style="list-style-type: none"> <i>Reiterate to participants to start broad (year child was born) and then become more specific.</i> <i>After each person has had a chance at being the mother and interviewer ask for two volunteers to conduct an interview in front of the participants.</i> <i>As a group comment on what they did well and what they could improve upon.</i> Each participant will have the opportunity to practise the role of mother and interviewer to determine a child's age.
10 min	<p>Cross-Check Age With Events Calendar Method: Lecture</p> <ul style="list-style-type: none"> It is very important to verify a child's age if the mother does NOT have documentation because mistakes are common. The interviewer must be sensitive to not sound (tone of voice) like they do not believe the mother when they say the child's age without having documentation to confirm it.
	<p>Exercise 2 Method: Role Play</p> <ul style="list-style-type: none"> Unlike exercise 1 the mother will tell the interviewer the number (age of child pulled from the container) and the interviewer will read off the events that occurred on that month. For example: Mother states that the child is 10 months old. Interviewer starts questions with asking the mother if the child was born around Christmas. If in the field a discrepancy arises between the age the mother states and events that occurred it is up to the interviewer to keep asking follow up questions until

	<p>they are confident they have established the correct age.</p> <ul style="list-style-type: none"> • This exercise shows the importance of having a very accurate events calendar.
10 min	<p>Exercise 3 Method: Brainstorming Note:</p> <ul style="list-style-type: none"> • <i>Show participants Draft Event Calendar that the trainer created on a flip chart in advance.</i> • <i>Take 10 min and as a group add to the event calendar.</i> • <i>After 10 min ask the participants to continue adding to the event calendar on their free time throughout the training and it will be piloted at the field test.</i> • <i>Reiterate to the participants how important it is to have a detailed event calendar.</i>
5 min	<p>Time to complete additional PowerPoint slides from Module 2B that are not included in these trainer notes.</p>

Module 3: Malnutrition and Anthropometry

Session Code: 3A	Session Title: Malnutrition	Duration: 45 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> Define malnutrition and its various forms. Identify measurements used to determine types of malnutrition. 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 3A PowerPoint slides

Detailed Training Notes

Timing	Guidance Notes
3 min	<p>Malnutrition Method: Lecture Note: Below is a more practical/less technical way to describe malnutrition.</p> <ul style="list-style-type: none"> In most cases of child malnutrition, the child does not consume enough food (energy= calories) and / or if they do consume enough food, it is lacking specific vitamins or minerals. This can occur when there is not a lot of variety in a child's diet. Illness and prolonged diarrhea can also contribute to malnutrition because nutrients are not being absorbed effectively.
3 min	<p>Discussion Method: Brainstorming Note: Ask participants why 6-59 month children are targeted for anthropometric surveys? Listen to responses and discuss when needed.</p>
4 min	<p>Children 6 to 59 months Method: Lecture</p> <ul style="list-style-type: none"> Nutritional status: If children are strongly affected, others are also likely equally affected. Easier to measure: Measurement equipment is less bulky, measurements can be taken with little or no clothing.
3 min	<p>Anthropometric Measurements Method: Lecture Slide: Remove MUAC information if it is not included in the survey.</p> <ul style="list-style-type: none"> These variables will help determine if a child has a healthy nutritional status or if they are suffering from a form of malnutrition. Variables 1-4 can be used in different combinations to determine if a child is healthy, acutely malnourished (short term) and/or chronically malnourished (long term). Bilateral edema can be used on its own to determine if a child is suffering from

	<p>severe acute malnutrition.</p> <ul style="list-style-type: none"> • MUAC can be used on its own to determine if a child is suffering from acute malnutrition.
7 min	<p>Anthropometric Indices Method: Lecture</p> <p>Wasting:</p> <ul style="list-style-type: none"> • The weight for height index measures thinness or overweight. • Due to recent shocks (food shortage, illness etc.) a wasted child is too thin in comparison to their height. <p>Stunting:</p> <ul style="list-style-type: none"> • The height or length for age index measures growth failure. • The child is too short for their age. • Develops over a long period of time. Growth is a relatively slow process, and when it slows down or stops, it takes a certain amount of time before the height or length of the child reaches a level that indicates a slow growth. This is the reason why height/age ratio is used as an indicator for chronic malnutrition. • Caused by an inadequate nutritional regime or repeated infections. • May be due to IUGR, followed by normal post-natal growth. <p>Underweight:</p> <ul style="list-style-type: none"> • The weight for age index is an indicator that combines both wasting and stunting. It therefore reflects an acute and/or chronic malnutrition. • A child who presents underweight is too thin for their age. • Wasted children's weight and the weight of those who are stunted are below the average for children of the same age group. In practice, an approximate variation of 80% of the weight/age (underweight) index is due to stunting, and a variation of approximately 20% is due to wasting. • This index does not reliably reflect the actual nutritional status of a population. • It is an index that is easy to take, and may serve for the longitudinal follow-up of the children in a community.
5 min	<p>Stages of Acute Malnutrition Method: Lecture</p> <ul style="list-style-type: none"> • Later on in this module we will discuss how to determine if a child is acutely malnourished. • If a child is found to be acutely malnourished we will learn how to determine if the child is moderately malnourished (MAM) or severely malnourished (SAM)?
3 min	<p>Types of Severe Acute Malnutrition Method: Lecture</p> <ul style="list-style-type: none"> • Marasmus: following a decrease in energy, combined with unbalanced provisions of carbohydrates, fats and proteins, as well as vitamin and mineral deficiencies.

	<ul style="list-style-type: none"> • Kwashiorkor can also occur in the same child who suffers from wasting. This child will have a very low weight/height combined with the presence of bilateral edema.
10 min	<p>Exercise Method: Drawing <i>Note: Have participants split into groups. Each group has to discuss amongst themselves the differences between marasmus and kwashiorkor. Each group will draw on a flip chart a picture of a child suffering from marasmus and a child suffering from kwashiorkor. Each group will then present their flip chart and verbally describe the associated symptoms.</i></p>
7 min	Time to complete additional PowerPoint slides from module 3A that are not included in these trainer notes.

Session Code: 3B	Session Title: Anthropometric Measurements: Weight	Duration: 35 min (digital scale). 70 min (Salter scale).
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> • Calibrate electronic scales and/ or salter scales. • Measure a child’s weight using an electronic scale and/ or a salter scale. 		
Materials and Equipment: Projector, flip chart, markers <u>Digital scale:</u> digital scales, wooden boards, batteries, calibration weight, children/dolls <u>Salter scale:</u> wooden sticks, salter scale, weight pants (with hooks), calibration weight, children/dolls		Handouts: 3B PowerPoint slides

Detailed Training Notes

- SMART highly recommends to use digital scales as opposed to Salter scales because they are significantly more accurate, less invasive, and save a lot of time (in training as well as in the field) when compared to Salter scales.
- Only present slides that pertain to the type of scale (digital and/or salter) that will be used for the survey and delete the other slides.
- It is recommended for the slides that contain steps for weighing, the trainer should simultaneously give a demonstration and only use these slides as a guide to reinforce the steps they are demonstrating.

Timing	Guidance Notes
	DIGITAL SCALE
10 min	Clothes Method: Lecture <ul style="list-style-type: none"> • All children should be weighed without any clothing. The ONLY exception is if culture or weather does not permit. • If a child is weighed with clothes on it must be noted on the questionnaire. • If one team allows children to wear clothes and the other teams do not then this could seriously affect the accuracy of the results.
	Discussion Method: Facilitation Slide: This slide should ONLY be included if it is not possible to always measure children without clothes. Note: <ul style="list-style-type: none"> • If clothes must be worn, for example, a survey is to take place during cold weather it is important that all participants agree on the type of clothes that are deemed acceptable (for example underwear and a thin under shirt). • It should be emphasized again that if the children are allowed to wear select

	<p><i>clothing then all participants must follow this procedure.</i></p> <ul style="list-style-type: none"> • <i>Examples of the agreed upon clothing must be shown to the participants before the field test day.</i>
5 min	<p>Calibration of Digital Scale Method: Lecture Slide:</p> <ul style="list-style-type: none"> • <i>Adjust slide to include the weight (kg) of the standard weight to be used in the survey.</i> • <i>If a standard weight is not used, change slide to reflect what is being used (e.g., hermetically sealed container with sand with weight clearly indicated).</i> • <i>Calibrating the scale is a way to verify that the scale is working properly so that the correct measurement can be taken.</i>
	<p>Digital Scale Setup Method: Demonstration Note: <i>Give a demonstration of each step with a participant/child and then split participants into groups to practice.</i></p> <ul style="list-style-type: none"> • <i>It is very important to put a board under the scale. If the scale does not read 0.00 before the child steps on the scale the weight cannot be taken. For example, a scale may read 0.20kg if the ground is not perfectly flat.</i> • <i>Use a wooden board (previous slide) if necessary to achieve a flat surface.</i>
15 min	<p>Direct Weighing Method: Demonstration Note: <i>Give a demonstration of each step with a participant/child and then split participants into groups to practice.</i></p>
	<p>Indirect (double) Weighing Method: Demonstration Slide: <i>If the current type of scale pictured is not going to be used in the survey, remove and replace with a picture of the type of scale that will be used in the survey. Indicate the tare button.</i> Note: <i>Give a demonstration of each step with a participant/child and then split participants into groups to practice.</i></p>
5 min	Time to complete additional PowerPoint slides from module 3B (digital scale) that are not included in these trainer notes.
	SALTER SCALE
	<p>Clothes Method: Lecture</p> <ul style="list-style-type: none"> • <i>All children should be weighed in their underwear (no shirt). No other clothes are to be worn. The ONLY exception is if culture or weather does not permit.</i> • <i>If one team weighs children with just their underwear and other teams allow more clothes this could seriously affect the accuracy of the results.</i>

10 min	<p>Discussion Method: Facilitation <i>Slide: This slide should ONLY be included if it is not possible to always measure children without clothes (underwear shorts permitted).</i> Note:</p> <ul style="list-style-type: none"> • If clothes must be worn, for example, a survey is to take place during cold weather it is important that all participants agree on the type of clothes that are deemed acceptable (for example underwear shorts and a thin undershirt). • It should be emphasized again that if the children are allowed to wear select clothing then all participants must follow this procedure. • Examples of the agreed upon clothing must be shown to the participants before the field test day.
5 min	<p>Technique for Holding Stick Method: Demonstration Note:</p> <ul style="list-style-type: none"> • Stick should be a minimum of 2.5cm wide and 130cm long. • Use the same stick that will be used during the survey. • Give a demonstration of each step with a doll/child and then split participants into groups to practice.
15 min	<p>Calibration of Salter Scale Method: Demonstration <i>Slide: Adjust slide with weight (kg) of standard weight being used in the survey (standard 2kg recommended). If a standardized weight is not being used, change slide to reflect what is being used (ex. hermetic container with sand that has weight clearly indicated).</i> Note: Give a demonstration of each step with a doll/child and then split participants into groups to practice.</p> <ul style="list-style-type: none"> • Salter scales need to be calibrated after every measurement in order to maintain accuracy.
10 min	<p>Technique to Dress Child in Weight Pants Method: Demonstration Note: Give a demonstration of each step with a doll/child and then split participants into groups to practice.</p> <ul style="list-style-type: none"> • If a child is shy but is capable of putting on the weight pants themselves, ask them to go inside to change with or without their mother.
15 min	<p>Technique for Securing Child and Recording Weight Method: Demonstration Note: Give a demonstration of each step with a doll/child and then split participants into groups to practice.</p>
	<p>Measuring Weight: Tips Method: Lecture For the few children who may not stop struggling:</p> <ul style="list-style-type: none"> • Estimate the weight by taking the value at the midpoint of the range of needle oscillations.

10 min	<ul style="list-style-type: none"> • Make a note that the weight may be inaccurate because of instability. <p>Exercise: Mistakes Method: Facilitation</p> <ul style="list-style-type: none"> • The scale is not at eye level. • Both arms of the child's are hanging in front of the weighing pants with the risk of him falling off the scale.
5 min	Time to complete additional PowerPoint slides from module 3B (salter scale) that are not included in these trainer notes.

Session Code: 3C	Session Title: Anthropometric Measurement: Height / Length	Duration: 55 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> • Calibrate height boards • Measure a child's length or height 		
Materials and Equipment: Projector, flip chart, markers, height boards, meter stick, dolls/ children		Handouts: 3C PowerPoint slides

Detailed Training Notes

- It is recommended for the slides that contain steps to measuring height and length, the trainer should simultaneously give a demonstration and only use these slides as a guide to reiterate the steps they are demonstrating.

Timing	Guidance Notes
5 min	<p>Age cut-offs Method: Lecture <i>Note: Due to stunting, SMART highly recommends using age cut-offs instead of height (87cm) cut offs for measuring height/length.</i></p> <p>A rare occasion when a child's age cannot be determined could be:</p> <ul style="list-style-type: none"> • 1. If a mother does not have any document identifying the child's birth and the team leader is not confident in the mother's responses when asked questions based on the event calendar. • 2. An orphan child may be raised by new parents who do not know the child's birthday.
20 min	<p>Measuring Length: Roles Method: Demonstration <i>Note: Give a demonstration of each step with assistant and a doll/child and then split participants into groups to practice.</i></p> <ul style="list-style-type: none"> • In the rare occurrence that a child is over 2 years but is too weak to stand they can be weighed lying down but this must be noted.
15 min	<p>Measuring Height: Roles Method: Demonstration <i>Note: Give a demonstration of each step with assistant and a doll/child and then split participants into groups to practice.</i></p> <ul style="list-style-type: none"> • In the rare circumstance that it is a cultural taboo to measure a child's length (lying down) the child may be measured standing up. This must be noted in the questionnaire and in the <i>Cluster Control Form</i>.
	<p>Exercise: Errors Method: Facilitation</p>

5 min	<ul style="list-style-type: none">• Old height board that is no longer calibrated.• Child's feet are not flat, hands are around shoulders.• Measurer's hand in over mouth and nose instead of chin.• Child's feet are not flat.
10 min	Time to complete additional PowerPoint slides from module 3C that are not included in these trainer notes.

Session Code: 3D	Session Title: Anthropometric Measurements: MUAC	Duration: 55 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> • Calibrate a MUAC tape. • Use a MUAC tape to measure the mid-upper arm circumference. 		
Materials and Equipment: Projector, flip chart, markers, MUAC tapes, calibration pipe, dolls/ children		Handouts: 3D PowerPoint slides

Detailed Training Notes

- The session should only be included if MUAC will be measured in the survey. Note that MUAC does not need to be measured in all surveys.
- It is recommended for the slides that contain steps to measuring MUAC, the trainer should simultaneously give a demonstration and only use these slides as a tool to reiterate the steps they are demonstrating.

Timing	Guidance Notes
5 min	<p>Calibration of Measurement Tools Method: Demonstration Note:</p> <ul style="list-style-type: none"> • Show participants a standard pipe with a known circumference to calibrate new tapes. • Show participants a Mid Upper Arm Circumference (MUAC) tape with a bend or kink. • If a team loses a MUAC tape or it becomes faulty the new tape must be calibrated.
2 min	<p>Types of MUAC Tapes Method: Lecture Slide: Take a picture of the MUAC used in the survey and delete the three slides with examples of MUAC tapes. If this is not possible, choose the MUAC tape that is closest to the model that will be used in the survey and delete the other 2 slides.</p>
15 min	<p>Measuring Mid-point Method: Demonstration Note: Give a demonstration of each step with a doll/child and then split participants into groups to practice. There are a lot of steps when taking MUAC measurements so it is very important to demonstrate each step clearly and NOT to rely on the slides.</p> <ul style="list-style-type: none"> • If the child is small or scared they can sit straight up on their caretaker's lap. • MUAC can be taken on the right arm if the left arm is injured or disfigured but must be noted. • AC joint: acromioclavicular joint. This is the joint where the collar bone meets the shoulder. • When finding the midpoint the MUAC tape should run in an imaginary line from the AC joint to the elbow.

	<ul style="list-style-type: none"> • Ensure that the window (0 cm) of the MUAC is placed over the AC joint and not the top of the MUAC tape. • Common mistakes are to run the line on either side of the elbow which cause the midline to be higher up the arm than expected. • It is important for the measurer not to switch hands when marking the mid-point. If the measurer is right handed, they should use their left hand on the AC joint and mark the mid-point with their right hand.
15 min	<p>Measuring MUAC Method: Demonstration <i>Note: Give a demonstration of each step with a doll/child and then split participants into groups to practice. There are a lot of steps when taking MUAC measurements so it is very important to demonstrate each step clearly and NOT to rely on the slides.</i></p> <ul style="list-style-type: none"> • It is very important to have the mid-point pen mark to appear in the MUAC tape window (0 cm). • The tape should not be left too slack nor pulled too tightly. It should touch the skin all the way around the arm, but not make a dent in the skin. • Some people may prefer to wrap the MUAC tape on the inside which is fine. The main point is to make sure that one hand is always gripping the child's arm as well as holding the MUAC tape window (0cm) over the mid-point pen mark. • The process of referring a child will be discussed in more detail later on in the Quality Checks module.
3 min	<p>Exercise: Errors Method: Facilitation</p> <ul style="list-style-type: none"> • MUAC is too loose. • Arm is not bent at 90 degrees.
15 min	Time to complete additional PowerPoint slides from module 3D that are not included in these trainer notes.

Session Code: 3E	Session Title: Anthropometric Measurements: Edema	Duration: 30 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> Perform a test to determine if a child has bilateral edema. 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 3E PowerPoint slides

Detailed Training Notes

- If it is anticipated that there will be high levels of edema in the survey area it is recommended that the participants be given the opportunity to see a case of edema in person. This could be at a local hospital, or perhaps a child with edema could come to the training for a very short period of time.
- If possible, confirm cases of bilateral edema with a photograph (send to survey manager).

Timing	Methodology	Guidance Notes
10 min	Exercise 1 Method: Demonstration Notes:	<ul style="list-style-type: none"> Ask participants to stand in a circle. The trainer(s) will ask each participant to hold out their hands and the trainer will apply the proper amount of thumb pressure that will be used for the edema exercise. The objective of the exercise is for the participants to feel the correct amount of pressure to exert. In some context this exercise may be culturally inappropriate.
10 min	Diagnosing Edema: Procedure Method: Demonstration Note: Give a demonstration of each step with an assistant or child and then split team into groups to practice.	<ul style="list-style-type: none"> It can be quite painful if the measurer presses hard on the skin. Hard pressure is NOT required to test for edema. The child should only be recorded as edematous if both feet clearly have edema.
	Exercise 2: Errors Method: Facilitation	<ul style="list-style-type: none"> The surveyor is only checking one foot for edema.
10 min	Time to complete additional PowerPoint slides from module 3E that are not included in these trainer notes.	

Session Code: 3F	Session Title: Anthropometric Measurements: Interpretation of measurements	Duration: 35 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> • Interpret z-scores and use weight for height WHO Growth Standard Charts • Interpret MUAC scores 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 3F PowerPoint slides WHO Reference Tables (0-24 month girls) Referral Form

Detailed Training Notes

- This section refers to interpreting MUAC and Z-scores. It is recommended to always include MUAC. However, if MUAC measurements are not going to be collected in the field, delete the corresponding slides.
- Prior to the training, the survey manager must identify the appropriate place to refer malnourished children. The location may be the same for all clusters or may be different for each cluster.
- Some surveys use the WHO field Z-scores tables instead of the ones presented in this module. Delete the slide which does not correspond to your survey.

Timing	Guidance Notes
3 min	Interpretation of Measurements Method: Lecture Slide: Delete MUAC if it is not part of the survey. <ul style="list-style-type: none"> • If edema is present (as taught in the Anthropometry section) the child has SAM and must be given a referral.
5 min	Z-score Interpretation of Measurements Method: Lecture Note: Refer to the Z-score Table on the slide (as well as next slide) to illustrate the points below. <ul style="list-style-type: none"> • At each household the team leader should determine the Z-score for each child using the Z-score table and classify the child's nutrition status. • Compare each child with "normal" (WHO Child Growth Standards). • Need to know if z-score is higher or lower than -2 (do not need to calculate an exact z-score). • All children with a z-score ≥ -3 and ≤ -2 are moderately malnourished and should be referred to a MAM program if it exists. • All children with a z-score < -3 are severely malnourished and should be referred to a SAM treatment center.
	Exercise: Weight for Height z-scores Method: Practical Note: Each group of two will use the Girls 0-2 Years WHO Reference Table. Review the

15 min	<p><i>table. Explain to the participants that the other 3 tables (girls 24-59 months, boys 0-23 months and boys 24-59 months) follow the same procedure.</i></p> <p><i>As stated above, present the Z-score table that applies to your survey and delete the other one.</i></p> <p>Z-score Examples 1-5 Method: Practical Note: <i>After each group has finished the five examples, review as a team. Continue until the enumerators can correctly read the table.</i></p>
3 min	<p>MUAC Interpretation of Measurements Method: Demonstration Note: <i>Show participants MUAC tape and review colors and their meaning (if MUAC has colors).</i></p> <ul style="list-style-type: none"> • MUAC cut-offs are determined according to WHO growth norms. • All children with a MUAC ≤ 115 mm are severely malnourished (SAM) and must receive a referral. • All children with a MUAC between 116-125mm are moderately malnourished and should be referred if a MAM program exists.
5 min	<p>Referral Procedure Slide: <i>Adapt slide to contain referral procedures that will be used for the survey.</i></p> <ul style="list-style-type: none"> • When a malnourished child is identified, he or she should be referred, on the spot, to the nearest health or nutrition facility. Ideally, this will be a therapeutic (SAM) or supplementary feeding (MAM) program. • If these are not available, the team leader should urge the parents to take the child to the nearest health facility, providing a referral slip upon which the name, height, weight, z-score, MUAC and diagnosis is written.
4 min	<p>Time to complete additional PowerPoint slides from Module 3F that are not included in these trainer notes.</p>

Module 4: Quality Checks of Anthropometric Measurements

Session Code: 4A	Session Title: Quality Checks of Anthropometric Measurements	Duration: 10 min Mistakes 30 min Standardisation Test (1) 30 min Standardisation Test (2) 20 min Plausibility Report
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> Identify potential measurement and selection mistakes. Identify the objectives and the principles of the standardisation test. Describe the procedures for the standardisation test. Interpret the digital preference scale of the plausibility report. 		
Materials and Equipment: Projector, flip chart, markers	Handouts: Module 4 PowerPoint slides Standardisation test form	

Detailed Training Notes

- Choose the standardisation test method (option 1 or 2) that will be used for the survey and delete the slides pertaining to the other method.
- It is highly recommended to make time during training to have a Mock standardisation test before the actual test so that the team understand the proper procedures.
- Module 4B Data Entry (only for Field supervisor and/or Team Leaders, specific data entry people) trainer notes are included in Module 4 *Resources*.

Timing	Guidance Notes
2 min	Minimizing Errors Method: Lecture <ul style="list-style-type: none"> During the planning phase of the SMART survey a lot of effort has been taken to ensure that the data collected during the survey will be high quality. This section focuses on the common mistakes that survey teams make that can reduce the quality of the data collected.
3 min	Measurement Mistakes Method: Lecture <ul style="list-style-type: none"> The standardisation test will help identify some types of measurement errors so that improvements can be made before the survey begins. The plausibility report also identifies measurement errors and grades the quality of the measurements that each has taken. Height boards not being calibrated properly is also another example. Rounding will make the overall quality of the measurements decrease substantially. If even a few children are found to have edema when in fact they do not, this will have a big effect on the results.

3 min	<p>Selection Mistakes Method: Lecture</p> <ul style="list-style-type: none"> All of these examples can lead to a sample that does not represent all of the people. This is a huge potential problem and will be discussed in more detail in the Household Selection sections of Module 5.
2 min	Time to complete additional PowerPoint slides from module 4 (mistakes) that are not included in these trainer notes.
	STANDARDISATION TEST
2 min	<p>Standardisation Test Method: Lecture <i>Slide: Choose the standardisation test method (Option 1 or Option 2) that will be used for the survey and delete the slides pertaining to the other method.</i> <i>Note: It is highly recommended to have a mock standardisation test before the actual test so that the participants understand the proper procedures.</i></p> <ul style="list-style-type: none"> The standardisation test is mandatory because it's a procedure designed to objectively judge the quality of measurements made by the measurers.
3 min	<p>Purpose of Standardisation Test Method: Lecture</p> <ul style="list-style-type: none"> Enumerator measurements are compared to the reference (supervisor) values. Each enumerator is given a score by ENA (computer program) for their measurements. It is extremely important that everyone is very organized on the standardisation day because there will be many children and mothers present.
5 min	<p>Option 1: Carrying out the Test Method: Lecture</p> <ul style="list-style-type: none"> Overview: Survey teams will move to different stations but the equipment will remain at the same place so that each child is always measured with the same equipment. Each child must remain with their mother in a fixed station with an ID number. It is prohibited for pairs of enumerators to speak with other teams during the test. There are 10 stations (1-10), and each of them contains: A child with their care giver. Anthropometric equipment (scale, height board, MUAC tape).
	<p>Option 1: Test Procedures Method: Lecture <i>Notes: Refer participants to the standardisation test form handout they received. It will be described in detail later on in this section.</i></p> <ul style="list-style-type: none"> The trainer will carefully weigh and measures each child without allowing the participants to see the values. All participants should measure 10 children (each child twice) during the standardisation test.

10 min	<ul style="list-style-type: none"> • If team leaders have been preselected before the survey training begun it is highly recommended that the team leaders take part in measuring children during the standardisation test as opposed to just observing and recording measurements. • Be careful to record a child's measurements in the line that corresponds to the child. For example, the first measurements that enumerator 1 may take could be of child 6. In this example, the measurements should be recorded on the child 6 line and NOT the child 1. • The teams do not have to wait until the child station next to them to become available. Go wherever there is a free station. • Enumerator 1 will hand in the measurement 1 form to the T and T will give a measurement 1 form to enumerator 2. This same procedure will repeat using measurement 2 form.
5 min	<p>Option 2: Carrying out the test Method: Lecture</p> <ul style="list-style-type: none"> • Overview: Survey teams will move to different stations but the equipment will remain at the same place so that each child is always measured with the same equipment. • Each child must remain with their mother in a fixed station with an ID number. • It is prohibited for pairs of enumerators to speak with other teams during the test. • There are 5 stations (A 1,6 B 2,7 C 3,8 D 4,9 E 5,10), and each of them contains: • A child with their care giver. • Anthropometric equipment (scale, height board, MUAC tape).
10 min	<p>Option 2: Test Procedures Method: Lecture Notes:</p> <ul style="list-style-type: none"> • <i>Do not use option 2 if there is a lot of enumerators (for example over 15 enumerators) because there will be a lot more teams than children. As a result, the teams will spend a lot of time standing around.</i> • <i>Refer participants to the standardisation test form handout they received. It will be described in detail later on in this section.</i> • The trainer will carefully weigh and measure each child without allowing the teams to see the values. • All participants should measure 10 children (each child twice) during the standardisation test including 5 children (twice) in the morning and 5 different children (twice) in the afternoon or on a different day. • If team leaders have been preselected before the survey training begun it is highly recommended that the team leaders take part in measuring children during the standardisation test as opposed to just observing and recording measurements. • Be careful to record a child's measurements in the line that corresponds to the child. For example, if the first measurements that enumerator 1 takes are of child 6, the measurements should be recorded on the child 6 line and NOT the child 1 line. • The teams do not have to wait until the child station next to them to become available. Go wherever there is a free station.

	<ul style="list-style-type: none"> • Enumerator 1 will hand in the measurement 1 form to the T and the T will give a measurement 1 form to enumerator 2. This same procedure will repeat using measurement 2 form.
5 min	<p>Standardisation Test Form Method: Lecture Note: <i>Only include MUAC in the Standardisation Test if it is included in the survey.</i></p> <ul style="list-style-type: none"> • Each enumerator will have their own form and must identify themselves by writing their name and ID. For example, if there are 15 enumerators for the test each of them will be given an ID from 1 to 15. • Each child to be measured will also be given an ID number starting with 1. For example, if there are 10 children each of them will be given an ID from 1-10 and they will keep the same ID throughout the entire test.
	<p>During the test Method: Interactive Q&A Note:</p> <ul style="list-style-type: none"> • <i>Ask participants what they think they should do if they notice poor measurement techniques during the standardisation test (should they correct them immediately or wait until after the test to give feedback)?</i> • <i>Allow 1-2 minutes for some different answers from participants.</i> • <i>In general, if the survey manager, trainers or other enumerators notice someone is making a large mistake in their measurement technique (e.g., kneeling on the wrong side of the child when measuring, not ensuring that a scale is at zero before weight a child) then it is best to correct them right away. Smaller mistakes should be written down and talked about in plenary as general feedback (without naming specific people).</i>
5 min	Time to complete additional PowerPoint slides from module 4 (Standardisation Test) that are not included in these trainer notes.
	PLAUSIBILITY REPORT
5 min	<p>Digit Preference Score (DPS) Method: Lecture</p> <ul style="list-style-type: none"> • There are several components of the plausibility test that help to determine the quality of the data but the main section that enumerators should be aware of is the digital preference section. • ENA automatically examines the data for digit preference. This is done for the whole survey and for each individual team.
5 min	<p>DPS Example 1 Method: Practical Note: <i>When teaching the Digital Preference Score (DPS) make sure that the participants understand what is meant by 'last number'. May have to provide additional examples on a flip chart.</i></p> <ul style="list-style-type: none"> • Each hashtag represents one child. • It is not likely that there will be exactly 10 children at each digit (0-9) but it should

	<p>not vary substantially.</p> <ul style="list-style-type: none"> • This is an example of a very good DPS analysis. Notice that all of the numbers are pretty evenly distributed.
5 min	<p>DPS Example 2 Method: Practical</p> <ul style="list-style-type: none"> • This is an example of statistically too many '0' and '5' as the last digit. • Rounding has likely occurred.
5 min	<p>Time to complete additional PowerPoint slides from module 4 (plausibility report) that are not included in these trainer notes.</p>

Module 5 Sampling

Session Code: 5A	Session Title: Arrival to Village	Duration: 35 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> Define a household. Understand the concept of random sampling and the importance of maintaining randomness throughout the household selection process. 		
Materials and Equipment: Projector, flip chart, markers		Handouts 5A PowerPoint slides

Detailed Training Notes

- Emphasize that for this training, unless stated otherwise, the term HH refers to persons, related or unrelated, who live together under one roof and share a common source of food. It can be common for multiple HHs to live under one roof (house, shack, structure, dwelling etc.); therefore, each HH must be identified individually.

Timing	Guidance Notes
5 min	<p>Protocol for Village Leader Introductions Method: Lecture</p> <ul style="list-style-type: none"> Be sure not to make any false promises to the village leader. For example, do not guarantee to the village leader that the survey results will lead to food aid or eligibility for humanitarian assistance. It is important that the village leader understands that all HHs in the village have the same opportunity to be selected. Anytime a Random Number Table (RNT) is used the village leader should be asked to help (segmentation, and simple random sampling HH selection).
3 min	<p>Household Definition Method: Lecture Slide: Add household definition used for the survey. Note:</p> <ul style="list-style-type: none"> Pick a HH definition that is used by the government or large surveys in the country such as DHS. The most commonly used definition is “People who normally sleep under the same roof and eat from the same cooking pot”. If the definition chosen does not include ‘blood relatives’ than this point must be emphasized.
	<p>Types of Living Arrangements Method: Group Exercise Slide:</p> <ul style="list-style-type: none"> Add examples of all the types of living arrangements that may be seen in the survey population. Potential options could be: 5 people normally sleep in the HH and eat from the same pot (1HH based on

10 min	<p>above HH definition).</p> <ul style="list-style-type: none"> • 10 people live in the HH and eat from a separate pot (2HH based on above HH definition). • Also create examples involving 'blood relatives'. Are they included in the HH definition or not? <p>Note: Divide participants into groups and have each group answer all of the examples. Make sure that all participants agree on the correct answer for each example. Everyone should apply the household definition in the same way.</p>
10 min	<p>Discussion: Representative Sample Method: Demonstration Note:</p> <ul style="list-style-type: none"> • Explain to the participants that they have two candies. Ask participants how they would decide who receives the candy so that everyone has the same chance of being selected. Listen to responses. • Demonstrate 2 scenarios: <ul style="list-style-type: none"> a) Give a candy to the tallest man and tallest woman. Ask participants if everyone has the same chance of being selected? (No, because only the tallest man and woman had a chance of being selected). b) Assign each participant a number and then select a number from a container. Give the first candy to the selected member and the second candy to the person to their left. Ask team if everyone has the same chance of being selected? (No, because the second person was selected because they were next to the first person; therefore, the rest of the participants did not have the same chance of being selected). c) Assign each participant a number, and then put everyone's number in a container except for one. Ask team is everyone has the same chance of being selected? (No, because not everyone's number was in the container). d) Assign each participant a number and then select to numbers from a container. This is random sampling because every person had the same chance of being selected. If this is consistently done throughout the data collection it will represent a representative sample.
7 min	<p>Time to complete additional PowerPoint slides from module 5A that are not included in these trainer notes.</p>

Session Code: 5B Segmentation	Session Title: Segmentation and Random Number Table	Duration: 40 min Segmentation 35 min Random Number Table
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> • Know how and when to use segmentation • Know how to use a random number table 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 5B PowerPoint slides Household Selection PPS Table (blank) Random Number Table

Detailed Training Notes

- If simple or systematic random sampling is used in the survey, return to these slides once these concepts are introduced (after presenting Module 5C and/or Module 5D) and practice the random number table again in plenary.
- It may be useful to present a concrete example using the exact number of HH that teams will have to select in the survey.
 - E.g., Simple: There are 105 HH in a village and you must chose 15HH. Project the random number table onto the screen and ask one participant to choose a random start number with a pen or their finger on the screen, and then ask all of the participants to chime in and say out loud all of the 15 HH to be chosen. Write down the numbers of all 15 HH to be chosen on a flip chart.
 - E.g., Systematic: There are 105HH in a village and you must choose 15HH. Sampling interval = $105/15 = 7$. Therefore, a number between 1 and 7 is needed as the random start number. Proceed in plenary as in the simple example.

Timing	Guidance Notes
	SEGMENTATION
10 min	Segmentation Method: Lecture Slide: <ul style="list-style-type: none"> • Delete the 's' from 'segments' if there are not any villages in the survey that contain more than 1 cluster. • Add the minimum approximate number of HHs a village should contain to apply segmentation. Note: Provide a recap: The team has arrived to a village and the village leader is going to walk around with them and help sketch/map out the village boundaries. <ul style="list-style-type: none"> • The minimum number of HHs in a village to apply segmentation is only an estimate. A representative sample can be obtained with or without the use of segmentation.
	Dispersed Area Method: Lecture Note: Villages greater than 200 HHs are typically segmented, however, this is only a

	<p><i>general rule. It can vary from survey to survey depending on the context.</i> Slide: Add the minimum approximate number of HHs a village should contain to apply segmentation.</p> <ul style="list-style-type: none"> Note that the HHs are very far apart. It would be difficult for teams to travel from structure to structure; therefore, segmentation should be used. <p>Segmentation Recommendations Method: Lecture</p> <ul style="list-style-type: none"> Descriptions and illustrations of ‘equal number’ and ‘unequal number’ as well as the Probability Proportional to Size (PPS) method will be explained in the following slides. An important point to keep in mind about segmentation is that each segment must contain more HHs than are required for the cluster (each segment must contain the minimum number of households to be surveyed in each cluster). This number of HH will be different for each survey.
5 min	<p>Segmentation: Equal Parts Method: Lecture</p> <ul style="list-style-type: none"> Imagine if you had to randomly select 15 HHs to survey from 200 HHs in a cluster. If the HHs are close together this may not be a problem, but if they are far apart then it would take too long for the team to get to each HH. In this example, there is a river that divides the village neatly into two halves (two segments) with 100 HHs in each one. To choose the segment to be used for the random HH selection simply flip a coin. All HH for this cluster will be chosen from that one segment. Remember, both segments MUST be the same approximate size. However, it is very rare that both segments will be the same size. In this example, it is likely that a segmentation map would not have to be made. Also, in the very rare circumstance that there are 3 segments that are the same size, use a random number table and pick a number between 1 and 3. The number chosen will correspond to the segment within which all HH will be selected.
5 min	<p>Segmentation: Unequal Parts Method: Lecture Note: Highlight the four segments, number of HHs in each segment, and cluster size for this example.</p> <ul style="list-style-type: none"> In most cases, it might be impossible to divide the village into equal parts, as shown in this drawing. We should therefore try to find some natural barriers, for example, that can help divide the village into separate segments. In this drawing, there are 4 segments of different number of HHs in each. <p>Segmentation Map Method: Lecture</p> <ul style="list-style-type: none"> A segmentation map (a sketch of the area) is based on the information provided in the previous slide. Ask the village leader to help determine what identifying markers (roads, landmarks, buildings, etc.) can be used to demarcate segments and to help estimate the number of HHs in each segment.

	<ul style="list-style-type: none"> • Estimate the population in each segment. • Remember to make sure that each segment is larger than the number of HHs required to be selected in a cluster. E.g., if in your survey you need to select 15HH in each cluster, then the minimum number of HH in each segment cannot be fewer than 15. • You are looking to choose 1 segment within which you will randomly select all of the households which will be surveyed in that cluster (15HH in this example). • By segmenting the cluster, the survey teams will have a much easier time selecting households and carrying out the survey. • How do we randomly select which segment to use for the HH selection?
5 min	<p>Segmentation: Unequal Parts (PPS Table) Method: Lecture Note:</p> <ul style="list-style-type: none"> • Review each section of the PPS table and relate to the previous slide. • Explain how a PPS table maintains representativeness and what would be wrong if the team just selected a number from 1-4 (segment A-D) (every segment would have the same chance of being selected). After choosing a segment you then choose HHs to survey in that segment. If you don't use the PPS table, you will have a higher chance of being selected in segment A (e.g., choosing 15 HH out of 40 in segment A) than in segment D (choosing 15 HH out of 100 in segment D). • Random Number Table (RNT) will be explained at the end of this section. • Anytime that segments are created that are of unequal size (population) a PPS table (probability proportional to size) must be created to maintain randomness. • After the PPS table is created a random number table is used to select the segment that will be used to pick the 15HH in the cluster (in this example, 67 was chosen; therefore, segment B will be chosen. All 15HH will be selected from within segment B). • It should also be noted that PPS must still be applied if there are only two segments of unequal size.
5 min	<p>Exercise 1 Method: Practical Note: Each person must fill out the PPS table (handout) based on the segmentation map presented on the next slide. Give participants 3 minutes to complete the PPS table.</p> <p>Exercise 1 Answer: PPS Table Method: Practical Note: DO NOT show participants the slide immediately. Ask a participant to create the PPS table with answers on the flip chart before showing participants the slide. Make up more examples if needed.</p>
10 min	Time to complete additional PowerPoint slides from module 5B (Segmentation) that are not included in these trainer notes.
	RANDOM NUMBER TABLE
	<p>SMART uses for RNT Method: Lecture Slide: Adapt slide to suit the survey.</p>
	Random Number Table

10 min	<p>Method: Lecture Note: Before presenting this slide review with the participants the 5B Random Number Procedures handout.</p> <ul style="list-style-type: none"> • This is the same RNT that has been handed out. • Note that all of the random numbers are in groups.
20 min	<p>Random Number Table Procedure Method: Lecture</p> <ul style="list-style-type: none"> • 1. If your total (number of HH) is 99 or less, you must always select two (2) digits on the random number table. The only way to select a number <10 is to have a '0' first. E.g., 01, 02, 03 etc. • The following examples will make the procedures more clear. <p>Exercise Method: Lecture Note:</p> <ul style="list-style-type: none"> • Divide participants into pairs and ask them to record answers to the following six examples on a blank piece of paper. • Make sure all groups are finished each question before moving on to the next. • When all six questions are completed ask for volunteers to give their answers. • Add a 'real' example to each slide where appropriate in relation to your survey. E.g., segmentation, which was just introduced. If there are a total of 230 HH in a village that we must segment, and we must choose one segment, the sampling interval = $230/1 = 230$. Therefore, a number between 001 and 230 is needed to select the segment (only one number is needed since in this case we are only choosing one segment). <p>Example 1 Method: Practical Slide:</p> <ul style="list-style-type: none"> • All of the following examples are from the central group of numbers in the random number table. • Select 3 numbers between 1 and 8. • The pen landed on '4'. Since we are looking for a number <10 (single digits), only one number ('4') is selected. • The next two numbers would be 1 and 3. <p>Example 2 Method: Practical</p> <ul style="list-style-type: none"> • Select 3 numbers between 1 and 8. • The pen landed on '0'. Since we are looking for only one digit we must keep looking to the right until we land on a number from 1-8. • The first three numbers to be selected would be 6, then 8, then 7. <p>Example 3 Method: Practical</p> <ul style="list-style-type: none"> • Select 3 numbers between 1 and 90.

	<ul style="list-style-type: none"> • The pen landed on '8'. Since we are looking for numbers 99 or lower, two digits are selected. • The first three numbers to be selected would be 84, 61 and 77 (92 is not selected because it falls outside of our range of 1 to 90).
	<p>Example 4</p> <p>Method: Practical</p> <ul style="list-style-type: none"> • Select 3 numbers between 1 and 141. • The pen landed on '6'. Since we are looking for numbers between 1 and 141, three digits are selected. We do not choose 614 since it falls outside of our range. • The first three numbers to be selected would be 139, 111 and 080 (143 is not selected because it falls outside of our range of 1 to 141).
5 min	Time to complete additional PowerPoint slides from module 5B (Random Number Table) that are not included in these trainer notes.

Session Code: 5C	Session Title: Simple Random Sampling	Duration: 60 min
Learning Objectives (at the end of this session participants will):		
<ul style="list-style-type: none"> Determine which simple random sampling option to use. Implement correct simple random sampling procedures. 		
Materials and Equipment: Projector, flip chart, markers		Handouts: Household List Map with numbering Map without numbering

Detailed Training Notes

Trainer must ONLY teach the methods that will be used in the survey. As a result many slides must be deleted and/or altered to reflect what will take place during data collection.

For example, if systematic sampling is the only method to be used in the survey then the present Section 5C, Simple Random Sampling should NOT be taught. If simple random sampling is to be used in the survey then only teach the simple random sampling option(s) that will be used in the survey.

Using a list (existing or made) or map (existing or made) are equally effective. Determining which to use is dependent on the circumstances. It is recommended to use only one method during a survey so as not to burden the team although this is not always possible.

It is assumed that the sampling unit is HH. If the sampling unit for the survey is not HH (for example, children) alter slides accordingly.

Timing	Guidance Notes
10 min	Learning Objectives Method: Lecture Slide: <i>Adjust slide if only one simple random sampling option will be used in the survey. List the option(s) on the slide.</i>
	Simple Random Sampling Method: Lecture Note: <i>If the term 'village' is not used in geographical area of the survey, replace with proper term.</i> <ul style="list-style-type: none"> 'Cluster' either refers to an entire village or to the segment chosen randomly using PPS.
	Simple Random Sampling Options Method: Lecture Slide: <i>Adjust slide to include only the options that will be used in the survey.</i> <ul style="list-style-type: none"> Simple random sampling of HHs can be performed by using a HH map of the cluster or an up to date HH list.

7 min	<p>1. Have List Method: Lecture Note: Refer to household list handout. Review columns: head of HH, HH address.</p> <ul style="list-style-type: none"> • The HH list will most likely look similar. It could also contain HH size, only family name, children under 5, children under 18, males, females etc. • If the HH address is not listed, add any contact information such as a phone number and/or any other information which can help identify the HH (such as location relative to a landmark). • The HH list may not have the street names of addresses in order but that is not important.
	<p>1. Have List: Assign Numbers Method: Lecture Note: Review Arbitrarily Assigned Number column.</p> <ul style="list-style-type: none"> • All the HHs must be given a number to represent the HH when the HHs are randomly selected. If the HH list has not numbered the HHs the team must do so. This is used to determine the total number of ___ HHs (add number of HHs based on survey) in the cluster. • There are 100 HHs in the Household List Handout. • A RNT will be used to select the HHs for the cluster. • Ask the village leader to help with using the RNT. The village leader can be asked to hold a pencil, close his/her eyes and select the random number.
7 min	<p>2A: Do not Have List: Make List Method: Lecture</p> <ul style="list-style-type: none"> • If the village leader is new or the team leader does not have confidence that they can list every HH (family name) in the cluster than the team must walk with the village leader to each HH in the cluster to create the list. • An alternative could be to gather a group of people that know the area well. • If the cluster is under 30 HHs it can be made in one spot. • If the cluster is over 30 HHs it is recommended that team walks around the cluster with the village leader to create the list. • After the list is created, arbitrarily number the HHs to determine the total number of HHs in the cluster. • There are 100 HHs in the Household List example. • A RNT will be used to select the HHs for the cluster. • Ask the village leader to help with using the RNT. • If there are local sensitivities surrounding family names, making a map could be a better option for selecting HHs.
7 min	<p>2B. Do Not Have List: Make HH Map Method: Lecture</p> <ul style="list-style-type: none"> • Creating a HH map is a good tool to use or create if cluster boundaries are well defined and a village leader is not available. • A HH map can also be used if there are local sensitivities towards family names (creating a HH list involves asking for family name). <p>Household Map Without Numbering</p>

	<p>Method: Lecture</p> <p>Note: Refer to Household Map Without Numbering Handout.</p> <ul style="list-style-type: none"> • The example is a HH map of a cluster. • The next few slides will describe how to create a cluster HH map.
10 min	<p>Mapping HH in Cluster (con't)</p> <p>Method: Lecture</p> <p>Note: <i>It is important to reiterate the point that one structure could contain more than one HH. If this is the case, all HHs must be recorded.</i></p> <p>Slide: <i>Adjust slide if the survey HH definition is not related to eating from the same pot.</i></p> <ul style="list-style-type: none"> • Definition of abandoned and absent HHs will be provided later on. • The only reason why abandoned HHs are marked (and then crossed out with an 'X') on the map is to help the team identify other randomly selected HHs.
	<p>Household Map With Numbering</p> <p>Method: Practical</p> <p>Notes: <i>Review Household Map With Numbering Handout.</i></p> <ul style="list-style-type: none"> • How many HHs are there? (59. When the map was arbitrarily numbered the Chan/ Choi HHs were mistakenly not numbered until the end. This is not a problem because all HHs on the map are numbered.) • Find the abandoned HHs. How many are there? (2) • How many HH had two HH (families) living in them? (2. Smith/Todd and Chan/Choi). • Has the church, market, and school been numbered? (No, because they are not eligible to be selected).
3 min	<p>Before Leaving the Village</p> <p>Method: Lecture</p> <p>Slide: <i>Present this slide at the end of the sampling module. If systematic random sampling is to be taught after simple random sampling present this slide then.</i></p>
16 min	Time to complete additional PowerPoint slides from module 5C that are not included in these trainer notes.

Session Code: 5D	Session Title: Systematic Random Sampling	Duration: 120 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> Determine which systematic random sampling option to use. Implement correct systematic sampling procedures. 		
Materials and Equipment: Projector, flip chart, markers	Handouts: Sampling Interval Sheet Household List Map with numbering Map without numbering	

Detailed Training Notes

Trainer must ONLY teach the methods that will be used in the survey. As a result many slides must be deleted and/or altered to reflect what will take place during data collection.

For example, if simple sampling is the only method to be used in the survey then the present Section 5D, Systematic Random Sampling should NOT be taught, and vice versa.

Using a list of HH in the cluster (existing or made) or map of HH in the cluster (existing or made) are equally effective. However, systematic random sampling has been found to be more useful when HHs are in a defined geographical order such as a camp setting. It is recommended to use only one method during a survey so as not to burden the team although this is not always possible.

It is assumed that the sampling unit is HH. If the sampling unit for the survey is not HH (for example, children) alter slides accordingly.

Note that when explaining the sampling interval, please take into account the capacity of participants to round using the second decimal. If you think this may be a challenge, then adjust the slides accordingly, i.e., use only the first decimal. (If the sampling interval is 6.29, this would normally be rounded to 6.3. However, in the case that rounding is a challenge, ask participants to use 6.2 as the sampling interval).

Timing	Guidance Notes
5 min	Learning Objectives Method: Lecture Slide: <i>Adjust slide if only one systematic random sampling option will be used in the survey. List the option(s) on the slide.</i>
	Systematic Random Sampling Method: Lecture <ul style="list-style-type: none"> 'Cluster' refers to the entire village if the village is small and segmentation will NOT be performed. In villages that segmentation will occur 'cluster' refers to the segment (or two segments/clusters if the population of the village is large) that will be randomly selected.

3 min	<p>Areas to use Systematic Random Sampling Method: Lecture</p> <ul style="list-style-type: none"> Systematic random sampling is usually applied in areas where HHs are in a defined geographical order such as a camp setting or in village with the streets laid out in a grid.
5 min	<p>Steps: Systematic Random Sampling Method: Lecture <i>Note: Refer back to this slide and the previous one (with the diagram) to reinforce what is a sampling interval (SI).</i></p>
7 min	<p>Sampling Interval = 10 Method: Practical</p> <ul style="list-style-type: none"> What would the next (10th) HH number be? (97). Notice how the SI was a whole number (10). In most circumstances this will not occur. Usually the SI will be a decimal.
5 min	<p>Steps: Rounding Decimal SI Method: Lecture</p> <ul style="list-style-type: none"> These steps are put in place to ensure that every HH in the cluster has an equal chance of being selected. By rounding down the first number this will ensure that there will be enough HHs in the sample selected.
7 min	<p>Example 2 Method: Practical <i>Note: Ask team to calculate the SI ($96/14 = 6.7857$)</i></p> <ul style="list-style-type: none"> Only use one decimal number for the sampling interval. To determine that one decimal number, look at the second decimal for rounding. In this example, the sampling interval that would be used would be 6.8, since 6.7857 is rounded to 6.8. This would mean that you would round up and add 7 to select all HH after the first one.
5 min	<p>Sampling Interval = 7 Method: Practical</p> <ul style="list-style-type: none"> The SI is 6.8. The SI is always rounded down to select the random start (the first HH). HH 5 (randomly selected between 1 and 6) was selected as the first HH. The SI for all subsequent HHs is 7 because using the decimal rules, 6.8 is rounded up to 7.
7 min	<p>Example 3 Method: Practical <i>Note: Ask team to calculate the SI ($123/16 = 7.687 = 7.7$)</i></p> <ul style="list-style-type: none"> HH 3 (randomly selected between 1 and 7) was selected as the first HH. The SI for all subsequent HHs alternates between 6 and 7 (add 6, then add 7, etc.).
7 min	<p>Sampling Interval = 7 and 8 Method: Practical</p> <ul style="list-style-type: none"> The SI is 7.6. Following step 1 the number is always rounded down for the first HH. HH3 (randomly selected between 1 and 7) was selected as the first HH. The

	SI for all other subsequent HHs alternates between 7 and 8 because .6 is between .3 and .7.
15 min	<p>Survey Specific Examples Method: Practical Slide:</p> <ul style="list-style-type: none"> • <i>Adapt slide with examples that could be seen in the survey.</i> • <i>Always use the number of HHs per cluster that will be used in the survey.</i> • <i>Participants should complete the examples in groups.</i>
7 min	<p>Option 1. Have List Method: Lecture Note: <i>Refer to household list handout. Review columns: head of HH, HH address.</i></p> <ul style="list-style-type: none"> • The HH list will most likely look similar to the one shown. It could also contain HH size, only family name, children under 5, children under 18, males, females etc. • The HH list may not have the street names of addresses in order but that is not important.
	<p>Option 1. Have List: Assign Numbers Method: Lecture Note: <i>Review Arbitrarily Assigned Number column.</i></p> <ul style="list-style-type: none"> • All the HHs must be given a number to represent the HH when the HHs are randomly selected. If the HH list has not numbered the HHs the team must do so. This is used to determine the total number of ___ HHs (<i>add number of HHs based on survey</i>) in the cluster. • There are 100 HH in the Household List Handout. • SI will be determined and the first HH will be selected randomly (RNT). • Ask the village leader to help with using the RNT.
7 min	<p>2a. Do not Have List – Make List Method: Lecture</p> <ul style="list-style-type: none"> • If the village leader is new or the team leader does not have confidence that they can list every HH (family name) in the cluster than the team must walk with the village leader to each HH in the cluster to create the list. • If the cluster is under 30 HHs it can be made in one spot. • If the cluster is over 30 HHs it is recommended that the team walks around the cluster with the village leader to create the list. • After the list is created, arbitrarily number the HHs to determine the total number of HHs in the cluster. • There are 100 HHs in the Household List example. • SI will be determined and the first HH will be selected randomly (RNT). • Ask the village leader to help with using the RNT. • If there are local sensitivities surrounding family names, making a map could be a better option for selecting HHs.
5 min	<p>2b. Do not Have List – Walk Around Cluster Method: Lecture Slide: <i>4. Adjust to include any survey specific systematic sampling protocol. For example, always go up one side of the street and then back down the other.</i></p>

7 min	<p>2c. Do Not Have List – Make HH Map Method: Lecture</p> <ul style="list-style-type: none"> • Creating a HH map is a good tool to use or create if cluster boundaries are well defined and a village leader is not available. • A HH map can also be used if there are local sensitivities towards family names (creating a HH list involves asking for family name). <hr/> <p>Household Map Without Numbering Method: Lecture Note: Refer to Household Map Without Numbering Handout.</p> <ul style="list-style-type: none"> • The example is a HH map of a cluster. • The next few slides will describe how to create a cluster HH map.
10 min	<p>Mapping HH in Cluster (con't) Method: Lecture <i>Slide: Adjust point number 7 on the slide if the survey HH definition is not related to eating from the same pot.</i></p> <ul style="list-style-type: none"> • Definition of abandoned and absent HHs will be provided later on. • The only reason why abandoned HHs are marked on the map is to help the team identify other randomly selected HHs. <hr/> <p>Household Mapping (rows) Method: Practical Notes: <i>BEFORE showing this slide, ask participants to look at '5D Map rows without Numbering' handout and to number the HH starting at the top left and following the arrows.</i></p> <ul style="list-style-type: none"> • How many HHs are there? 52. <p><i>Show the slide and ask participants to look at '5D Map rows with Numbering' to check if they have numbered the HH correctly.</i></p> <hr/> <p>Household Mapping (no rows) Method: Practical Notes:</p> <ul style="list-style-type: none"> • <i>BEFORE showing this slide, ask participants to look at '5D Map no rows without Numbering' handout and to number the HH starting at the top left and following the arrows.</i> • How many HHs are there? 59. • <i>Show the slide and ask participants to look at '5D Map no rows with Numbering' to check if they have numbered the HH correctly.</i>
12 min	<p>Exercise 1: Circle HH on map (rows) Method: Practical Notes: <i>Ask participants to look at the '5D Map rows with Numbering'.</i></p> <ul style="list-style-type: none"> • What is the sampling interval? $52/12 = 4.3$ • The first HH should be selected between 1 and 4. • Subsequent HH should be selected by alternating adding 4 then 5, etc. <ul style="list-style-type: none"> • <i>Give participants 5 minutes to circle the chosen HH on their maps, and then show the following slide with the HH already circled in red.</i>

	<p>Exercise 2: Circle HH on map (not rows) Method: Practical Notes: Ask participants to look at the '5D Map no rows with Numbering'.</p> <ul style="list-style-type: none"> • What is the sampling interval? $59/12 = 4.9$ • The first HH should be selected between 1 and 4. • Subsequent HH should be selected by adding 5 to the previous HH. <p>• Give participants 5 minutes to circle the chosen HH on their maps, and then show the following slide with the HH already circled in red.</p>
3 min	<p>Before Leaving the Village Method: Lecture Note: Show this slide at the end of the sampling module.</p>
3 min	<p>Time to complete additional PowerPoint slides from module 5D that are not included in these trainer notes.</p>

Session Code: 5E Special Cases	Session Title: Special Cases	Duration: 30 min
Learning Objectives (at the end of this session participants will): <ul style="list-style-type: none"> Define a Household Correctly identify what to do in terms of HH or child selection in special cases 		
Materials and Equipment: Projector, flip chart, markers		Handouts: 5E PowerPoint slides Cluster Control Form

Detailed Training Notes Trainer must ONLY include the relevant situations that could be encountered during data collection. As a result many slides must be deleted and/or altered to reflect what will take place during data collection.

Timing	Guidance Notes
20 min	Polygamous families Method: Lecture <ul style="list-style-type: none"> For example, if all wives cook together, eat together and live under the same roof it would be 1 HH. However, if each wife has her own kitchen and prepares food for her own children, it would be considered 2 HHs.
	Compounds Method: Lecture <i>Slide: Add definition of compound that will be used for the survey and provide examples such as displaced families living in abandoned schools, many multifamily homes surrounded by gates etc.</i>
	No Children in the Household Method: Lecture <i>Slide: Adapt slide if the survey does not contain any HH related data.</i>
	Absent vs Abandoned HH Method: Lecture <ul style="list-style-type: none"> Survey teams can ask neighbours why the house is empty, but should not fill out household survey questionnaire by interviewing neighbours about the absent household. After determining the house is absent, the team should proceed to the next household according to the sampling procedure. Survey teams should return to absent households before leaving the village to see if residents are back. If not, this should be noted. If more than 5% of the households in a cluster are not found, the team should revisit the area at another time to see if they can complete the sample.
	Abandoned HH Method: Lecture <ul style="list-style-type: none"> Abandoned households should be removed from the list or map of households used for household selection at the preparatory steps (when survey team arrives in the village. Only inhabited houses should be considered in selection

	<p>procedure.</p> <ul style="list-style-type: none"> • If a team happens upon an abandoned HH during the survey (it was not removed from the list), then they should select another HH using the same sampling method being used in that village (i.e., simple or systematic).
	<p>Child with Disability Method: Lecture</p> <ul style="list-style-type: none"> • Some disabilities might not allow you to take all anthropometric measurements needed or might lead to a biased measure. For example, the weight of a child missing a limb will not be very meaningful when comparing it with the standard population.
	<p>Child in a Center/Institution Method: Lecture</p> <ul style="list-style-type: none"> • Since some health/feeding centers might be too far from survey areas, SMART recommends NOT to go and measure children in health centers because a bias might be introduced in the survey.
	<p>Cluster Control Form Method: Lecture Slide: <i>Adapt the cluster control form identifier variables as needed to reflect the survey area (province, district, and village/camp).</i> Note:</p> <ul style="list-style-type: none"> • <i>Ask participants to take out their Cluster Control Forms and remind them how and when the Cluster Control Form should be used.</i> • <i>Comments section can include notes on an absent households, whether a child had a physical disability, whether a child was measured opposite to protocol (can be verified with the questionnaire afterwards), etc.</i>
10 min	Time to complete additional PowerPoint slides from module 5E that are not included in these trainer notes.

Module 6: Mortality and Demography

Session Code: 6	Session Title: Mortality and Demography	Duration: 2 hour 15 min
Learning Objectives (at the end of this session participants will):		
<ul style="list-style-type: none"> Execute correct mortality field procedures including; questionnaire and interview techniques 		
Materials and Equipment: Projector, flip chart, markers	Handouts: Module 6 PowerPoint Slides Mortality Questionnaire (2 per person) Mortality Section A,B,C Scenarios Mortality Exercise 1 Mortality Exercise 2 Scenario 1 Mortality Exercise 2 Scenario 2	

Detailed Training Notes

- This session is only included if the survey will collect mortality and demography data.
- It is very important that participants are given extra time during the training to practice performing mortality questionnaire interviews.

Timing	Guidance Notes
5 min	<p>General Mortality Survey Information Method: Lecture Slide: Adapt to include general who, what, when, where, why information. The slide does not have to be in a question format. Note: The team leader is recommended to conduct the interview whenever possible.</p>
3 min	<p>Mortality Household Definition Method: Lecture Slide:</p> <ul style="list-style-type: none"> The common definition used for Mortality and Demography surveys is: Individuals who usually eat from the same pot and sleep in the same household. Adapt slide if the definition used for the survey is not the same. <p>Note:</p> <ul style="list-style-type: none"> The mortality questionnaire household definition on occasion may be slightly different than the anthropometric questionnaire household definition. This is fine but any changes must be explained to the participants.
	<p>Household Selection Method: Lecture Slide:</p> <ul style="list-style-type: none"> Include the method that will be used to determine household selection. If the anthropometric survey and mortality survey are to be administered at the same selected HHs then this slide can be deleted. Anthropometry and mortality surveys will require different numbers of HHs for the sample size. If the required number of HHs is somewhat similar, choose the

5 min	<p><i>higher number. If the required number of HHs is very different then a decision will have to be made. For example if a mortality survey HH size is 800 and an anthropometric survey HH sample size is 400 then anthropometry would only be included at every second HH. Adjust slide accordingly.</i></p> <p>Main Indicators Method: Lecture</p> <ul style="list-style-type: none"> • Crude Death Rate and Under Five Death Rate are the two main indicators used for the mortality survey. Each indicator has its own formula made up of several components.
3 min	<p>Demography & Mortality Questionnaire Method: Lecture Slide: SMART recommends to use the Mortality Questionnaire provided. If the Mortality Questionnaire used for the survey is different from the one provided adapt slides to include the version that will be used in the survey. Note: Very briefly point out the different sections and column names. They will be discussed in more detail below.</p> <ul style="list-style-type: none"> • This is an example of the Mortality Questionnaire. • It is recommended to give the Mortality Questionnaire after the introduction has been read and before the Anthropometric/ Nutrition questionnaire. If however, mortality is a sensitive topic in the area, the Mortality Questionnaire can be given after the Anthropometric/ Nutrition questionnaire.
3 min	<p>Mortality Interview Steps Method: Lecture</p> <ul style="list-style-type: none"> • The respondent will be someone that knows all of the current HH information. In some contexts this may not be the head of HH. For example, in polygamous societies questioning wives rather than the head of HH may result in more accurate information. • Same wording is used by all teams in order to standardize the way the questions are being asked. • It is also important to ask probing questions (recap/repeat back to them the list) to make sure all people in the household during the recall period are accounted for.
3 min	<p>Three Mortality Sections Method: Lecture Slide: Fill in the date/event of the start of the recall period for your survey.</p> <ul style="list-style-type: none"> • The responses from these three section provide a lot of the information to be entered into the crude death rate and under five death rate formulas. A) People slept in the HH last night refers to the night before the team conducted the interview at the specific HH during the data collection period.
	<p>Section A: Procedure Method: Lecture/Practical Note:</p> <ul style="list-style-type: none"> • Refer to Mortality Questionnaire handout. • After teaching this slide, ask all participants members to look at Mortality Section A, B, C Scenarios (Section A) handout and fill in the mortality questionnaire handout.

15 min	<ul style="list-style-type: none"> Names: are not mandatory. Names can be used to verify all the people in the section when the interviewer repeats the responses given by the respondent. Age: A lot of time spent on determining the age of older people is not needed. However, it is very important to have accurate age (years) for all children under 5. Age should be recorded in completed years. A child that is 8 months old is listed as 0 years. A child that is 14 months old is listed as 1 year. Marking a 'Y' will indicate that they joined after the start date of the recall period.
10 min	<p>Section A: Examples Method: Practical Notes: Review answers with participants and answer any questions.</p>
10 min	<p>Section B: Procedure Method: Lecture/ Practical Note:</p> <ul style="list-style-type: none"> After teaching this slide, ask all participants members to look at Mortality Section A, B, C Scenarios (Section B) handout and fill in the mortality questionnaire handout Marking a 'Y' will indicate that they joined after the start date of the recall period. The Column for left (column 6) has been prefilled with the letter 'Y'. Do not write anything in Column 6.
5 min	<p>Section B: Examples Method: Lecture Notes: Review answers with participants and answer any questions.</p>
5 min	<p>Section C: Procedure Method: Lecture Slide: Add the following if the survey is collecting cause of death.</p> <ul style="list-style-type: none"> Indicate the cause of death (9) and location of death (10) using the codes provided in the questionnaire for everyone listed as died in Section C. Marking a 'Y' will indicate that they joined after the start date of the recall period.
3 min	<p>Section C: Capturing Newborn deaths Method: Lecture</p> <ul style="list-style-type: none"> Capturing all deaths is the most import part of the mortality questionnaire. Given most mortality survey sample sizes, in most contexts there will only a few deaths (10-20 max) in a survey. Failing to capture just a few deaths has a big impact on the mortality rate. Neonatal deaths are often not captured. Children who died shortly after birth (and maybe were not named, were not baptised, etc.) are not counted by some societies as a death. Train the participants to probe well. Ask about people that were pregnant in the household at the beginning of the recall period. Exercise diligence to understand barriers and taboos around deaths. Where HH size is tied to rations, people may be reluctant to report deaths. In

	<p>these settings, understand the context and be sure people understand what you are aiming to do (measure mortality) and what you are not aiming to do (take away rations).</p>
10 min	<p>Section C: Challenges In Determining Deaths Method: Lecture/ Practical <i>Note: After teaching this slide, ask all participants members to look at Mortality Section A, B, C Scenarios (Section C) handout and fill in the Mortality Questionnaire Handout.</i></p> <ul style="list-style-type: none"> • Some of these errors can occur particularly during the interview when measuring mortality. • These errors are not under the control of the survey team members but they should be aware of them. • <i>Poor recall of deaths:</i> Respondents often fail to recall all deaths during a given recall period. Infant deaths, in particular those within a short time after birth, are particularly under-reported. If families have been separated because of insecurity, it is possible that they do not know whether or not someone is alive or dead. • <i>“Calendar” error:</i> Respondents may report events as happening within the recall period when they did not (or vice versa) due to lack of clarity about dates. • <i>Determining age:</i> Respondents may round ages to a number ending in a 0 or 5. This is a particular problem with age-specific death rates. • <i>Sensitivity/taboo about death:</i> In general, the death of a household member is not a subject discussed readily with a stranger. In some cultures, taboos about death may make asking questions about deaths a problem (mortality will be underestimated). • <i>Deliberate misleading/manipulation of information:</i> In some populations, with experience of relief operations, some of the respondents may deliberately give incorrect answers in the expectation of continuing or increased aid (mortality will be overestimated).
5 min	<p>Section C: Examples Method: Lecture <i>Review answer with participants and answer any questions.</i></p>
	<p>Review of Key Information Method: Lecture</p> <ul style="list-style-type: none"> • Section A is the End of Recall Period. • Section B is the Beginning of Recall Period. • Section C relates to any individual that was a HH member at any point during the recall period and has since died. • Person 1 is a member of the household for the full recall period. • Person 2 moves into the household during the recall and is currently a HH member. • Person 3 was born during the recall period and is currently a HH member. • Person 4 is a member of the household at the beginning of the recall period but moves out at some point during the recall period. • Person 5 is a member of the household at the beginning of the recall period but dies during the recall period.

7 min	<ul style="list-style-type: none"> Person 6 was born and was a HH member at some point during the recall period. Unfortunately the baby passed away.
15 min	<p>Exercise: 1 Method: Practical <i>Note: Groups can use the Mortality questionnaire distributed at the beginning of the session to write on.</i></p>
	<p>Exercise 1: Scenarios Method: Lecture <i>Notes: Review all scenarios with the participants and then hand out the Exercise 1 Scenarios (Questionnaire) answer sheet and answer any questions.</i></p> <ul style="list-style-type: none"> Oscar: Included Section A, column 5 blank. He had been away for most of the recall period could put 'Y' in column 5. Louise: Included Section B, column 5 'Y'. She migrated out of the HH (section B) and did so after the start of the recall period. Even though Louise was not present at the start of the recall period or at the end of the recall period, she is still included because it is assumed that she meets the HH definition and she stayed in the HH for the majority of the recall period. John: Included section C, column 5 'Y'. For section C (deaths) the only requirement is that the person has slept in the HH at any point during the recall period. Kim: Included Section A, column 5 blank. Kim's baby: not included. Stillborn death.
15 min	<p>Exercise 2: Mock mortality interview Method: Role Play Note:</p> <ul style="list-style-type: none"> <i>If only the team leaders will be performing the mortality interviews the other team members could practice another skill (such as measurements) while the team leaders are performing this exercise.</i> <i>This exercise can be used as additional practice for the participants. The mock interviews should not be performed until the participants fully understand Exercise 1.</i> <i>Provide each group of two, two blank mortality questionnaires as well as Mortality Exercise 2 Scenario 1 and 2.</i> The primary focus of this exercise is for the team leaders to improve their mortality questionnaire interview skills and to include all relevant people in the mortality survey. For example, remembering to include all children in the mortality survey (not just 6-59) as well as including HH members that are not present at the time of the interview.
13 min	Time to complete additional PowerPoint slides from module 6 that are not included in these trainer notes.

SECTION 3: HANDOUTS

All handouts have been created to accompany the Trainer Notes and PowerPoint slides for a specific section.

Session Code	Handout
2A	Cluster Control Form
2B	Event Calendar Example
3F	WHO Reference Tables (Girls 0-24 months)
3F	Referral Form
4A	Standardisation Test Form
5B	Random Number Table Procedure
5B	Random Number Table
5B	Segment Selection PPS Table
5C	Household List
5C	Map with Numbering
5C	Map without Numbering
5D	Household List
5D	Map No Rows with Numbering
5D	Map No Rows without Numbering
5D	Map Rows with Numbering
5D	Map Rows without Numbering
5D	Sampling Interval Table
5E	Cluster Control Form
6	Mortality Exercise 1 Answers
6	Mortality Exercise 2 Scenario 1
6	Mortality Exercise 2 Scenario 2
6	Mortality Questionnaire
6	Mortality Section, A,B,C Scenarios

SECTION 4: RESOURCES

Resources materials can be found in the Resource folder for the specific module. They are not required for teaching the modules with the exception of *4C Data Entry* which is required to teach that session.

Session Code	Resource
3F	How to Use WHO WFH Reference Tables
3F	WHO Reference Tables (Boys 0-24M)
3F	WHO Reference Tables (Boys 24-60M)
3F	WHO Reference Tables (Girls 24-60M)
3F	WHO Z-score Field Table
4	Data Entry Trainer Notes
4	Reference Measurement Form (for Standardisation Test)