

Introduction to the KPC Survey

Trainer's Guide

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The **CORE Group**, a membership association of international nongovernmental organizations (NGOs) registered in the United States, promotes and improves the health and well being of women and children in developing countries through collaborative NGO action and learning. CORE's *Monitoring and Evaluation Working Group* develops tools and trainings to increase child survival and health program performance and quality through the standardization of use of data, analysis, and reporting. This publication was made possible by support provided to CORE from the Bureau for Global Health, United States Agency for International Development (USAID) under cooperative agreement FAO-A-00-98-00030. This publication does not necessarily represent the views or opinion of USAID.



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Freedom from Hunger (FFH) focuses on the vital and interdependent connection between health and financial security for progress against chronic hunger and poverty. FFH works with direct service providers, technical assistance providers and NGOs to disseminate knowledge and tools tested and used on a global scale to build health and financial security for poor women, their families and communities. FFH is a CORE Group member.



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Abstract

The CORE Group's *Knowledge, Practice, Coverage (KPC) Survey Training Curriculum* provides trainer guidelines and participant handouts and resources to train field workers to carry out a KPC survey. The **KPC Trainer's Guide** includes three modules: *KPC Training Module 1: Training the Core Team*; *KPC Training Module 2: Training Supervisors and Interviewers*; and *KPC Training Module 3: Training the Post-Survey Analysis Team*. KPC Training Module 1 provides a set of learning sessions used to train the Core Team in the field to provide overall administration of the survey, including choosing the sample, preparing the survey instrument, and planning how to use results to inform program planning. KPC Training Module 2 provides a set of learning sessions used to train Supervisors and Interviewers in the field to choose respondents, administer the survey, and assure quality control. KPC Training Module 3 provides a set of learning sessions to train the Post-Survey Team to carry out data analysis, decision making based on results, and report writing.

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The CORE Group's *Knowledge, Practice, Coverage Survey Training Curriculum* includes three manuals:

1. KPC Training of Survey Trainers: Trainer's Guide and Participant's Manual and Workbook

2. KPC Survey Training: Trainer's Guides

- Module 1: Training the Core Team

- Module 2: Training Supervisors and Interviewers

- Module 3: Training the Post-Survey Analysis Team

3. KPC Survey Training: Participant's Manuals and Workbooks

- Module 1: Training the Core Team

- Module 2: Training Supervisors and Interviewers

- Module 3: Training the Post-Survey Analysis Team

ACKNOWLEDGMENTS

Private voluntary organizations (PVOs) with funding from the U.S. Agency for International Development (USAID) Child Survival and Health Grants Program have used the Knowledge, Practice, and Coverage (KPC) Survey instrument successfully to monitor and evaluate their health programs since the early 1990s. The survey was originally created by the Child Survival Support Program at Johns Hopkins University, and has subsequently been updated and revised by the Child Survival Technical Support Project (CSTS), based at ORC-Macro, and later by the CORE Monitoring and Evaluation Working Group. Numerous PVO staff have been trained in its use, and have trained many of their partner agencies.

The dream of the CORE Monitoring and Evaluation Working Group, under the leadership of the Working Group Chair, Juan Carlos Alegre, has been to institutionalize the training so that it can be more easily adapted locally and accessed by a wider audience of NGOs, consultants, training institutions and US and overseas universities. In 2001, Tom Davis, Julie Mobley and Phil Moses created a draft curriculum that was field tested with PVO field staff of several organizations in Cambodia, and repeated in 2002 with PVO Headquarters, field staff and consultants in Myrtle Beach, NC. Sandra Bertoli, David Shanklin, Jay Edison, Juan Carlos Alegre, and Sharon Tobing provided detailed feedback on how to improve this training.

The final version of the guide is due to the feedback of many people, and the special dedication and attention to detail of the following people. Bill Weiss, Tom Davis and Juan Carlos Alegre provided input into a revised table of contents. Freedom from Hunger was selected to rewrite the curriculum due to their extensive experience in the design and development of training materials in public health and adult learning. Robb Davis, Vicki Denman, Ellen Vor der Bruegge and Renee Charleston gave numerous hours to the development, writing and formatting of the curriculum. FANTA provided funding for this activity under the leadership of Bruce Cogill and coordination of Paige Harrigan. Jennifer Luna and Jay Edison representing the Child Survival Technical Support Plus Project and John Ssekamate-Ssebuliba from Makerere University led a field test at Makerere University in Uganda in 2004 that guided changes for the final draft. Ann Brownlee and Marcelo Castrillo provided detailed comments to several of the drafts to ensure its accuracy and ease of use. CORE staff Karen LeBan and Julia Ross provided input and overall support for the production of the document. Regina Doyle designed the cover.

In addition to those persons mentioned, we want to express our appreciation and gratitude to the many individuals and organizations who were not mentioned but who have used this methodology over the years and provided input into its improvement.

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HOW TO USE THIS CURRICULUM

How the Curriculum is Organized

This curriculum for training the introduction to the KPC survey contains standard symbols and fonts throughout the text that provide visual signals to help the Trainer identify: 1) key questions to ask, 2) information to transmit verbally or visually, and 3) information that is instructional only. In addition, an information box at the beginning of each learning session is designed to help the Trainer prepare to present the session. An explanation of the features of the learning sessions follows:

Learning Session Format

Each learning session begins with a:

Facilitator’s Information Box—The box at the beginning of each learning session has up to six elements in it.

1. **Purpose**—the overall purpose of the learning session.
2. **Objectives**—list of actions (what participants will do) that the steps in the learning session are constructed to accomplish.
3. **Preparation/materials**—list of actions or materials that you—the Trainer—must ensure are ready before the learning session can be presented. (For example, extra reading in the Field Guide will be listed that you, the Trainer, should complete before teaching the learning session.) Materials needed for each learning session are listed with the step in which they occur. These materials include Training Resources (TR), flip charts, and other materials. The materials are listed in the steps in which they occur. For example:

Step X:

- TR X: Title
- TR XX: Title
- Flip chart with title: XXX



Note: “TR” indicates that the content is a Training Resource in the Participant’s Manual and Workbook. You are encouraged to show the same content on a slide or overhead. The content of the Training Resources is not included in the Trainer’s Guide. Rather, an icon like the one at the right indicates which TR to use. You will be given an electronic version of all of the Training Resources so that you can create your own slide show or overheads.

4. **Time**—the estimated amount of time needed to implement all of the steps in the learning session.
5. **Steps**—a list of the steps needed to complete the learning session—the titles capture the process to be used and the content to be covered.

After the Facilitator’s Information Box you will find:

1. **Steps**—detailed instructions about how to proceed through each step. You are encouraged to adapt the suggested text to your style while assuring that all of the content is included and that the steps remain participatory and engaging. Special features for the Trainer to note include:
 - ♦ **Italics font** = instructions for the Trainer (not to be read to the trainees)
 - ♦ **Regular font** = specific information, instructions or questions for the Trainer to read or closely paraphrase for the trainees
 - ♦ **Arrow (➤)** = symbol that highlights specific questions to ask
 - ♦ **Box (□)** = special technical or summary information to share with the trainees
 - ♦ **[Square brackets]** = the “correct” answer to expect from a technical question
 - ♦ **(Parenthesis)** = additional instructions or information

HOW TO USE THIS CURRICULUM

Learner Needs Assessment (LNA)

At least two weeks prior to the training, the Trainer should prepare and ask participants to complete a Learner Needs Assessment (LNA). The completed LNA will be used by the Trainer to finalize the course design. Many trainers just assume they know what is needed in a learning event. Thus, they do not focus on the learner's needs, but on their own assumptions. The completed LNA should be used by the Trainer to fine-tune the training workshop by identifying skills and common themes that need to be addressed. Based on the LNA, the Trainer can opt to omit or modify some learning sessions or to include the optional learning session(s) to satisfy specific needs.

The LNA should be carried out through written questionnaires, interviews, focus groups, e-mail, telephone conversations, etc. When conducting an LNA, let the individuals know why you are asking the questions so they understand that their ideas and opinions are valued. Some sample questions include:

INVENTORY OF KPC SURVEY EXPERIENCE

Name: _____
E-mail: _____
Telephone #: _____

1. Have you ever implemented a standardized population based survey (KPC, KAP, etc.)? If yes, please explain the type of survey and your role in the survey process.
2. If you have completed a previous survey, did you use manual tabulation or computer tabulation? If you used computer tabulation, what statistical software did you use?
3. Have you used LQAS (Lot Quality Assurance Sampling) or Cluster Sampling for population based surveys?
4. How do you anticipate that you will be able to use the KPC Survey training?
5. What would you like to learn about the KPC training and survey process?
6. Would you be available/interested in evening sessions on specific topics related to KPC Survey methodology?
7. What else would you like us to know about you in order to help us prepare and carry out the KPC Survey Workshop?

Materials

All Training Resources are included in the Introduction to the KPC Survey Participant's Manual and Workbook. Materials needed for each learning session are listed in the preparatory instructions in each learning session. The Trainer can decide whether to use overheads, Power Point slides, and/or handouts for the Training

Resources. For all of the learning sessions, the Trainer should have available flip chart paper, markers, tape and optionally an overhead or Power Point projector and screen.

All participants will receive:

1. A Introduction to the KPC Survey Participant Manual and Workbook (red binder)
2. A Field Guide (black binder)
3. KPC 2000+ Tools (*Rapid CATCH* and Modules) (white binder)¹

The colors of the binders listed above can be changed, but using different colors for each binder helps participants quickly identify the location of materials.

Within the sample agenda, you will note two tasks that are not formal learning sessions, but are important daily activities. At the beginning of every day (except the first) there is a 15- to 30-minute Q&A or review. This Core Team workshop is very complex and potentially frustrating for participants unless they have an opportunity to ask questions for clarification. Therefore, time is reserved every morning for clarifying issues from the previous day. This time can also be used to review the homework. The Survey Trainer should consider asking the participants to conduct the general review.

At the end of every day (except the last) there is a 15-minutes period devoted to evaluating the day's activities. Trainers can use a variety of methodologies for evaluation—ask the participants to draw pictures, say one word (word association), compose songs, or work in pairs to discuss how they feel about the day's session, etc. Again, the Survey Trainer should consider asking participants to conduct the evaluations.

Prior to the Training

- Conduct the LNA with all participants before finalizing the training agenda
- Provide participants with a copy of the KPC 2000+ Tools (*Rapid CATCH* and Modules) with instructions to review this material before the first day of training
- Ask each participant to bring a calculator
- Use the attached case study or develop a case study which includes project objectives and indicators (or the Detailed Implementation Plan, population data for the project area where the KPC survey will be conducted (the name of each village or neighborhood with its population) and map of the project area.

Resources

A resources table should be set up somewhere in the room where the training is held to provide examples of both essential and “helpful” materials for managing a health project. Hard copies should be displayed, with arrangements made for either photocopies or electronic copies to be made available to participants. Materials should include Technical Reference Materials (TRM),² CSTS Crucial CS Interventions Checklist,³ Methodology and Sampling Issues for KPC Surveys, Eric Sarriot, et al.⁴ A copy of the Resource List (**TR1-3**) is included in the Participant's Manual and Workbook.

¹ Trainers should check the CSTS website (www.childsurvival.com) for the latest versions

² Available at: http://www.coregroup.org/resources/TRM_2000.pdf

³ Available at: <http://www.childsurvival.com/tools/SOTAchecklist.doc>

⁴ Available at: <http://www.childsurvival.com/kpc2000/method.doc>

Sample Agenda

Sample Agenda for Training

Session	Session Content	Time
Day 1		
1	Introduction to the KPC Survey Methodology	45 minutes
2	Purpose and Role of the KPC Survey	70 minutes
3	Role of the Key Staff in the KPC Survey Process	75 minutes
4	Identifying Information Needs and Gaps	50 minutes
5	Involving Stakeholders in KPC Survey Activities	45 minutes
6	Identifying the Target Population for the KPC Survey	15 minutes
	Daily Evaluation (Read Field Guide Chpt.5 & Modules)	330m 30 minutes
Day 2		
	Q & A Day 1 and Homework	15 minutes
7	Overview of KPC 2000+ Tools	120 minutes
8	Adapting the Generic KPC 2000+	60 minutes
9	Sampling Basics—Why Sample?	30 minutes
10	Sampling Options for KPC Surveys	50 minutes
11	Bias, Confidence Intervals and Design Effect	90 minutes
	Daily Evaluation (CI Homework + LQAS)	370m 5 minutes
Day 3		
	Q & A Day 2 and Homework	30 minutes
14	Community/Household/Informant Selection	150 minutes
18	Results Tables Design: Frequencies	30 minutes
19	Results Tables Design: Cross-Tabulation	60 minutes
21	Quality Control of Data	45 minutes
22	Developing a Data Analysis Plan	45 minutes
	Daily Evaluation (Field Guide Chpt 2)	375m 15 minutes
Day 4		
	Q & A Day 3 and Review	30 minutes
23	Finalizing Staffing Decisions	40 minutes
24	Preparations for Training Supervisors and Interviewers	120 minutes
25	Developing a Logistics Plan and Budget	45 minutes
2-6	Interviewing	120 minutes
	Daily Evaluation	370m 15 minutes
Day 5		
	Q & A and Homework	30 minutes
3-2		30 minutes
3-3	Comparing Findings with Other Surveys and Data Sources	15 minutes
3-4a	Establish Levels of Effort and Targets	45 minutes
3-4b		15 minutes
3-5	Identifying Follow-up Activities	70 minutes
	Lunch	
3-6	Writing the KPC Survey Report	30 minutes
3-7	Presenting KPC Survey Data to Community Members and Other Stakeholders	60 minutes
	Evaluation/Closing	310m 15 minutes

ACRONYMNS

CATCH	Core Assessment Tool on Child Health
CI	Confidence Interval
CORE	Collaborations and Resources Group
CS	Child Survival
CSTS	Child Survival Technical Support (Macro International)
D.E.	Design Effect
DHS	Demographic and Health Survey
DIP	Detailed Implementation Plan
EU	European Union
FG	KPC 2000+ Field Guide
GH/HIDN	Bureau for Global Health's Office of Health, Infectious Disease and Nutrition USAID
HA	Height-for-Age
HAZ	Height-for-Age Z score
KPC	Knowledge, Practice and Coverage Survey
LNA	Learner Needs Assessment
LQAS	Lot Quality Assurance Sampling
MICS	Multiple Indicator Cluster Survey
MOH	Ministry of Health
MUAC	Mid-Upper Arm Circumference
OR	Odds Ratio
PPS	Probability Proportional to Size
PVO	Private Voluntary Organization
Q&A	Question and Answer
SA	Supervision Area
SQRT	Square Root
SRS	Simple Random Sampling
TBA	Traditional Birth Attendant
TT	Tetanus Toxoid Vaccination
USAID	United States Agency for International Development
WA	Weight-for-Age
WAZ	Weight-for-Age Z score
WH	Weight-for-Height
WHZ	Weight-for-Height Z score

1: Introduction to the KPC Survey Methodology

1. Introduction to the KPC Survey Methodology

Purpose:

To orient participants to the objectives and logistical aspects of the KPC Survey Training Workshop.

Objectives:

By the end of this learning session, participants will have:

1. Engaged in an activity to welcome them to the workshop.
2. Clarified the objectives of the workshop and discussed logistical concerns.
3. Familiarized themselves with the basic materials used during the workshop.

Preparation/Materials:

Prepare a resource table with documents listed in Step 3

Step 1:

- Prepare and post a welcome sign (not provided)
- Prepare flipchart “Parking Lot”
- Participant’s Manual and Workbook (one copy for each participant)
- **TR 1-1: Workshop Objectives**

Step 2:

- Prepare **TR 1-2: Workshop Agenda**
- Prepare large banner size “Learning Map” which shows where the workshop will go throughout the week

Step 3:

- **KPC 2000+ Field Guide** (one photocopy for each participant in a [white] binder)
- **TR 1-3: Resource List**
- **TR 1-4: Case Study**

Time:

60 minutes

Steps:

1. Welcome the participants and review the workshop objectives – 5 minutes
2. Review the workshop agenda and logistics – 10 minutes
3. Introduce the planning tools and resource materials – 45 minutes

Steps

1. **Welcome the participants and review the Workshop Objectives** – 5 minutes

Give a brief welcome to the participants. Distribute the Participant’s Manual and Workbook to each of the participants and tell them that it contains all of the materials they need for the training workshop. Show them how the handouts are labeled in the Participant’s Manual.

1-1

Show and review TR 1-1: Workshop Objectives.

2. **Review the Workshop Agenda and logistics** – 10 minutes

Show TR 1-2: Workshop Agenda. Review the agenda, including lunch and breaks. Mention that homework assignments and/or optional learning sessions/activities are included for most evenings.

1-2

Clarify all plans related to logistics, including the use of a Parking Lot for recording topics which come up during the training which will be covered during an evening session or summary session on the last day. Assign participants to present a short summary of the previous day's activities on Day 2, 3, 4, & 5.

Respond to participants' questions and concerns as needed.

Review the Learning Map for the week to give participants a visual summary of what will be covered.

3. Introduce the planning tools and resource materials – 45 minutes

Distribute one copy of the KPC Survey 2000+ Field Guide to each participant. Explain that the Field Guide is the reference guide that covers the important issues and concepts related to KPC Surveys. Tell them that, throughout the workshop, you will suggest extra reading in the Field Guide. The extra reading will give them a deeper understanding of the course content.

Direct the participants to the location of the resource table. Review the documents that are listed on **TR 1-3: Resource List**. Explain:

1-3

The resources on the table and on **TR 1-3** provide additional information for a variety of topics that are covered throughout the workshop. The following materials are on the resource table:

- the Technical Reference Materials (TRM)
- CSTS Crucial Child Survival Interventions Checklist
- Demographic and Health Survey (DHS)
- LQAS Reference material

You are encouraged to review the materials on the table during the workshop. Additional resources are listed on **TR 1-3**, as is information about how to obtain copies of the various resources.

Show **TR 1-4: Case Study**. Give participants the opportunity to read through the case study. Explain:

Throughout this workshop we will be using this case study as an example for completing various exercises. Please take a few minutes to read through the case study now so that you have in mind an example of a typical maternal child health project.

1-4

Then ask:

- ◀ **What are your questions about the case study?**

Then ask:

- **What are your questions about the workshop plan or materials?**

2: Purpose and Role of the KPC Survey

2. Purpose and Role of the KPC Survey

Purpose:

To clarify the definition, purpose and role of a KPC survey in the development and management of a project; to identify steps needed to complete a KPC survey.

Objectives:

By the end of the learning session, participants will have:

1. Defined what a KPC survey is and shared experiences using the KPC survey and other survey methods.
2. Generated a list of things that can and cannot be done using a KPC survey.
3. Identified examples of levels at which change occurs and tools for measuring change.
4. Defined the role of the KPC survey in the cycle of a project.
5. Review the steps required to carry out a KPC survey.

Preparation/Materials:

Step 1: **TR 1-5: KPC Survey**

Step 2:

- Create cards using information from **TR 1-6: What a KPC Survey Can and Cannot Do**—write one point per card
- Flip chart with title: What a KPC Survey Can Do
- Flip chart with title: What a KPC Survey Cannot Do
- **TR 1-6: What a KPC Survey Can and Cannot Do**

Step 3:

- **TR 1-3: Resource List** (from Learning Session 1)

Step 4:

- **TR 1-7: KPC Survey Within the Project Cycle.**

- Extra Reading: KPC 2000+ Field Guide, pp. 1–8 and pp. 14-18

Time:

60 minutes

Steps:

1. Define the KPC Survey and share previous experiences – 10 minutes
2. Determine what a KPC survey can and cannot do – 20 minutes
3. Place the KPC survey into context with levels where change may occur – 5 minutes
4. Review a Child Survival project cycle and how the KPC survey fits into that cycle – 15 minutes
5. Review steps for a KPC survey implementation timeline – 10 minutes

Steps

1. **Define the KPC survey and share previous experiences – 10 minutes**

Explain the purpose of the learning session:

In this learning session we define what we mean by a KPC survey and explore its purpose and role. Let us first answer the question:

➤ **What is a KPC survey?**

Allow several volunteers to respond. Then make the following short presentation adjusting it to acknowledge points the participants have already contributed.

*Ask volunteers to read **TR 1-5 KPC Survey** aloud.*

1-5

The Knowledge, Practice and Coverage (KPC) 2000+ Survey is a standardized population-based survey instrument for measuring change over time in levels of knowledge, key behaviors, and coverage of important health interventions. The KPC 2000+ Survey consists of the Rapid CATCH, which forms the core of the survey and includes the basic indicators that are important to capture in any health survey. In addition, there are 15 Child Survival health-indicator areas or “modules” which are used for additional indicators. The KPC 2000+ Survey questions can be combined or modified to address the specific health interventions included in the project.

The KPC survey can be used at the beginning, at selected points during and/or at the end of a project to help define targets and evaluate project or program advancement. To conduct a KPC survey, a team is formed consisting of Interviewers, Supervisors (of the Interviewers), and the Core Team.

2. Determine what a KPC survey can and cannot do – 20 minutes

*Ask participants to put aside their Participant’s Manuals for the next task. Post the two flip charts. Divide the group into teams and give each team several of the cards drawn from **TR 1-6**.*

What a KPC Survey Can Do

What a KPC Survey Cannot Do

Tell the teams:

Let us discuss what a KPC survey can and cannot accomplish. As a team, decide if your first card describes something that a KPC survey *can* or *cannot* do. Post your card under the title “Can Do” or “Cannot Do” to reflect your team’s decision. Repeat the process for your remaining cards.

Once the teams have posted their decisions, ask:

➤ **What do you think about the placement of the cards?**

Review and discuss the placements. Adjust the cards as the group decides.

*Show **TR 1-6: What a KPC Survey Can and Cannot Do**. Say:*

These are typical recommendations for what a KPC survey can and cannot do.

1-6

2: Purpose and Role of the KPC Survey

- **What additional observations do you have about what the KPC survey can and cannot do?**

3. Place the KPC survey into context with levels where change occurs – 5 minutes

Tell the participants:

Development projects implement their activities at different “levels” to achieve their objectives. For health projects, the most common project levels are:

- PVO
- Local Partners
- Community/Individual

For example, projects working at the individual level might focus on mothers in their homes at a group meeting.

- **What are some examples of other people or groups that a project might focus on?**

Ask:

- **Which of these levels is the focus of the KPC survey?** *[Individual]*
- **Who is interviewed and why?** *[Mothers and caregivers, because the KPC survey questions generally relate to results at the individual level and focus on behavior change.]*

Explain:

The KPC survey is used to measure change only at the household level, even though your project will probably work at these other levels also. It is beyond the scope of this workshop to go into detail about tools and resources that might help us analyze project performance at the other levels. Information on additional methods can be found in **TR 1-3: Resource List**. On Day 5 other measurement methods to complement the KPC survey will be discussed.

1-3

4. Review a Child Survival (CS) project cycle and how the KPC survey fits into that cycle – 15 minutes

Refer to TR 1-7: KPC Survey Within the Project Cycle. Say:

Take a few moments to look over the diagram of a typical Child Survival project.

1-7

- **What strikes you about the general Child Survival project monitoring and evaluation activities?**

Discuss the many aspects of the project monitoring and evaluation activities:

- **When is the KPC survey used within a Child Survival project cycle?**
[Normally at baseline and final, sometimes at Mid-term. It can be accompanied by other tools both for measuring change at different levels and for monitoring change throughout the cycle.]
- **How does this compare with your experience with other types of projects?**

Give the participants a few minutes to share their experiences and ideas.

5. **Review the steps for a KPC survey implementation timeline** – 10 minutes
Refer participants to the Field Guide Page 15-16. Explain the following phases:

The Pre-Implementation Phase involves activities such as meeting with project stakeholders and local experts, assessing data needs, developing a questionnaire, designing a sampling strategy, and training Supervisors and Interviewers.

The Field Implementation Phase involves the actual collection of data in selected communities.

The Post-Implementation Phase involves tabulating and analyzing the data, disseminating findings, and using the data for decision-making.

It is estimated that the KPC Survey can be implemented—from start to finish—in 28 days.

- **Which steps of this process might take longer (or shorter) than is allowed for in this implementation timeline?**

Find out why the steps of the process mentioned might take longer. Help participants think of ways to restructure the schedule if more or less time is needed for a given step.

- **What steps of this process might be the most difficult (problematic) to carry out?**

Help participants troubleshoot how to make these problematic aspects of the process run more smoothly, if possible. Solicit ideas from the other participants.

- **What factors may alter the 28-day implementation timeline?**

Explain that this implementation timeline is used throughout the training process and firm dates will be set during a later learning session.

Suggest that participants complete the extra reading in the Field Guide, pp. 1–8, Purpose and Role of a KPC Survey, and pp. 14–18 about the phases and timeline of a KPC survey.

3: Role of the Key Staff in the KPC Survey Process

3. Role of the Key Staff in the KPC Survey Process

Purpose:

To define the roles of the key staff in the KPC Survey process.

Objectives:

By the end of this learning session, participants will have:

1. Generated a list of tasks that the Core Team, Supervisors, Interviewers and the Post-Survey Team need to accomplish to complete the KPC survey.

Preparation/Materials:

Step 1:

- **TR 1-8: Typical KPC Staffing Patterns**

Step 2:

- Four flip charts with titles: Core Team, Supervisors, Interviewers, and Post-Survey Team

Step 3:

- **TR 1-9: KPC Survey Supervisor's Role and Responsibilities**
- **TR 1-10: KPC Survey Interviewer's Role and Responsibilities**

Step 4:

- **TR 1-11: TOST Materials For Training KPC Survey Staff**

Time:

60 minutes

Steps:

1. Share experiences about staffing needs in previous survey experiences – 10 minutes
2. Identify roles for the four principal teams – 20 minutes
3. Review Job Descriptions for Supervisors and Interviewers – 20 minutes
4. Provide information about the overall TOST Training – 10 minutes

Steps

1. **Share experiences about staffing needs in previous survey experiences – 10 minutes**

Introduce the purpose of the learning session:

It is important to define the roles of the key staff in the KPC survey process.

- **What types of staff are needed to conduct a KPC survey?**

Refer participants to TR 1-8: Typical KPC Staffing Patterns. Ask:

- **What are the main roles of each of the principal teams?**

1-8

2. **Identify roles for the four principal teams – 20 minutes**

Post the four flip charts:

3: Role of the Key Staff in the KPC Survey Process



Brainstorm to develop a list of tasks or roles for which your assigned staff type is responsible. Let us practice with some examples. As I read each card, tell me where I should place it. The first role is:

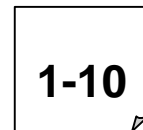
- Selects Supervisors and Interviewers
- Interviews mothers
- Meets with community leaders
- Writes survey report

Remember to include roles involving analysis. Pay particular attention to the roles of the Core Team, making sure they include:

- Plans the survey
- Develops the timeline for KPC survey planning, implementation and analysis
- Designs the KPC Survey Questionnaire
- Selects the sampling method and write the sampling protocol
- Develops the Data Analysis Plan
- Develops the Logistics/Management Plan and Budget
- Selects and train survey personnel: Supervisors, Interviewers, Data Entry Team
- Manages data and quality control
- Oversees the survey

3. Review Job Descriptions for Supervisors and Interviewers -20 minutes

Ask participants to silently read TR 1-9 KPC Survey Supervisor's Role and Responsibilities and TR 1-10 KPC Survey Interviewer's Role and Responsibilities

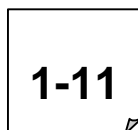


3: Role of the Key Staff in the KPC Survey Process

◀ **What are your questions about the possible roles of Supervisors and Interviews within the KPC Survey process?**

4. **Provide information about the overall TOST Training-** 10 minutes

*Have participants review **TR 1-11: TOST Materials For Training KPC Survey Staff**. Explain that the entire package of materials can be downloaded from the Internet and is on **TR 1-3 Resources***



4. Identifying Information Needs and Gaps

Purpose:

To determine the information needs prior to beginning a KPC survey and to consider additional information sources and research methods to fill the gaps.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed ways to determine information needs and gaps.
2. Reviewed their own information needs and gaps and completed a summary form.
3. Identified needs for formative research.

Preparation/Materials:

Step 2:

- **TR 1-12: Examples of Qualitative Research Techniques**
- **TR 1-13: Use of Qualitative Research in KPC Surveys**

Time:

40 minutes

Steps:

1. Present the information needs concepts – 15 minutes
2. Identify qualitative research needs – 25 minutes

Steps**1. Present the information needs concepts – 15 minutes**

Explain that the purpose of the learning session is to present the pre-KPC survey information-gathering methods. Say:

In this learning session, the pre-KPC survey information needs are assessed and methods to fill the information gaps are reviewed. To begin, please read Chapter 3 pp. 27-31 in the Field Guide. Underline any points of special importance and/or items that need clarification.

After the participants read the pages, ask several volunteers to share what they highlighted and involve the group in clarifying questions. Summarize with the following:

Designing the KPC Survey for the Local Context

Some critical information is necessary in order to design the KPC survey as effectively and efficiently as possible. Due to budgetary constraints, it is important to collect only information that is essential to project management and not available from other sources. Each project should be aware of other sources of information within the country or project zone.

Sometimes information becomes more useful if it can be compared to national sources. For example, you may want to compare vaccination rates within the project area with vaccination

4: Identifying Information Needs and Gaps

rates on a national or regional level. We will use some national sources after the KPC survey is completed to make comparisons with our results.

It is also important to adapt the KPC survey to local needs and to focus the survey on the correct target population. Formative research is helpful to adapt the KPC locally, using qualitative methods to obtain local information on common practices, vocabulary, cultural beliefs and care-seeking behavior.

2. Identify qualitative research needs – 25 minutes

Refer to **TR 1-12: Examples of Qualitative Research Techniques**. Say:

The KPC survey cannot provide rich descriptions of “WHY” certain behaviors are practiced, or of constraints to behavior change. Such information is better collected via qualitative data collection approaches. Qualitative research can be very helpful in filling information gaps. **TR 1-12: Examples of Qualitative Research Techniques** contains some examples of qualitative research techniques.

1-12

Quickly review the list. Ask participants to make additions to the list. Then ask:

➤ **What experience have any of you had with any of these techniques?**

Refer participants to **TR 1-13: Use of Qualitative Research in KPC Surveys**. Briefly summarize and discuss the information in **TR 1-13**. Ask for additions and clarifications, as needed. Ask:

1-13

Summarize the learning session by reminding participants that they will be working with project indicators and population from the Case Study during the rest of the learning sessions. Tell participants that they will return to the topic of qualitative research during the last day of the workshop to look at the use of qualitative techniques to explain the “How” and “Why” of behavior.

5. Involving Stakeholders in KPC Survey Activities

Purpose:

To improve the value of the KPC survey process by making it participatory and to help participants understand how they can involve stakeholders in the KPC Survey.

Objectives:

By the end of this learning session, participants will have:

1. Defined the term “stakeholder.”
2. Analyzed a story to determine how stakeholders can be involved in the KPC survey process.

Preparation/Materials:

Step 2:

- Ask a participant whom you think would be a good storyteller to read **TR 1-15: The Very Efficient FAST KPC**. Ask the participant to prepare to read the story to the other participants during the learning session. Remind the participant to read the story in a clear voice, with emotion, and to make changes in voice intonation, etc.
- **TR 1-14: Involvement of Local Stakeholders in the KPC Survey**
- Flip chart with title: Involvement of Local Stakeholders in the KPC Survey
- **TR 1-15: The Very Efficient FAST KPC**

Step 3:

- **TR 1-16: Ways to Involve Stakeholders in the KPC Survey Process**
- Extra Reading: KPC 2000+ Field Guide, pp. 19–21

Time:

45 minutes

Steps:

1. Define the term “stakeholder” – 2 minutes
2. Analyze a story – 18 minutes
3. Define opportunities to involve stakeholders – 25 minutes

Steps

1. **Define the term “stakeholder”** – 2 minutes

Explain the purpose of the learning session:

We are going to discuss why it is important to involve stakeholders in the KPC Survey process. Let us begin by answering the question:

- **What is a “stakeholder?”** [Any person who is affected by or has an interest in the project. They have a “stake” in the process and progress.]

2. **Analyze a story** – 18 minutes

Refer to TR 1-14: Involvement of Local Stakeholders in the KPC Survey and post the

1-14

5: Involving Stakeholders in KPC Survey

flip chart titled, Involvement of Local Stakeholders in the KPC Survey. Explain:

Involvement of Local Stakeholders in the KPC Survey

A volunteer is going to read the story in **TR 1-15: The Very Efficient FAST KPC**. As you listen, record on your copy of **TR 1-14** all of the local stakeholders and how they are involved in the process. We will review your answers after the story.

1-15

Ask the volunteer to read the story.

3. Define opportunities to involve stakeholders – 25 minutes

Ask participants the following question about the story:

- **How did the staff involve local stakeholders in the KPC survey process?**

Write brief summaries of participants' answers in the appropriate categories on the Involvement of Local Stakeholders in the KPC Survey flip chart. Probe for the ways in which stakeholders were involved.

*Refer participants to **TR 1-16: Ways to Involve Stakeholders in the KPC Survey Process**. Briefly highlight any relevant points that were not mentioned in the analysis of the story.*

1-16

Ask:

- **What consequences can result from failure to coordinate with stakeholders?**

After a few responses, ask:

- **How can we learn from the mistakes in the story and involve the stakeholders more appropriately in the KPC survey process?**

Suggest that participants read the Field Guide, pp. 19–20 about making the KPC survey process participatory.

6. Identifying the Target Population for the KPC Survey

Purpose:

To identify the target group to interview for the KPC survey.

Objectives:

By the end of this learning session, participants will have:

1. Explored alternatives for target groups.
2. Selected the KPC survey target group and recorded the decision on their Critical Decision Points record sheet.

Preparation/Materials:

- Homework assignment: read the KPC 2000+ Field Guide, Chapter 5; pp.37–78

Time:

30 minutes

Steps:

1. Explore target group options for the KPC survey – 15 minutes
2. Determine the target group for the KPC survey – 15 minutes

Steps

1. Explore target group options for the KPC survey – 15 minutes

*Explain that the focus of the next few learning sessions is on adapting the **KPC Survey Questionnaire** to the local situation. Say:*

The next set of activities focuses on:

- “Who” should be targeted in the KPC survey
- “What” should specifically be included in the KPC Survey Questionnaire

Though these are interrelated, we are going to first consider them separately. Then we will bring the “Who” and the “What” together as we finalize the questionnaire.

Historically, the typical KPC survey targets mothers of children under two years of age. Recently, some PVOs have expanded the “who” of their surveys—e.g., projects with a tuberculosis or HIV/AIDS component. Much of the information we need from alternative groups can come from qualitative research and other information-gathering methods. Remember that for each additional group, a distinct questionnaire is usually needed. Later, we will discuss sampling methodologies that allow targeting of different respondent groups.

2. Determine the target group for the KPC survey – 15 minutes

Ask participants what the target group would be if they were working in child health, maternal health, reproductive health, TB or HIV/AIDS. Target populations should be discussed for each of these interventions.

6: Identifying the Target Population for the KPC Survey

For Child Health projects target the under 5 population for activities, but measure children under two years of age because this is the group that will show the most change as a result of a four or five year project. In this case there is a difference in target population for project interventions and target population for measurement. If maternal health or reproductive health is included the project should interview women age 15-49. For TB adults are targeted. HIV/AIDS may require different target populations for interviews depending on the interventions. For example, if youth are targeted for HIV/AIDS interventions, they should be interviewed.

In the next few days, we are going to discuss how to analyze the data from the KPC survey and how to compare the health outcomes of subgroups of the population to see if they differ. We could probably define many such subgroups but we should define only a very limited number of subgroups that we think are really important. These could be urban versus rural or younger versus older mothers.

Tomorrow we will begin working on the topic of Sampling, so please use your time this evening to read the KPC 2000+ Field Guide, Chapter 5, pp.37–78.

7. Overview of KPC 2000+ Tools

Purpose:

To orient participants to the KPC 2000+ Rapid CATCH and 15 Survey Modules and how to use them.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed the KPC 2000+ Rapid CATCH and Survey Modules to determine their relevance to the project.
2. Identified the types of questions used in the Rapid CATCH and the process for asking the questions.
3. Matched project indicators with Rapid CATCH and optional survey modules.

Preparation/Materials:

- All participants should have received a copy of the KPC 2000+ Rapid CATCH and the 15 survey modules on Day 1.

Step 1:

- **TR 1-17: KPC Survey Tools—Content Overview**

Step 2:

- **TR 1-18: KPC Rapid CATCH Question Categories**

Step 3:

- **TR 1-19: Content of the 15 KPC 2000+ Modules**
- **TR 1-20: KPC 2000+ Module Selection Sheet**

- Extra Reading: KPC 2000+ Field Guide, pp. 10–13

Time:

80 minutes

Steps:

1. Introduce the KPC 2000+ tools – 15 minutes
2. Categorize the KPC Rapid CATCH questions – 20 minutes
3. Determine the extent to which the KPC 2000+ modules are used – 40 minutes
4. Summarize the learning session – 5 minutes

Steps

1. Introduce the KPC 2000+ tools – 15 minutes

Explain the purpose of the learning session:

This learning session focuses on preparing to design the *KPC Survey Questionnaire*. Before we look at the overall process for developing the questionnaire, let us review the kinds of questions that are typically included in *KPC Survey Questionnaires*. This brings us back to the question of “what” will be in the survey. We are not going to talk about interviewing techniques at this point, but rather concentrate on the types of questions used and the types of responses solicited by those questions.

7. Overview of KPC 2000+ Tools

Ask how many of the participants had the opportunity to review the Rapid CATCH files that they received prior to the workshop. Refer to **TR 1-17: KPC Survey Tools—Content Overview**. Say:

1-17

Quickly look over **TR 1-17: KPC Survey Tools—Content Overview**. It contains summary information about the Rapid CATCH and the KPC 2000+ tools. As you can see, the sets of questions are related and reinforce each other. We are going to examine them separately. First, let us review the Rapid CATCH materials.

Make the following presentation:

KPC Survey and Rapid CATCH

The answers to the KPC survey questions allow the project implementers to:

- gather information about current knowledge levels
- understand what portion of respondents are exhibiting the desired key behaviors/practices
- gather information about coverage rates (e.g., for vaccines and vitamin A)

The Rapid CATCH should be the starting point for a **KPC Survey Questionnaire**. It is a subset of 26 important questions taken from the KPC 2000+ modules. It yields 13 key child health indicators. It is strongly suggested that all Rapid CATCH questions—even those related to issues not addressed in a specific project—be included in your **KPC Survey Questionnaire**. They provide critical information on life-saving household behaviors and care-seeking patterns that affect the health and survival of children worldwide.

Ask the participants to open their **KPC 2000+ Tools to the Rapid CATCH** document. Read the first box on p. 1. Have participants take turns reading aloud the questions and information in the gray boxes. After each section (1–5, 6–7, 8–10, 11–13, 14–16, 17–19, 20–23, 24–25, 26) make sure that everyone understands the rationale for the questions. Clarify any questions.

2. Categorize the KPC Rapid CATCH questions – 20 minutes

Refer participants to their copy of **TR 1-18**. Ask participants to brainstorm on examples from each category. Use the case study as an example of project objectives.

1-18

KPC Rapid CATCH Question Categories	
Question Category	Numbers of the Questions
Measures Knowledge (K)	16, 20, 24, 25
Measures Practice (P)	8, 10, 11, 12, 13, 14, 17, 18, 19, 22, 23, 26
Measures Coverage (C)	8, 9, 15, 21
Measures Socio-Economic Status	None (Education indirectly)
Has a “skip” or “jump”	6, 8, 11, 14, 17, 21, 24
Measures Attitude	None
Has a multiple-choice answer	9, 10, 12, 18, 20, 21, 22, 23, 25, 26
Has a “Yes” or “No” answer	6, 8, 11, 16, 17, 19, 24
Corresponds to a project indicator	Depends on project

Ask participants the following questions:

- **What did you notice about the types of questions used in the Rapid CATCH questionnaire?** *[All of the questions can be answered rapidly. There are no long, descriptive answers solicited. This is a quantitative survey. The data can be analyzed relatively quickly in order to write the Detailed Implementation Plan (DIP) and make programmatic decisions. The questionnaire is structured to be completed quickly and efficiently. The interview should take about 20 to 30 minutes, and no more than 45 minutes.]*
- **Would an interviewer ask all of the questions listed in the questionnaire? Why or Why not?** *[No, there are “jumps” or “skips” in this questionnaire so that parts are skipped depending on the respondent’s answers. A key part of the Supervisor’s role is assuring that this skipping is performed properly.]*
- **What do you notice about questions that have multiple-choice answers?** *[Some questions allow for multiple choices, and others expect one answer only. For some multiple-choice questions, the respondent hears the possible answers (e.g., “more than usual, the same amount, or less than usual”). For other questions, no possible responses are provided and the interviewer has to mark down the answer that was given, in a category or under “other.”]*

Tell participants the following:

Notice that there are no questions about the respondents’ socioeconomic status. KPC surveys are intended to measure things that are expected to change measurably over the life of a project. Socioeconomic status usually does not change very rapidly and change in status is usually not a health objective. Very little information is included on socioeconomic status (e.g., type of roof, floors, etc.). The KPC survey is primarily for measuring changes in results, not for describing a situation.]

7. Overview of KPC 2000+ Tools

- **What can you say about questions related to measuring knowledge?** *[There are few questions that measure knowledge. The questionnaire focuses on behaviors and practices and, to a lesser extent, on knowledge. This is because there is more interest in how people’s practices change than in how their knowledge changes.]*

Tell participants:

Notice there are no questions about attitudes here. Questions about attitudes are best answered using qualitative methods such as focus group discussions. Also, the **KPC Survey Questionnaire** is not intended to fully answer “why” type questions (e.g., “why don’t mothers use family planning”). Qualitative methods also do this better.

- **How well does this questionnaire meet the need to evaluate project indicators?** *[Only in part—which is why the KPC 2000+ modules were developed. The Rapid CATCH only serves as the skeleton of a good KPC Survey Questionnaire.]*

Remind participants:

In this step, the focus was on the process of building the questionnaire by looking at potential content. In the next step, the focus is more on actual content, to assure that your draft questionnaires capture the “what” specified by project indicators/objectives and the “who” targeted by those indicators.

3. Determine the extent to which the KPC 2000+ modules are used – 40 minutes

*Ask participants to open their binder to the KPC 2000+ 15 Modules. Refer to **TR 1-19: Content of the 15 KPC 2000+ Modules**. Explain:*

1-19

The KPC 2000+ survey questions are categorized into 15 modules that each cover a different Child Survival intervention area. **TR 1-19** gives a general overview of the topics and the number of questions devoted to each.

Ask participants to review the modules and write down the main components (sections not topics) of each module. After all of the participants review the modules, list their ideas on the flip chart:

KPC 2000+ Module Components

Add any of the following points that are not mentioned:

- Interviewer instructions (purpose, skip patterns)
- Basic tabulation plan with key indicators
- Examples of questions/themes that can be explored using qualitative research
- References on other quantitative research questions
- Occasional footnotes also contain useful information for adapting the survey

Discuss and clarify any questions. Mention that tabulating will be discussed in a later learning session about manual tabulation and the section on qualitative research will be covered during the Post-Survey Team training.

*Refer participants to **TR 1-20: KPC 2000+ Module Selection Sheet**. Explain:*

1-20

The Module Selection Sheet is a list of all 15 of the KPC 2000+ modules. Notice the “Yes,” “No” and “Maybe” columns. Your assignment is to review the **TR 1-20** list and decide if the main topic from each module should be included in a KPC Survey Questionnaire based on the case study.

“Tick” (or “X”) the “Yes,” “No” or “Maybe” column to record your answers.

Wait until participants have reached consensus on the categorization and ask them to report their results.

4. Summarize the learning session – 5 minutes

To close the learning session, review the following points:

Tips on Adapting the KPC Survey Questions

- Organizations are advised to use only those questions from the modules that reflect the activities, objectives and context in which they are working.
- Questions can and should be modified to fit the local culture and environment, but do not reword questions unless it is necessary.
- Always BALANCE the desire to add questions with the need to keep the interview short. Remember that adding 5 minutes to the questionnaire x 300 questionnaires = 25 extra hours of work. Mothers tend to lose interest when interviews become too long. The entire KPC survey interview should take (on average) less than 45 minutes; however, 20 to 30 minutes is best.
- Answers given to questions should help to make useful program design and management decisions, not answer all of your questions about your target population.

Respond to questions or points that need clarification. Encourage participants to read pp. 10–13 of the Field Guide about the KPC 2000+ tools.

8. Adapting the Generic KPC 2000+

Purpose:

To adapt the generic KPC 2000+ tools, learn the steps in the adaptation process and review a draft questionnaire.

Objectives:

By the end of this learning session, participants will have:

1. Explained the steps needed to design a questionnaire using the KPC 2000+ Rapid CATCH and modules.
2. Compared project indicators to Rapid CATCH indicators and modules.
3. Completed a data collection chart.
4. Carefully considered adding new questions.

Preparation/Materials:

Step 1:

- **TR 1-21: Building the KPC Survey Questionnaire**
- **TR 1-22: Project Indicators Compared with KPC 2000+ Tools**

Step 2:

- **TR 1-23: KPC 2000+ Rapid CATCH Indicators**
- **TR 1-20: KPC 2000+ Module Selection Sheet** (from Learning Session 7)

Step 4:

- **TR 1-24: So You Want to Add a Question?**

- Extra Reading: KPC 2000+ Field Guide, pp. 34–36

Time:

60 minutes

Steps:

1. Explain the steps used to develop questionnaires – 5 minutes
2. Match project indicators with Rapid CATCH indicators – 25 minutes
3. Add additional questions – 15 minutes
4. Specify numerators and denominators for all indicators – 15 minutes

Steps

1. Explain the steps used to develop questionnaires – 5 minutes

*Explain that the purpose of this learning session is to understand how to draft the KPC Survey Questionnaire. Refer participants to **TR 1-21: Building the KPC Survey Questionnaire**. Explain the basic steps of questionnaire design using background information from pp. 34–36 of the Field Guide.*

1-21

*Invite comments and questions from the participants. Refer to **TR 1-22: Project Indicators Compared with KPC 2000+ Tools**. Explain:*

1-22

We are going to use **TR 1-22: Project Indicators Compared with KPC 2000+**

Tools for the next few steps.

2. Match project indicators with Rapid CATCH indicators – 25 minutes

1-23

Refer participants to **TR 1-23: KPC 2000+ Rapid CATCH Indicators**. Review the features of **TR 1-23**, including the calculation of the [numerators divided by the denominators] x 100 to get the percentage for each indicator. Ask:

Look at the indicators in the case study and decide:

- **Which of the project indicators can be measured by Rapid CATCH indicators?**

As participants respond to this question, have them place a checkmark in the “Rapid CATCH” column on the comparison sheet for those project indicators that can be measured by Rapid CATCH indicators.

Look at **TR 1-20: KPC 2000+ Module Selection Sheet** from the previous learning session and decide:

1-20

- **Which of the project indicators can be measured by questions from the modules selected as “YES” in the previous learning session?**

Write the number of the module in the “Module Number” column on the **TR 1-22** for those indicators.

Look again at **TR 1-20** and decide:

- **Can any of the project indicators be measured by questions from the modules selected as “MAYBE” in the previous learning session?**

Write the number of the module in the “Module Number” column on **TR 1-22** for those indicators.

Try to use the standard wording of the indicators listed in the Rapid CATCH and the KPC 2000+ modules. These have been intensively reviewed and tested, are promoted by CSTS and CORE and have been used by many organizations successfully. Common use of indicators promotes comparison of information among organizations.

Underscore the importance of having project indicators that are clear and reflect well the objectives and work of the organization. Decide if project objectives focus on the most important health problems that the project is able to change. Project objectives should be clear and achievement of the objectives should be measured by the project’s indicators. Make sure that all indicators are essential to the management of the project. Determine what you really need to know and limit the number of indicators you collect using the KPC. There are many other tools—other than the KPC survey—for monitoring project accomplishment,. Using 10 to 15

8: Adapting the Generic KPC 2000+

indicators is usually enough for most projects. If you have over 20 indicators, think seriously about how best to focus your project on fewer activities.

3. Add additional questions – 15 minutes

Tell the participants:

Review any of the case study indicators that are not yet checked off on **TR 1-22**. As a team, discuss and decide:

- **Do we need to add any additional questions?**
- **Should this indicator be measured by the KPC survey or by some other method?**

1-24

*Ask the participants to suggest additional questions and decide which, if any, questions to include. Refer participants to **TR 1-24: So, You Want to Add a Question?***

What to Include in Your KPC Survey Questionnaire

Consider:

- Which indicator/objective does this question answer?
- Why is this question important?
- Are there differentials that can be explored with this question?
- How will the information gained benefit the project?
- Is there a better way to get this information?
- To whom will this question be addressed?

There may be other questions to include because they are indirectly related to your project indicators and/or because they provide information of general interest to the project. Possible reasons to include other questions are:

- MOH or other local NGOs/organizations have requested their inclusion, and using them would help promote interagency collaboration
- Investigation of areas for future intervention
- Local protocol or custom
- Part of Rapid CATCH that does not directly address project interventions/indicators but that should be included at baseline and optionally in the final KPC survey
- Some questions can later be used for cross-tabulations by dividing respondents into subgroups that are not already in the Rapid CATCH or identification module, e.g., cultural groups

NOTE TO THE TRAINER: Advise participants strongly against adding extra questions to a questionnaire. It is not uncommon for organizations to use a very long baseline survey questionnaire or huge sample size the first time they do a KPC Survey, only to learn that they have collected a lot more data than they will ever have time to analyze. Encourage them to be smart and realistic when putting together their ***KPC Survey Questionnaire***.

The important thing is to prioritize information that can (and will) be used by the project to improve and track results, while keeping the list of objectives and indicators concise and manageable. Major excursions into complex data collection are beyond the resources and scope of most Child Survival projects, but projects should not just automatically use a generic questionnaire focusing only on mothers of children <2 years of age if they can benefit from going beyond that in some ways.

4. Specify numerators and denominators for all indicators – 15 minutes

*Have participants review **TR 1-23: KPC2000+ Rapid CATCH Indicators** again to understand the numerator/denominator for each Rapid CATCH indicator. Then continue completing **TR 1-22** by determining where the information will come from for each indicator. If the indicator came from Rapid CATCH or the modules, write the number of the question that will be used in the columns “Numerator” and “Denominator.” If the indicator is being measured by a question added by the Core Team, write out the question that will be used for each numerator/denominator. If an indicator is not being measured by the KPC survey, write in the column “NOT KPC.”*

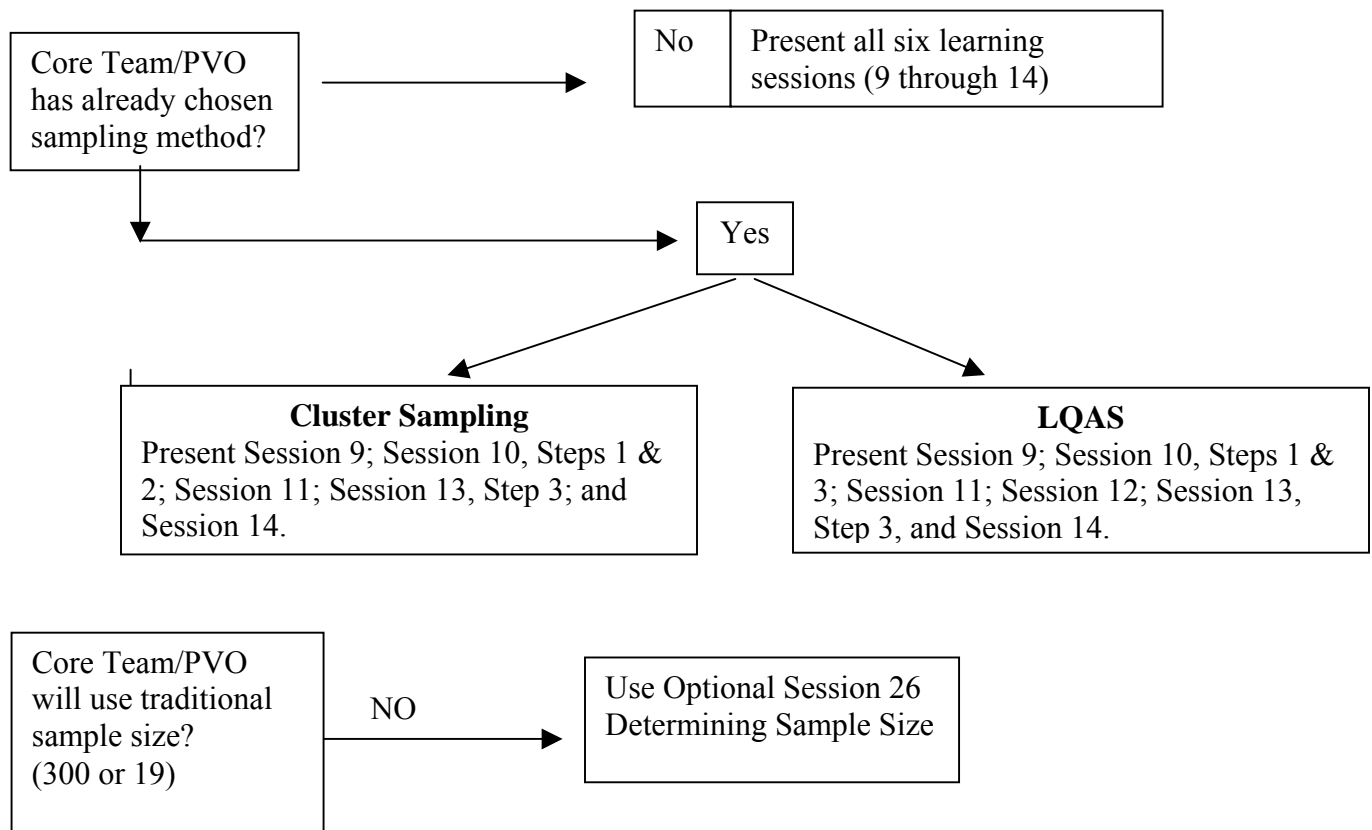
1-22

We are going to leave the questionnaire for a while and begin the topic of sampling. We have several more important steps in adapting the questionnaire that include: Pre-testing, Translation, and Using an Events Calendar & Cultural Lexicon. These concepts will be discussed later in the training. During your free time, please read pp. 34–36 of the Field Guide about adapting and translating the **KPC Survey Questionnaire**.

Sampling: Survey Trainer’s Notes Regarding Sampling

The following six learning sessions cover the topic of sampling. This portion of the workshop is probably the most challenging for participants. Reassure participants that they are not expected to be statisticians, but only to have a general idea about sampling concepts and calculations. Each Core Team training will be distinct, based on organizational priorities, team members’ abilities and experience, and other factors. To aid the Survey Trainer, the following algorithm is offered to help tailor the sampling section to the needs of the Core Team.

Session	Content
9.	Sampling Basics—Why Sample?
10.	Sampling Options for KPC Surveys
11.	Bias, Confidence Intervals, and Design Effect
12.	Lot Quality Assurance Sampling
13.	Selection of Sampling Methodology
14.	Community/Household/Informant Selection



For additional reading on sampling, see the KPC 2000+ Field Guide, Chapter 5, and *Methodology and Sampling Issues for KPC Surveys*, Eric Sarriot, et al., available at: <http://www.childsurvival.com/kpc2000/method.doc>.

9. Sampling Basics—Why Sample?

Purpose:

To understand the importance of random sampling and key terminology and concepts.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed the concepts of sampling.
2. Matched key sampling terms with the correct definition.

Preparation/Materials:

Step 2:

- Create two (2) sets of Sampling Terminology Exercise “Cards” using the terms and definitions at the end of this learning session—write or photocopy the “terms” on paper/cards of one color and the “definitions” on paper/cards of another color, then cut them apart, keeping the two sets of “terms” separate from each other and from the two separate sets of “definitions.”
- **TR 1-25: Sampling Terminology**

Time:

40 minutes

Steps:

1. Introduce sampling concepts – 5 minutes
2. Match sampling terms with definitions – 30 minutes
3. Apply the terms to an example – 5 minutes

Steps

1. Introduce sampling concepts – 5 minutes

Explain:

During the next several learning sessions we will be looking at sampling options and their application for KPC surveys. Most projects do not have the resources to collect information on every member of their beneficiary population. Sampling is a good way to save time and money. A sample is defined as a subset of a population about which information is needed. To be a good substitute for the entire population, the sample must be randomly chosen.

- **Based on your understanding of the word, what do we mean by “random” sampling?**
[Any person has a known chance of being selected.]

Before beginning a discussion about the issues involved in sampling, let us review some terminology related to sampling.

2. Match sampling terms with definitions – 30 minutes

Ask participants to form two teams and close their Participant Manuals and Workbooks. Mix up both sets of “terms” cards and both sets of “definition” cards. Distribute one set of terms cards and one set of definition cards to each team. Say:

- **Work in your teams to match the terms with the definitions.**

9. Sampling Basics—Why Sample?

When the teams have matched all of the cards, refer participants to **TR 1-25: Sampling Terminology**, which contains the correct definitions. Together, review the teams' work for accuracy. Then ask:

1-25

- **Which terms are new to you or need clarification?**

Ask other participants to explain the confusing concepts to their peers. If no one knows the concept, provide additional clarification.

Explain:

This learning session is intended as an introduction to sampling. You are not expected to understand all of the concepts well at this point. They are explained more clearly in later learning sessions.

3. Apply the terms to an example – 5 minutes

Let us apply some of these terms to the population of workshop participants in this room. Imagine that we are going to conduct a survey among ourselves to find out how many participants {“like to eat ugali”} (substitute a fun, culturally applicable concept).

Go through some of the basic, applicable terms, such as:

- **What would be our sampling frame?** [a list of workshop participants]
- **What is our sampling area?** [the workshop venue]
- **What is our sampling unit?** [individuals]

Imagine that we need a sample size of two.

- **Can we take a random sample?** [Yes]
- **If so, how can we do it?** [write each participant's name on a separate paper, fold the papers so the names are not visible and choose the names.]
- **Can we use systematic sampling?** [Yes]
- **If so, how can we do it and what is our sampling interval if we need a sample size of two?** [total population (all workshop participants) divided by sample size (2).]

Matching Exercise: TERMS

*Photocopy the following terms on colored paper and cut them apart.
(Answers are provided in TR 1-25)*

Bias	Sample area	Cluster sampling
Sample	Random sample	Multi-stage sampling
Cluster	Sampling unit	Systematic sampling
Cumulative	Standard error	Confidence interval
Sample size	Random number	Sampling frame
Sampling Interval	Lot Quality Assurance Sampling (LQAS)	Probability proportion to size (PPS)
Design Effect	Supervision Area	

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Matching Exercise: DEFINITIONS

*Photocopy the following definitions on different colored paper and cut into strips
(Answers are provided in TR 1-25)*

An error that consistently results in an over- or under-estimation of a value of measurement.

A naturally occurring group of individuals that is likely to include a specified number of individuals from a population group of interest.

A method of sampling population clusters rather than individuals, then interviewing a certain number of individuals within each cluster to achieve the desired sample size.

Indicates the range of possible values that the sample estimate will fall within a certain percentage of the time.

Increasing a sum by continuing to add to it.

A special form of stratified sampling that allows projects to identify areas with levels of coverage that are at or above expectation, versus those that are below expectation.

A process involving more than one step of sampling before reaching the ultimate unit of interest.

A sampling principle that ensures that the sample's distribution mirrors the population's distribution.

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A method of selecting a sample that ensures that each unit in the population has an equal chance of being selected.

A number that is selected (by chance) from many numbers. Each number has an equal chance of being selected.

A group of units (such as individuals or households) selected from the general population.

Community (cluster, lot) selected from the general population for a study.

A subset of the population managed by specific health staff sampled by LQAS methodology to identify staff performance, and for project management.

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Number of units (individuals, households) selected from the population for inclusion in a study.

Usually the same as the unit of analysis. It is the unit from which information is collected in a survey.

List of every possible sampling unit within the target population from which a sample will be drawn.

The total population size (N) divided by the sample size (n). Used as part of systematic sampling to select units from a sampling frame.

It is a statistical measure that indicates the precision of a sample estimate and is used to calculate the confidence limits of that estimate. This is the expression $\sqrt{(pq/n)}$ in the confidence interval calculation.

A sampling approach that involves calculating a *sampling interval* based on the required sample size. A random starting point is chosen, then cases are selected from the sampling frame at a sampling interval.

Measures the efficiency of the survey design compared to Simple Random Sampling.

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10. Sampling Options for KPC Surveys

Purpose:

To understand the basic types of sampling options (simple random sampling, stratified sampling, and cluster sampling) available for KPC surveys and the benefits and limitations of each.

Objectives:

By the end of this learning session, participants will have:

1. Learned about and discussed applications for various types of sampling methods.
2. Stated the benefits and limitations of each sampling method.
3. Considered factors that determine the choice of sampling method.
4. Discussed comparative aspects of LQAS and cluster sampling by using a chart contrasting and comparing the two methods.

Preparation/Materials:

Step 1:

- **TR 1-26: Sampling for Chickens**
- **TR 1-27: Steps for Selecting a Simple Random Sample**
- Flip chart with title: Sources for a Simple Random Sampling Frame

Step 2:

- **TR 1-28: Steps for Cluster Sampling**

Step 4:

- **TR 1-29: What a Sample of 19 Can Do**

Step 5:

- **TR 1-30: Cluster Sampling versus LQAS: Issues to Consider**
- Extra Reading KPC 2000+ Field Guide, pp. 37–78

Time:

70 minutes

Steps:

1. Present simple random sampling using chickens as an example – 20 minutes
2. Discuss cluster sampling – 20 minutes
3. Apply stratified sampling – 10 minutes
4. Present the general principles of LQAS – 10 minutes
5. Compared Cluster sampling with LQAS- 10 minutes

Steps

1. **Present simple random sampling using chickens as an example – 20 minutes**

Explain:

Due to our limited time, this learning session is a very brief overview of three different sampling techniques. For a more detailed understanding of each of the various methods, use some free time to read pgs. 37 – 78 of the Field Guide. This gives very helpful background information that will be useful to you.

10: Sampling Options for KPC Surveys

A random sample is one where every sampling unit has a known chance of being selected for the survey.

Refer participants to **TR 1-26: Sampling for Chickens**. Tell the story of the farmer who wanted to measure the weight of his chickens.

1-26

This type of sampling is often thought to be random, since the farmer was not specifically targeting particular chickens.

- **Why was this not a random sample?** *[Not all chickens had a known (and in this case equal) chance of getting caught; i.e., of being included in the sample.]*
- **What potential problems might exist in getting the true percentage of chickens weighing more than 1.5 kilograms using this method?** *[Fat chickens move more slowly and are more easily caught. This is a type of “selection bias” which we discuss later.]*
- **How is the farmer’s estimate of percent skewed as a result?** *[Because he is able to catch more of the slower, fatter chickens, he thinks his chickens weigh more than they actually do.]*
- **How can the farmer take a true random sample?** *[Use a simple random sample: tag all of the chickens, randomly pick 100 numbers and weigh those chickens. It would be more time-consuming, of course, but would be necessary to get an unbiased sample estimate.]*

Be sure the following points are made:

This was not a random sampling method. It was what we call “convenience sampling.” There would be a natural bias in his sampling method, since it would probably be easiest to catch the slow-moving chickens. The slow chickens would have a greater chance of being fat (heavy) and more likely to be included in his sample than the thinner, fast ones. This sampling method would give a higher sample percentage than the true percent. (Or, some participants might suggest that any sickly chickens would also be more likely to be caught, and they might be malnourished, lowering the percentage.) In any event, his sample would not be random and, if running speed is related to weight, the sample would not be representative of the population's weight.

Refer to **TR 1-27: Steps for Selecting a Simple Random Sample** and discuss the proper method to conduct a Simple Random Sample.

1-27

Post the flip chart titled, *Sources for a Simple Random Sampling Frame*, to record the answers. Ask:

- **How can a sampling frame be developed or used in a survey?**

Sources for a Simple Random Sampling Frame

-
-

Write the suggestions on the flip chart. Add any of the following that are not mentioned:

A good simple random sampling frame can be taken from:

- a census (either pre-existing or conducted by the PVO)
- voter registration lists
- tax lists
- community health worker registers
- surveillance records
- maps of the area showing each dwelling

Remind the participants:

Caution is required. If the sampling frame is not complete or up-to-date, then not every unit has an equal chance to be selected.

- **What methods can be used to randomly select from a sampling frame?** [*Use currency notes, random number tables, flipping coins, spinning bottles, sub-dividing communities, etc.*]

These random methods are covered further when we discuss specific cluster sampling and LQAS methods.

A disadvantage of the Simple Random Sample (SRS) is that, although it requires a smaller sample, it can be very difficult to locate and interview all of the selected households. Imagine if a project had an SRS strategy and a sample size of 100 children selected randomly. Those 100 children might be scattered over a very large geographic area, and their actual households might be very difficult to locate without good addresses. This would be very time-consuming and would require large transportation resources to travel to at least 100 points scattered around the project area.

2. Discuss cluster sampling – 20 minutes

Explain:

A common situation for projects is that their target population is scattered over a large geographic area. For this reason, many organizations choose to use cluster sampling which is usually quicker, and therefore cheaper, than other types of sampling. It involves going to 30 or so groups of households, rather than tracking down dozens or hundreds of individuals around the project area.

10: Sampling Options for KPC Surveys

Cluster sampling uses random selection for the cluster sites where the households are located, and also for the selection of the first household within the cluster. The remaining households in each cluster are not chosen randomly.

Refer participants to TR 1-28: Steps for Cluster Sampling. Ask participants to silently read the material and underline what they think are the most important points. Review the most important points.

1-28

Ask:

- **What questions do you have about cluster sampling?**

3. Apply stratified sampling – 10 minutes

Give the following presentation to explain stratified sampling:

Stratified Sampling

There is always a chance that a sample is not fully representative of the general population. This is especially true if the general population contains a small number of people from a particular group (for example, a certain religious or ethnic group). If there is only a small chance that people from a small group will be sampled, there is a possibility that a simple random or cluster sample might not include any (or very few) respondents who are members of that particular group. If your sample does not include key population groups, or if the proportion of certain groups in your sample differs from their proportion in the larger population, there is a chance that your survey's estimates will be inaccurate. In other words, the estimates based on the sample differ from the actual values that exist in the general population.

Stratified sampling can yield results (estimates) that are more precise than those gathered from Simple Random Sampling. By making each stratum more homogeneous, the sampling error is actually reduced. (In stratified random sampling each element has a known chance of being selected whereas in simple random sampling each element has a known AND equal chance of being selected)

Let us continue with the chicken example and take it one step further. Imagine that there are three varieties of chickens among the farmer's 1000 chickens, and that he wants to be sure that the average weight takes into account all three varieties. Let us imagine 600 are white chickens, 320 are brown chickens, and only 80 are yellow chickens.

Demonstrate the following by writing the numbers on blank flip chart paper as you speak:

If the farmer takes a 10% sample (100 chickens) completely randomly—completely by chance—there is a chance that none of the yellow chickens will get sampled. If yellow chickens are known to weigh much less than white chickens, the average weight might not truly represent all of his chickens. To solve this problem, the farmer can group the chickens into

varieties (white, brown, yellow) before he samples them—this is known as “stratifying” them. Stratifying ensures that the farmer chooses chickens from each group. In fact, if the farmer wants to be very precise, he can now do PPS—probability proportional to size. To do this, he samples from each stratum, based on its population. In this case, if he were taking a 10% sample, he would take 10% from each stratum:

600 white chickens	– select	60	chickens
320 brown chickens	– select	32	chickens
80 yellow chickens	– select	8	chickens

The farmer’s TOTAL sample would then be 100 chickens, and the average weight would proportionately represent each variety of chicken he owns.

Mention that this a simplified example of stratified sampling; many times you would need to over-sample a group that makes up a small proportion of the population, e.g., yellow chickens—otherwise, the sample size would be too small to be able to make significant comparisons between groups. Lot Quality Assurance Sampling (LQAS) is a type of stratified sampling and will be examined in depth later. Ask:

- **What types of groups might you encounter that need to be stratified?** [*ethnic groups, urban vs. rural, age,*]

4. Present the general principles of LQAS – 10 minutes

We are going to introduce a special type of stratified sampling called LQAS (Lot Quality Assurance Sampling). We have seen how stratified sampling can help us make estimates of subsets of a population. For purposes of project management, a meaningful subset may be people living in different project zones: areas managed by different health or project units. You may want to sample from these zones, or Supervision Areas (SA), to identify strong staff performance and those needing more help. For this purpose, you may not need to estimate exact levels but have an indication (based on data) of which SAs are performing adequately and which are not.

At the same time, you may want to combine estimates from different SAs into a single estimate (with CIs) for the entire project. There is a simple method, built on SRS, which allows you to do both. Depending on some factors we will review later, you may want to use LQAS. LQAS uses sample sizes of 19 in each Supervision Area to make statements about the SA. When LQAS data for all SAs is combined, it can provide estimates of overall coverage of the project. In order to reach the minimum “n,” at least five (5) SAs need to be included ($19 \times 5 = 95$). As you may recall in SRS, a sample size of 96 provides 10% precision and 95% confidence limits.

The decision rule is the minimum number of people who must have received an intervention or know the correct answer in order to safely conclude that a Supervision Area has reached average or target coverage. To find the decision rule you use a decision rule table which shows that in order to reach your target (say 50%) for sample size (19); 7 in this example) is the decision rule (or minimum number for decision-making purposes)

10: Sampling Options for KPC Surveys

Review TR 1-29: What a Sample of 19 Can Tell Us. Answer any questions about LQAS. Refer participants to Resources List for additional information.

1-29

5. Compared Cluster sampling with LQAS- 10 minutes

Now that we have discussed cluster sampling and LQAS, let us compare them and summarize some of the similarities and differences.

- **What are the main factors to consider when determining what type of sampling method to use?**

Assure that the list includes the following factors.

1. Time available
2. Budget
3. How dispersed is the population (urban vs. rural)?
4. Is population data available?
5. Purpose of the survey (need to monitor performance by supervision area?)
6. Rigor desired (donor requirements, research, etc?)
7. Type of respondents needed (parallel sampling?)

Refer to TR 1-30: Cluster Sampling versus LQAS: Issues to Consider. Say:

1-30

Read through *TR 1-30*, marking those points you think are the most important.

Review each category and ask participants to comment on cluster sampling and LQAS, relative to the particular category. Allow participants to contribute their thoughts and then summarize.

11. Bias, Confidence Intervals and Design Effect

Purpose:

To understand how various elements can affect sampling issues such as sample size, bias, confidence intervals, and survey design.

Objectives:

By the end of this learning session, participants will have:

1. Discussed the concepts of sample size, bias, confidence intervals and design effect.
2. Practiced calculating confidence intervals for both cluster and LQAS designs.
3. Discussed causes for differences in the size of confidence intervals.

Preparation/Materials:

Step 2:

- **TR 1-31: Types of Bias That May Affect a KPC Survey**
- **TR 1-32: Ways to Minimize Bias in a KPC Survey**

Step 3:

- **TR 1-33: Confidence Interval Formula**
- Flip chart with title: Confidence Interval Formula

Step 5:

- Calculators for participants who did not bring them
- **TR 1-34: Confidence Interval Worksheet**

Time:

90 minutes

Steps:

1. Review sample size standards – 5 minutes
2. Demonstrate different types of bias and discuss ways to prevent bias – 15 minutes
3. Discuss confidence intervals – 20 minutes
4. Increase awareness of design effect – 5 minutes
5. Use the confidence interval formula – 45 minutes

Steps

1. Review sample size standards – 5 minutes

As we have just seen, drawing a sample from a population gives us estimates of the true values in that population. We need to strive for precision in those estimates, because they may play a big role in program decisions and in the eventual evaluation of program impact.

It is very important, then, to assure that you have sampled enough people to get the precision you need in the estimate. To ensure that the sample is large enough, there are different mathematical equations to use, depending on the type of sampling used. We are not going to review the mathematical calculations for different types of sampling. Not everyone wants or needs to understand in detail how to calculate the formulas. For standard sampling methodologies, the size is already set. Traditionally, KPC surveys that use cluster sampling use

11: Bias, Confidence Intervals and Design Effect

a sample size of 300 (30 cluster of 10 respondents each) and LQAS surveys use a sample size of 19 (using 5 to 8 Supervision Areas of 19 respondents each).

If you would like more information, there are a number of options:

1. Read pp. 37–78 of the Field Guide
2. Refer to the Resource List (TR 1-3) and p. 78 of the Field Guide
3. Talk with the KPC Survey Trainer for additional assistance
4. See the optional Learning Session 26: Determining Sample Size for answers to your questions
5. Explore your local resources, other Core Team members and statisticians within your organization, other organizations, or the MOH

2. Demonstrate different types of bias and discuss ways to prevent bias – 15 minutes

Explain:

As we discussed previously, “bias” refers to a systematic error that consistently causes an under- or over-estimation of what we are trying to measure. We talked briefly about “bias” when we discussed the issue of sampling chickens with a “convenience sample” approach. There are several types of bias to consider when conducting research and surveys, but for our purposes there are three primary types of bias affecting KPC surveys: selection bias, information bias, and recall bias.

- **What volunteer would like to summarize what type of bias was involved in that sampling?** [*selection bias*]

Refer participants to **TR 1-31: Types of Bias That May Affect a KPC Survey**. Explain:

Selection bias results from a faulty method of sampling that does not allow a truly representative sample to be taken, such as we saw with the chicken sampling example.

1-31

- **How can this type of bias be present in KPC surveys?** [*Examples: through an incomplete sampling frame (e.g., not including mothers of newborns), through haphazardly picking an “easy” house near the center of the cluster site, through interviewing more than one mother per household, etc.*]

Information bias occurs when faulty data is collected through poorly worded questions or consistent interviewer mistakes or misunderstanding.

- **Who can suggest an example of information bias?**
[*Example 1: An interviewer consistently re-phrases questions or makes assumptions with certain respondents—for example, not asking exclusive breastfeeding questions to mothers of infants less than 2 months old because the interviewer is certain that the mothers would not be giving anything other than breast milk.*]

Example 2: A poorly worded question is not field-tested and results in a question that certain groups of respondents do not understand and therefore answer incorrectly.]

Recall bias is a specific type of information bias that can also affect KPC surveys, because interviewers usually ask several questions about previous behaviors that may be difficult for respondents to remember well.

- **Who can suggest an example of recall bias that might affect a KPC survey?**
[Examples: questions regarding previous stoppage of breastfeeding, foods/drinks given to the child the previous day or week, even the age of the child.]
- **How can we minimize bias in our surveys?**

Allow several responses. Refer to **TR 1-32: Ways to Minimize Bias in a KPC Survey** to add to and summarize the discussion.

1-32

3. Discuss confidence intervals – 20 minutes

Bias is one of the factors we can control for with proper planning. However, there are other factors that influence an estimate yet are out of our control.

Explain:

- Even when sampling and survey protocol are conducted properly, the results you get are still only an estimate of the true value. In other words, the result you get is probably pretty close to the real value, but probably not exactly the same as the real value. The results of a survey using sampling should never be considered an exact reflection of the true population level.
- There is always some degree of random error in sampling, called “sampling error” or “standard error.” This should not be confused with bias. Random error is unavoidable when sampling is used, because you are not getting data from all possible values in the population. There is almost certainly some difference in the results of a sample from what you would have gotten if you had interviewed every person in the population.
- Each estimate from a sample, therefore, always has a margin of error around it, which we also call a “confidence interval.” You can calculate the size of the confidence interval using a few variables that we will discuss next.

Ask:

When I take a sample of 300 respondents from an entire target population of 20,000 served by my project,

- **Can I be confident that the results of my survey really represent the true population?**
[only within certain limits]

In my survey, if 30% of mothers gave ORS to their child with diarrhea,

11: Bias, Confidence Intervals and Design Effect

- **Can I be pretty sure that 30% of ALL of the mothers in my project area are giving ORS?** [Being a result from a sample rather than from an entire population, it is an estimate only, with a degree of variability.]

These limits of confidence are represented by a range of values called the confidence interval. Let us see how a confidence interval is calculated. Then you will have a chance to use the formula yourself to calculate a confidence interval.

1-33

Refer participants to **TR 1-33: Confidence Interval Formula**. Also post the flip chart with the formula. Explain the formula:

Confidence Interval Formula

$$P = p \pm z * \text{SQRT}((p*q)/[n/D.E.])$$

where

- P = the actual rate/proportion in the general population
- p = the survey estimate
- q = 1 – p
- z = the confidence level (with a 95% confidence level, z = 1.96)
- n = sample size
- D.E. = design effect

The formula for the confidence interval is based on a several variables:

- how large a sample you take (“n”)
- the proportion that you get from sampling (“p”)

It also includes a constant value (from a table) for the level of precision you choose. Often in research and in KPC surveys, 95% is the level of precision chosen. This means that you wish to be 95% certain that your confidence interval captures the true value, based on your sample estimate, in that 95% of the intervals calculated from multiple samples (if you could take that many!) would contain the true population value.

The design of your sampling method is D.E. or “design effect.” Let us look more closely at design effect.

4. Increase awareness of design effect – 5 minutes

Summarize the following:

We have already discussed that cluster sampling is often chosen because it is quicker and easier, once the starting household is chosen. But by gaining those benefits, we also give up something in the precision of the resulting estimate. Since groups of neighboring households

are selected that probably share similar behaviors and knowledge, there is some built-in bias. This bias is measured by something called the “design effect.” It is computed, for a given statistic, as the ratio of its variance under the actual design, to what that variance would have been under a simple random sample (SRS) of the same size. In this manner, it provides a measure of the efficiency of the design. Design effects are specific to the variable or statistic concerned. There is no single design effect describing the sampling efficiency of “the” design. For the same design, different types of variables and statistics may (and often do) have very different values of design effect, as do different estimates of the same variable over different sub-populations. The formula to calculate a confidence interval becomes quite complicated when considering a design effect, but Epi-Info and other data analysis packages offer ways to calculate it.

When planning a survey, one cannot be sure what the design effect will be. A conservative estimate, however, for cluster sampling is 2. (It is often much less than that, but using 2 assures that the sample size is adequate for even the highest design effects.) SRS and stratified sampling have no design effect; i.e., D.E. = 1. By using a computer, we can more accurately calculate the design effect, but with our manual calculations we will use 2 as the design effect for cluster sampling and 1 (or no design effect) for LQAS or SRS. One way to counteract the larger D.E. of cluster sampling is to increase the sample size because the design effect is also used in calculating sample size. Now we will look at how the design effect changes the confidence intervals.

5. Use the confidence interval formula – 45 minutes

Distribute calculators to those who do not have them. Calculate the example given on TR 1-33. Work through the handout, writing the calculations on a flip chart. Be sure to mention the importance of correctly expressing the confidence interval. Then ask:

- **What questions do you have about calculating confidence intervals (CI)?**

Remember that in surveys it is important to always strive for precision.

- **If we want better precision, is it better to have a smaller or a larger confidence interval?** *[A smaller (tighter) CI means the estimate is more precise.]*
- **What can we do to increase the precision, or narrow the confidence intervals?** *[Use a larger sample size.]*

Let us look at the CI equation:

- **What effect does increasing the sample size (the “n”) have on the size of our confidence intervals?** *[Increasing the sample size decreases the size of the confidence interval and increases the precision.]*

Ask the participants to recalculate the example on TR 1-33, with only 20 women exclusively breastfeeding, out of a sample of 50. Reiterate the effect of sample size on CI. Say:

11: Bias, Confidence Intervals and Design Effect

Increasing sample size is actually about the only thing we can consciously do to get a more precise estimate, assuming we are already using a valid and appropriate sampling protocol. That is why sample size is so essential in planning a KPC survey.

Ask the participants to work in pairs:

Calculate the confidence intervals if we use a Simple Random Sample survey of 300 women and find that 108 women interviewed have two or more TT vaccinations.

Give participants about 5 minutes to work through the equation on their own, using the result of 36% for the TT indicator. Ask a volunteer to share the answer and show the calculations on a flip chart.

$$\begin{aligned} \text{[ANSWER KEY: } & .36 \pm 1.96 * (\text{sqrt}((.36 * .64) / 300)) \\ & = .36 \pm (1.96 * .0277) \\ & = .36 \pm .0543 \\ & = (.31 - .41) \text{ or } (31\% - 41\%) \end{aligned}$$

Ask participants to tell you what the confidence interval would be if we used cluster sampling. Give them about 5 minutes to recalculate it. Say:

Remember that we do not know the true design effect, but a conservative estimate for cluster survey design is 2.0.

$$\begin{aligned} \text{[ANSWER KEY: } & .36 \pm 1.96 * (\text{sqrt}((.36 * .64) / (300 / 2))) \\ & = .36 \pm 1.96 * \text{sqrt}(.001536) \\ & = .36 \pm 1.96 * .03919 \\ & = .36 \pm .0768 \\ & = (.28 - .44) \text{ or } (28\% - 44\%) \end{aligned}$$

Summarize by asking:

- **What was the difference in the point spread with and without the design effect?** *[16-point spread vs. 10-point spread]*

Think about what is important in the long run. It can make a difference, especially when looking for statistical significance. That is why it is important to try to minimize the design effect as much as possible and to use the exact design effect calculated from Epi-Info, if possible, since it may actually be lower than 2.0.

- **Based on what you have seen and done, what are some factors that can cause differences in the size of the CI?** *[sample size, design effect, desired precision]*

Distribute and show TR 1-34: Confidence Interval Worksheet as a homework assignment.

1-34

Optional: Go over the first example together. Ask the participants to work in pairs, with one person explaining to the partner what a confidence interval is and then how to calculate it. Then have them switch roles—have the other partner explain the concept and the process. Remind the group that precision of speech is very important in explaining results.

*NOTE: Remember to review the answers for **TR 1-34** the following day to evaluate whether the majority of participants successfully completed the calculations.*

TR 1-34: CONFIDENCE INTERVAL WORKSHEET: ANSWER KEY

Example #1:

In a baseline survey, the surveyor asks mothers of children 0–23 months of age, “Who assisted you with (NAME’s) delivery?” 240 women mentioned a skilled health provider; 60 women mentioned another (unskilled) person. (Assume a design effect of 2.0 if calculating manually.)

What proportion of births was attended by a skilled provider? [80%]
What is the confidence interval? [73.6% to 86.4%]

At the final survey, the question is repeated:
276 women mentioned a skilled provider
24 women mentioned someone else
(Assume a design effect of 2.0 if calculating manually.)

What proportion of births was attended by a skilled provider at final? [92%]
What is the confidence interval? [87.7% to 96.3%]
Was there a statistically significant change in the proportion of births attended by a skilled health provider? YES (No overlap of CIs) NO

Example #2:

At baseline, you find that 111 mothers out of 300 say that their child slept under an insecticide-treated bednet the previous night and 189 say no. (Assume a design effect of 1.0 if calculating manually.)

What proportion of children slept under an insecticide-treated bednet? [37%]
What is the confidence interval? [31.5% to 42.5%]

At the final survey, the question is repeated: 85 women say yes; 215 women say no (Assume a design effect of 1.0 if calculating manually.)

What proportion of children slept under an insecticide-treated bednet at the final survey? [28.3%]
What is the confidence interval? [23.2% to 33.4%]

Was there a statistically significant change in the proportion of children who slept under an insecticide-treated bednet the previous night? YES NO (Overlap of CIs)

12. Community/Household/Informant Selection

Purpose:

To select communities/clusters where the KPC survey will be carried out and to give participants a general idea of the steps used in for household and informant selection.

Objectives:

By the end of this learning session, participants will have:

1. Worked collaboratively to produce a sampling framework that identifies randomly chosen locations for either 30 clusters or 19 interviews in each Supervision Area.
2. Prepared a decision algorithm to use in training field staff.
3. Practiced selecting households.

Preparation/Materials:

Step 1:

- **TR 1-35: Steps for Sampling Clusters with PPS**
- **TR 1-36: Sampling Frame for Survey Using Cluster Sampling**
- **TR 1-37: Random Number Table**

Step 2:

- **TR 1-38: Project Sampling Frame**
- Prepare and photocopy a table showing project communities/neighborhoods with population and cumulative population as shown in **TR 1-38**. If using LQAS, divide the communities into Supervision Areas and prepare a separate table for each.
- Obtain a map of the case study project area suitable for marking selected communities

Step 3 and 4:

- **TR 1-39: Village with Population Over 30 Households**
- **TR 1-40: Village with Population Under 30 Households**

Step 5:

- **TR 1-41: Principles of Parallel Sampling**
- **TR 1-42: Example of Parallel Sampling**

- Extra Reading: KPC 2000+ Field Guide, pp. 46–59 and 75–77

Time:

120 minutes (2 hours)

Steps:

1. Select cluster or interview locations for 30 clusters or 19 samples – 20 minutes
2. Select actual locations for the KPC survey – 20 minutes
3. Understand the selection of households using three methods – 20 minutes
4. Define which respondents to select – 20 minutes
5. Discuss and practice an example of parallel sampling – 20 minutes
6. Examine an algorithm to use to train supervisors and interviewers – 20 minutes

12: Community/Household/Informant Selection

Steps

1. Select cluster or interview locations for 30 clusters or 19 samples – 20 minutes

To ensure that our sample is truly random, during this learning session we will go through three basic steps and describe how to assure randomness at each step:

- 1) Select the community/urban sector for either 30 clusters or 19 samples
- 2) Select households
- 3) Select respondents

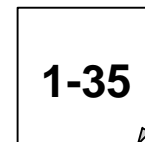
The sampling frame for the KPC survey is the designated project area. Recent and accurate population figures for the sampling frame are needed (or use number of households as a substitute). Every area and household must be included within one of the units listed in the sampling frame. Population figures should ideally be very recent and accurate.

Listing units by geographic area or ethnic group (depending on project interests/priorities) helps ensure that the entire project region or all ethnic groups will probably be covered. (This is an informal way of stratifying.)

The selection of sites is conducted in a probability sampling manner, known as Probability Proportional to Size (PPS). This means that larger communities have a greater chance of being selected than smaller communities.

*Refer participants to **TR 1-35: Steps for Sampling Clusters with PPS** and **TR 1-36: Sampling Frame for Survey Using Cluster Sampling**. Review with the participants. Read aloud the first four points on **TR 1-44**. Ask:*

- **How many households are we going to choose?**
[Cluster – 300 per SA; LQAS – 19 per SA.]



First, we are going to use an example of a cluster survey. Then, to select the clusters or interview locations, we are going to use actual population figures for the project.

*Read Steps 5 and 6 on **TR 1-35**. Say:*

Remember that this sampling frame includes the entire project area and the data can be for separate communities or, in the case of an urban area, for various neighborhoods.

*Refer participants to **TR 1-37: Random Number Table**. Say:*

Choosing random numbers is a common task when conducting a survey using a random process. You can use any randomizing process you wish, but using a random number table is recommended. The random number we select must be between 1 and the sampling interval: 10,039.



- **How many digits does our sampling interval have?** *[Five]*

Notice that each row of random numbers has five digits. You always need to use the same number of digits as your sampling interval.

- **What can you do if your sampling interval has only four digits?** *[You can use just the first four digits and draw a line through the fifth column.]*

Ask participants to close their eyes and hold a pencil in the air over the random number table. Then ask them to bring the pencil down on the table while keeping their eyes closed. The pencil should strike on or near a row of random numbers near one of the columns of numbers. Ask participants whether the number is in the range of 1 and 10,039. If it is not, ask them to raise and drop their pencils again and again with eyes closed until they find a number in this range. When they find it, that number is a random number that can be used in this example.

*Read Step 7 on **TR 1-35**. Let us assume the random number selected is 9679.*

- **How do you determine where the first cluster should fall?** *[The first community with a cumulative population larger than the number selected from the random number table = 9679 = Village #1.]*
- **Where should the second cluster fall?** *[random number of 9679 + sampling interval of 10039 = 19718 = Village #3.]*
- **Where should the third cluster fall?** *[previous sum of 19718 + sampling interval of 10039 = 29757 = Village #6.]*

*Read Steps 8 through 10 on **TR 1-35** and point out the community of Hilandia #14.*

- **Why does this community have so many clusters?** *[Because of PPS—this makes sense for conducting a survey because we want to go to those places where most of the people we serve are living.]*

Note: If the project is going to use LQAS, the steps are the same, except for the differences noted below. Optional Overheads for LQAS can be found in the LQAS Manual, Participant's Workbook, Module 2, Learning Session 1:

- **How does this process differ if you use LQAS?**
 - First divide the project area into five to eight Supervision Areas
 - Set up a table with the cumulative population for each Supervision Area
 - The sampling interval should be the total population divided by 19
 - Select 19 interviews, not 30 clusters

12: Community/Household/Informant Selection

2. Select actual locations for the KPC survey – 20 minutes

*Distribute the prepared table(s) **TR 1-38: Project Sampling Frame** with the actual project communities and population. Instruct the Core Team to again follow the steps on **TR 1-35** and select the 30 clusters or 19 interview sites. If using LQAS, divide the participants into pairs and have them work on separate Supervision Areas. As they work through the calculations, observe their progress and ask pertinent questions to guide them, if needed.*

1-38

Once they have chosen the locations, they should then mark each location on the map of the project area and develop a travel plan for visiting each location.

3. Understand how to select households using three methods – 20 minutes

Now that you have identified the locations of the clusters/interviews, we need to proceed to the next step in the process of selecting the actual household(s) the Interviewers will visit at each location. Another random process is used to select a household within each location. The difference is that, in LQAS, that household is the only one selected at that site, but in cluster sampling, it is the first of (usually) 10 households at that site.

Selecting the First Household

There are some very important principles to keep in mind when selecting this first household:

- a. The sampling process has some inherent bias but requires that the selection of the first household be RANDOM for the method to be valid. Otherwise, it becomes nothing more than convenience sampling.
- b. Supervisors should always be in charge of this process, as it is time-consuming and requires a full understanding of sampling and a commitment to integrity. Without these factors, there is often a temptation to take short-cuts with this process. If left to Interviewers with less training and understanding, the protocol may not be followed as closely as is necessary.
- c. After selecting the sites, it is important to visit and/or map them out before the day of the survey. The selection of the starting household can sometimes be conducted in advance through this process. This must be balanced, however, with the need to not publicize the survey widely in advance thus increasing the likelihood that health workers might conduct extra training to prepare the mothers in those communities for the survey. Local protocol should determine whether specific village chiefs/ elders need to be notified in advance. Community leaders can be very helpful in mapping the villages. Mapping can also be carried out upon arrival prior to conducting the interviews.
- d. A household is defined as a group of persons who share the same kitchen or hearth, or a group of persons who eat from the same cooking pot.

There are three main methods often used to choose a starting household in LQAS and cluster sampling:

Method 1: Sub-divide the village

Method 2: Choose the starting household from a census list or map

Method 3: “Spin the bottle”

Method 1. Sub-divide the village

Show **TR 1-39: Village with Population Over 30 Households.** Say:

Let us assume that there are 700 households in this village. The first step is to subdivide the community into two or more equal sections of roughly 30 households each. Number each section. Then select one of these sections at random.

1-39

- **How can you randomly select a sector?** [*Write numbers of the sections on slips of paper and draw one out of a hat, choose a number from a currency note (demonstrate this technique if participants are not familiar with it)*]

Ask a participant to show on the visual how to sub-divide.

If the selected area is still too large, sub-divide it again into two or more equal sections, number each section, and select one section at random. Continue until you have one small section with less than 30 households. You can then either use Method 2 to draw a map of only the selected section with the help of an informant and number the households on this map; or Method 3 to select one of the households at random.

- **What are your questions about the sub-dividing method?**

12: Community/Household/Informant Selection

Method 2. Choose the starting household from a census list or map

➤ **How can you obtain a list of households or a map?**

If there is any way of choosing households randomly from that village by using a recent list of all households, or a map showing households that can be numbered, choose the starting household (or even all 10 households per cluster) that way. If a map or list is available, review it with an informant to make sure it is accurate. Then assign numbers to each household and randomly choose a household (using a random number table or pulling numbers randomly from a hat).

Refer to **TR 1-40: Village with Population Under 30 Households**

➤ **How can you randomly select a household?**

1-40

Ask a participant to show on the visual how to randomly choose households.

Consider that if the project will eventually conduct a census of every household with children in the target range, you can conduct that census now in the selected sites, and use that census list to randomly choose the households. (This would, of course, delay the survey.) If the village is small (<30 households), you can work with a community member to draw a map or make a list.

Method 3. “Spin the bottle”

This is the most common method used to choose a starting household in traditional cluster sampling. Imagine a village chosen as cluster site #1, which has fewer than 1,000 people, or about 200 households.

Use **TR 1-40**. Demonstrate the following steps on the visual as you explain them:

Spin the Bottle Method

1. Clearly identify the village boundaries.
2. Go to the population center (not necessarily the geographic center) of the village, as best as you can locate it—with the help of the village leader, if possible. This allows a more equal chance for any household to be chosen.
3. Using a flat surface, spin a pen or a bottle. The direction it points is the direction you will use to choose the first household.
4. Walk along the chosen line and count all of the households along that line (e.g., three meters on either side of the line) until you reach the boundary of the village.
5. Choose a random number from 1 through the ‘x’ number of households you counted, using folded slips of paper, a currency note, etc. Return to the household represented by that number. That is your starting household.

If the selected village or community is larger than about 200 households, you should first sub-divide it before choosing the starting household. For this, follow the same process we discussed in the subdividing method.

- **What questions do you have about the “spin the bottle” method?**

4. Define which respondents to select – 20 minutes

Now that we have selected the first household, pretend that no one is available to interview at the selected household.

- **What do you do now?**

Listen to the participants’ ideas and then explain that when this happens they should continue to the next nearest household.

If an acceptable respondent is not there, the method for choosing the next household is the same technique that is used in cluster sampling to select a total of ten houses.

After the first household, the next household is the household in any direction whose front door is closest to the front door of the first household. If two households seem equi-distant, flip a coin to choose between them. If in doubt, always be random. If you reach the boundary of the village, turn to the right or left (randomly) and continue within the boundary. If all of the households in the selected village/cluster site are visited and the team has not fulfilled its quota, it may continue on to the next closest village site but should assure that these households have not been interviewed by other teams. If they have, continue to the next closest community site after that.

Discuss several examples on the TR 1-40 map in which no one who can be sampled lives in a house that has been selected. Show how it is possible to go to other locations in the community by following the rule of going “to the household with the door nearest to the front entrance of the household where you are standing.”

Some projects may choose to minimize the design effect by skipping houses and choosing every third or even every fifth household for an interview. This, of course, takes more time but may be especially appropriate in an urban area where households are close together. For more information, see page 54 of the Field Guide.

5. Discuss and practice an example of parallel sampling – 20 minutes

(Note: If the group decided in Learning Session 6 to include only one target group, this step can be omitted. Tailor this learning session on the decisions already made.)

Let us take just a minute to look at another important type of sampling: Parallel Sampling. Child Survival Projects have historically targeted mothers of children under 2 years of age as their primary respondents. However, as we mentioned earlier, some projects are beginning to expand their survey target groups as they work to reach a broader population in their program activities and interventions.

12: Community/Household/Informant Selection

Suppose a project targets community adolescents with HIV/AIDS prevention messages as their intervention. Suppose, also, that they use as an indicator an increase in knowledge of at least two ways to prevent HIV/AIDS in the 12- to 17-year-old age group.

- **How can they collect that information while collecting data on mother/young child indicators?**

One way is to conduct parallel sampling. A select group of HIV/AIDS questions is developed into a small, separate questionnaire. These questions are then administered to teens 12 to 17 years old at the households normally visited (or the interviewers can continue to other households) until they find enough teens (e.g., 10 per cluster) in addition to the specified number of mothers of children less than 2 years old (e.g., also 10 per cluster).

*Refer to **TR 1-41: Principles of Parallel Sampling** and review the points. Expand on the last point by emphasizing the following:*

1-41

A Very Important Note About Sampling

There are usually questions that are asked of all mothers, regardless of the child's age (e.g., treatment and care-seeking practices for sick children; hand-washing behavior; child spacing). If this is the case, you do not want to over-represent the practices and behaviors of a particular household in your study by interviewing more than one mother in the same household. Interviewing two mothers who live in the same household can give a biased assessment because they may share many of the same behaviors.

*Refer participants to **TR 1-42: Example of Parallel Sampling**. Instruct each person to take this example and complete the following steps:*

1-42

1. Choose the center of the community.
2. Use the "Spin the Bottle" method for selecting the first household (or spin the pen).
3. Have participants choose a cluster of 10 households with children under 2 for the complete child survival questionnaire. In each household that has a mother of a child under 2 years and also has a youth (12-17), administer two questionnaires (child health and youth HIV/AIDS).
4. After interviewing 10 households of mothers of children less than 2, count the number of household where the youth questionnaire was also applied. Record the number.
5. If the number is less than 10, then continue, in the same cluster, selecting households with youth until a total of 10 youth interviews have been completed.
6. Remember that you can only interview one youth in each household.
7. Remember that you can only interview one mother of a child less than 2 in each household.

When the participants have completed the exercise, ask 2 or 3 to share their results. Emphasize the points that only one mother per household should be interviewed and each questionnaire must be analyzed separately.

For additional information on parallel sampling, refer participants to pages 56–59 of the Field Guide.

6. Examine an algorithm to use to train supervisors and interviewers – 20 minutes

*Refer participants to pages 75-77 of the Field Guide as examples of algorithms *Selecting the First Household in a Sample Area, Choosing Respondents Based on the Type of Dwelling, and Conducting the Remaining Interviews in the Sample Area.* Say:*

You can tailor these decision charts into one algorithm for choosing households and respondents during the actual KPC survey. This algorithm will be used to train Supervisors and Interviewers. You should follow these seven steps:

1. Review the charts and cross out any aspects that do not apply to your project (urban, multi-story buildings, etc.).
2. Define the method (or mixture of methods) that is most appropriate in your project to select households: map or census list, sub-dividing, or “spin the bottle.”
3. Remake the algorithm to reflect project decisions

Summarize the learning session by mentioning that this concludes the work on sampling. The conclusions made during these last few learning sessions will form the basis for much of the work ahead. During the next two learning sessions, the topic of anthropometrics will be discussed.

13. Anthropometry within the KPC Survey

Purpose:

To appreciate the reasons why using anthropometric data as part of a KPC survey can be helpful and understand what data need to be collected and what materials are needed for anthropometry during a KPC survey..

Objectives:

By the end of this learning session, participants will have:

1. Discussed why anthropometry should be part of the KPC survey process.
2. Discussed why having nutritional status data is useful.
3. Listed nutritional indices.
4. Reviewed data to be collected and materials and personnel needed for each index.

Preparation/Materials:

Step 2:

- Create four (4) Nutrition Indices Title Cards and one (1) set of Nutrition Indices Description Cards—write each index/description on a separate card (indices and descriptions are provided at the end of this learning session)

Time:

30 minutes

Steps:

1. Discuss why anthropometry is useful – 10 minutes
2. Identify and describe indices – 10 minutes
3. Determine data needs, material and personnel for each index – 10 minutes

Steps

1. **Discuss why anthropometry is useful** – 10 minutes

Use the following questions to stimulate discussion:

- - **What experience do you have in weighing or measuring children or women as part of a survey?**
 - **How can you use anthropometric data to make project decisions?**

Add the following points if not mentioned:

- Anthropometry gives you an accurate measure of nutritional status. It enables you to speculate who is healthy and, therefore, how many children are healthy. Malnutrition is a “summary” measure of child health. Children who are growing normally are usually healthy children.
- You can examine the pattern of child growth at different ages to gather information about how nutritional status may change during different stages of childhood. Anthropometry is a “snapshot” of a situation because you are not following a cohort of children and seeing how

they grow. For example, if food availability has dramatically changed in an area from one year to another, differences by age group may reflect the local food availability rather than how children typically grow in the area.

- Anthropometry provides information that enables practices and coverage levels of children who are well nourished to be compared with those of children who are malnourished. It is possible to identify statistically significant or suggestive “positive deviant” (e.g. a child of a poor mother who, despite the poverty, is healthy) behaviors that can be given priority for promotion during the project. Factors such as wealth may “confound” or confuse the data analysis. It is wise to control for this and other “confusing” factors during analysis or to explore using additional research methods.
- Having nutritional status and additional information about household behaviors, illnesses, etc., can be useful to generate hypotheses about which practices are most associated with nutritional status. However, caution is needed. It is sometimes difficult to know if the practice is causing the malnutrition, or if the malnutrition is causing the practice. For example: Is diarrhea from poor food preparation leading to malnutrition? Or is malnutrition (for example a lack of Vitamin A) contributing to diarrhea?

2. Identify and describe indices – 10 minutes

◀ **What are four nutritional indices that can be used during a survey?**

Add the following to their list, if needed:

- Weight-for-Age
- Height-for-Age
- Weight-for-Height
- MUAC (Mid-Upper Arm Circumference) used for women and children

Post the Nutrition Indices Title Cards. Ask participants to form two groups. Give each group half of the Nutrition Indices Description Cards. Ask the groups to match the description with the index by posting the description cards below the title cards.

After the groups place their cards, engage the participants in a discussion to make adjustments as needed. The final outcome should be:

13: Anthropometry within the KPC Survey

Weight-for-Age	Height-for-Age	Weight-for-Height
<ul style="list-style-type: none">▪ Is the most commonly used measurement during anthropometry studies▪ Identifies global malnutrition▪ Identifies a combination of children who are stunted and wasted	<ul style="list-style-type: none">▪ Is used to identify chronic malnutrition▪ Identifies problems from receiving too little food over a long period of time▪ Is not measured very often as part of KPC Surveys	<ul style="list-style-type: none">▪ Is a measure that identifies acute malnutrition—children who have been growing well, but have a problem that causes weight to falter in relationship to height▪ Is not measured very often as part of KPC Surveys▪ Does not require that the child's age be known in order to do the calculation

MUAC
<ul style="list-style-type: none">▪ Is used on women and on children 1 to 5 years of age▪ Is another measure of wasting▪ Is a good indicator of mortality risk▪ Provides categorical data

3. Determine data needs, material and personnel for each index – 10 minutes

Refer to TR 1-43: Data Needs, Materials and Personnel for Index Measurements. Ask participants to read TR 1-43 silently, underlining those points with which they find difficult to do.

1-43

Add any of the following challenges not mentioned:

- Finding people to assist with weighing during the KPC survey
- Having the time to take the height, weight and/or circumference measurements
- Difficult in obtaining good quality height measurements
- The requirement of additional training for those taking the measurements
- Assembling accurate results (rounding of weights is common)
- Getting the materials required for anthropometry (weighing scales, height boards, insertion tapes for MUAC, etc.)
- Carrying measurement equipment due to the weight
- Getting mothers to cooperate in undressing the child (especially in colder climates)
- The requirement of additional training for those who analyze the nutritional data

Nutrition Indices

WEIGHT-FOR-AGE

HEIGHT-FOR-AGE

WEIGHT-FOR HEIGHT

MUAC

NUTRITION INDICES DESCRIPTION CARDS

Is the most commonly used measurement during anthropometry studies

Identifies global malnutrition

(cut along the dotted lines)

(Blank page intentional)

Identifies a combination of children who are stunted and wasted

Is used to identify chronic malnutrition

Identifies problems from receiving too little food over a long period of time

Is not measured very often as part of KPC Surveys

(Blank page intentional)

Is a measure that identifies acute malnutrition—children who have been growing well, but have a problem that causes weight to falter in relationship to height

Is not measured very often as part of KPC surveys

(Blank page intentional)

Does not require that the child's age be known in order to do the calculation

Is used on women and on children 1 to 5 years of age

(Blank page intentional)

Is another measure of wasting

Is a good indicator of mortality risk

(Blank page intentional)

Provides categorical data

(Blank page intentional)

14. Anthropometric Data

Purpose:

To introduce participants to common ways to summarize anthropometric data

Objectives:

By the end of this learning session, participants will have:

1. Examined the concept of a “z-score” as applied to anthropometric data
2. Reviewed common ways of presenting anthropometric results

Preparation/Materials:

Step 1:

- **TR 1-44: What Is a “Z-score”?**

Step 2:

- **TR 1-45: Graphing Z-scores Compared to the Standard Population**
- **TR 1-46: Malnutrition and Z-scores**
- **TR 1-47: Displaying Malnutrition by Sex**

Time:

25 minutes

Steps:

1. Anthropometric data—defining malnutrition – 10 minutes
2. Displaying anthropometric data – 15 minutes

Steps

1. Anthropometric data—defining malnutrition – 10 minutes

Tell participants:

During the next two learning sessions we will discuss issues around presenting data from the KPC survey. However, since we are on the topic of anthropometry, we will deal with how to present this kind of data in this learning session.

The most important thing to realize about anthropometric data is that we want to use it to describe malnutrition in the population with which we propose to work. Unlike the use of this information in growth monitoring programs (that you may have seen), we are NOT collecting data to counsel mothers about the nutritional status of their children. Rather, we are trying to say something about the overall state of malnutrition in the population.

In either case, we can only talk about malnutrition in relation to some standard or to a healthy population of children. We saw in the previous learning session the different indices we use in anthropometry. Let us take the case of weight for age: In order to say that our population appears to have a high level of malnutrition (for example) we must have some “standard” in mind to which we can compare the population in order to conclude that it is malnourished.

14: Anthropometric Data

WHO has developed standard populations of healthy, well-fed children to which any population can be compared by age. NOTE: children under age 5 in all populations have similar growth characteristics despite genetic differences that might make one population overall “smaller” than another in adulthood. Using the standard population, we can compare our population to determine its overall level of malnutrition.

Stop here and ask:

- **What questions do you have about the standard population?**

After you have clarified the idea of a standard population continue by saying:

The preferred way of comparing our population to the standard is by using something called “z-scores. Please read **TR 1-44: What Is a Z-score?** Underline any concepts that are new or unclear. We will discuss it when you are finished.

1-44

*After participants have read **TR 1-44**, ask what questions or comments they have. Clarify any points that are unclear before moving on to show how such data can be displayed.*

2. Displaying anthropometric data – 15 minutes

Tell participants:

The concept of z-scores can help us not only interpret but present data on our population that will enable us to draw conclusions about the nutritional status of the children in it. The simplest way to think about presenting the information is simply to graph the z-scores for our population compared to the reference population.

*Ask participants to turn to **TR 1-45: Graphing Z-scores Compared to the Standard Population** and tell them:*

1-45

This graph is data from a child health program and allows a rapid visual comparison of a population with the reference population.

- **What do you notice about the sample population compared to the reference population?** *[Overall, the curve is shifted to the left indicating a population with overall lower nutritional status than the reference population.]*

If participants cannot see this point, remind them about how, in any population, some children will have a higher or lower weight-for-age index but that the study population has, overall, a lower index.

Continue the discussion by saying the following:

Rather than look at the whole population, overall, we may want to have a simpler measure that gives us an idea of the proportion of children who are classified as malnourished. While it is difficult in a strict biologically meaningful way to say what z-score indicates malnutrition, studies have shown an increased risk of death for children with z-scores of < -1 . Obviously, this does not mean that a given child with a z-score of < -1 is at higher risk (about 16% of all children in a healthy population will have such scores), but if many children have scores below -1 it may indicate a problem. In general, scores below -1 are referred to as having mild malnutrition, those below -2 are referred to as having moderate malnutrition and those below -3 are referred to as having severe malnutrition.

With this in mind, one way to present data is to show a table like the one in

TR 1-46: Malnutrition and z-scores.

1-46

➤ **What questions do you have about this table?**

Finally, one other way that uses z-scores to present information on malnutrition would be to compare subgroups like male and female according to z-score.

TR 1-47: Displaying Malnutrition by Sex, does just that.

1-47

➤ **What questions do you have about any of these ways of displaying the data?**

Keep these approaches in mind as we talk about creating “dummy tables” to show how we plan to display data in the next two learning sessions.

15. Results Tables Design: Frequencies

Purpose:

To help participants develop a set of “dummy tables”—tables that show how they will present (for analysis) data—with simple frequencies that will go in the data analysis plan.

Objectives:

By the end of this learning session, participants will have:

- Developed a set of frequency “dummy tables” for all the indicators upon which they plan to report in the KPC survey.

Preparation/Materials:

Step 1:

- **TR 1-48: Frequency Tables**

Step 2:

- Use the indicators from the case study to create a small number of indicators for each person to work on to design dummy tables

Time:

20 minutes

Steps:

1. What is a frequency table? – 5 minutes
2. Developing frequency tables – 15 minutes

Steps

1. What is a frequency table? – 5 minutes

Tell the participants:

Even before going out to collect data and, therefore, before analysis, you should be clear on how results will be presented to enable analysis. Before any observations can be used, they must be summarized or described. There are many ways to summarize or describe data—from simple tables or using graphs of various kinds to more complex statistical analyses of correlation. In this learning session we are going to examine the “simplest” way to present data in a simple frequency table and then you will examine your indicators and decide how you will display results for each one.

TR 1-48: Frequency Tables shows an example of two frequency tables that are linked to a single indicator. Examine it and then turn to a partner and discuss quickly the questions in **TR 1-48**. We will listen to a few examples of what you discussed.

1-48

After a few minutes, ask participants to share what they discussed. Clarify any areas of confusion.

2. Developing frequency tables – 15 minutes

*Give each pair of participant 1 indicator from the case study and ask them to create the “final” table to display the data for that indicator. Refer them to **TR 1-48** as an example, but point out that there may be several ways to present the data. Circulate around the room to answer questions. Tell the participants that they can think about tables that will provide more general results directly from the questions and those that provide information directly on the indicator, as in **TR 1-48**.*

Ask each participant to verbally summarize his/her tables.

16. Results Tables Design: Cross-Tabulations

Purpose:

To help participants develop a set of “dummy tables”—tables that show how they will present (for analysis) data—with cross-tabulations that will go in the data analysis plan.

Objectives:

By the end of this learning session, participants will have:

1. Named important subgroups (sex, age of mother, ethnicity) that they want to analyze for specific indicators.
2. Developed a limited set of cross-tabulation tables based on subgroups they identify as important.

Preparation/Materials:

Step 1:

- **TR 1-49: 2x2 Table and Odds Ratios**
- **TR 1-50: Tetanus Toxoid Immunization and Mother’s Age**
- **TR 1-51: Malnutrition and Feeding Practices**

Step 2:

- Flip chart with the title: Subgroups for KPC Survey Data Analysis
- For steps 2 and 3, you will need the project indicators from the case study

Step 3:

Assign homework:

- **TR 1-52: Review of Anthropometric Concepts**
- **TR 1-53: Review of Confidence Intervals**
- **TR 1-54: Review of 2x2 Tables and Odds Ratios**

Time:

60 minutes

Steps:

1. Introduction to cross-tabulations – 40 minutes
2. Identification of key subgroups to consider – 10 minutes
3. Developing cross-tab tables – 10 minutes

Steps

- 1. Introduction to cross-tabulations** – 40 minutes

Tell the participants:

In the previous learning session we saw how to present data using simple frequency tables. In this learning session we are going to go one step further and consider how to present and assess indicators by looking at subgroups of interest for our analysis. In a few minutes you will identify possible subgroups. First, let us look at how such data might be presented in cross-tabulations—especially a common cross-tabulation called a 2x2 table.

The purpose of cross-tabulating data is to compare results for different subgroups. This enables us to explore if there is an association between being in a particular subgroup (children of younger mothers versus children of older mothers, different behaviors of mothers related to hand washing and nutritional status of children, etc.).

Epidemiologists often use such tables to explore the association between EXPOSURE to certain risk factors and DISEASES or other outcomes. We can borrow from this idea to analyze our own data. **TR 1-49: 2x2 Table and Odds Ratios** shows how such tables are often set up and how we might use the same idea. Please read **TR 1-49** carefully and note any questions or comments you have.

1-49

*Ask participants to quickly examine **TR 1-50: Tetanus Toxoid Immunization and Mother's Age** and **TR 1-51: Malnutrition and Feeding Practices**. Ask them to quickly analyze each and share what they might conclude (keep in mind the caveats). [In both cases the confidence interval does NOT include 1, so one might conclude that the association is significant in a statistical sense. In the first case, there is a suggestion that being younger is associated with getting at least 2 TT shots. In the second case, there is a suggestion that children who are encouraged to eat while sick may be less likely to become malnourished. In neither case should we talk about causality but the directions of the association may be what we expect and suggest some important programmatic priorities.]*

1-50

1-51

2. Identification of key subgroups to consider – 10 minutes

Now that we have looked at cross-tabulations and how they might be useful, spend a few minutes looking at your indicators and identify important subgroups within them. You can think about subgroups of respondents (like older or younger mothers) or subgroups within the data (like nourished versus malnourished children). Think about what subgroups you would propose looking at.

Thank the participants for their ideas.

3. Developing cross-tab tables – 10 minutes

Conclude the learning session by telling the participants:

In the previous learning session you created final frequency tables (without data) that you will use during the analysis phase. Let us do the same thing now, except we will prepare cross-tabulation tables.

Conduct this activity in a large group and encourage participants to limit the tables they produce and not try to create too many.

*Assign as homework **TR 1-52, 53, & 54**. Be sure to review them the next day and answer any questions.*

1-52

1-53

1-54

TR 1-52: Review of Anthropometric Concepts (Answers)

1. In order to conclude that a population has significant malnutrition, there must be some reference population to which one can compare it. WHO has provided such a population of healthy children that acts as this reference and to which we can compare our population.
2. A Z-score is a way of describing the anthropometric indices of a population in order to enable comparison with the reference population.
3. Though it may lack strict biological significance, convention says a weight-for-age Z-score of < -1 is a sign of mild malnutrition. A Z-score of < -2 is a sign of moderate malnutrition and a Z-score of < -3 is a sign of severe malnutrition.
4. In the reference population, about 2.5% of children have weight-for-age Z-scores below < -2 . Therefore, if our population has a much larger percent with weight-for-age Z-scores below < -2 , we might conclude there is a malnutrition problem in our population.

TR 1-53: Review of Confidence Intervals (Answers)

1. Even when sampling and survey protocol are used properly, the results you get are still just an estimate of the true value. In other words, the result you get is probably pretty close to the real value, but probably not exactly the same as the real value. The results of a survey using sampling should never be considered absolute values.
2. Random error is unavoidable when sampling is used because you are not getting data from all possible values in the population. There is almost sure to be some difference in the results of a sample from what you would have gotten if you had interviewed every person in the population. Each estimate from a sample, therefore, always has a margin of error around it, which we also call a confidence interval (CI).
3. The formula for calculating a CI is:

$$P = p \pm Z * \text{SQRT}((p*q)/(n/d.e.))$$

where P = the actual rate/proportion in the general population

p = the survey estimate or proportion you get from sampling

q = 1 - p

z = the confidence level (with a 95% confidence level, z = 1.96)

n = sample size

d.e. = design effect

4. The design effect for a survey is usually estimated as 2.0 for cluster sampling and 1.0 for LQAS and Simple Random Sampling (SRS).
5. The confidence level is usually a constant value (from a table) for the level of power that you choose. Often in research and in KPC studies the level 95% is chosen. This means that you wish to be 95% sure that your confidence interval will capture the true value, based on your sample estimate. With a 95% confidence level, z = 1.96.

TR 1-54: Review of 2x2 Tables and Odds Ratios (Answers)

Two-by-two tables are frequently used in epidemiology to explore associations between ***exposure*** to risk factors and ***disease*** or other outcomes. They help us to see if a relationship exists between two ***categorical*** variables (e.g., whether being male means you are more likely to be malnourished, or whether exclusive breastfeeding means you are less likely to have diarrhea).

Set up the following situation in a 2x2 table:

There are 105 women in the community; 67 use a family planning method. Among younger women (<25 yrs), 51 use a family planning method. Older women (>25 yrs) use a family planning method in 16 cases out of a total of 34 older women.

Women	Use a Family Planning Method	Do Not Use a Family Planning Method	
Young	51	20	71
Older	16	18	34
	67	38	105

The odds of an event are calculated as the number of events ***divided*** by the number of non-events.

For example, on average, 51 boys are born in every 100 births, so the odds of any randomly chosen delivery being that of a boy is:

$$x / y = z$$

x = ***number of boys: 51***
y = ***number of girls: 49***
z = ***1.04***

- If the odds ratio is ***less*** than one → exposure is associated with a lack of disease (i.e., exposure may be *protective*).
- If the odds ratio is ***greater*** than one → exposure is associated with the disease (i.e., exposure may be *damaging*).
- If the 95% confidence interval ***includes 1***, then the relationship is ***not*** statistically significant.

17. Hand Tabulation

Purpose:

To understand the importance and the process of hand tabulation in fostering project and partner staff participation and ownership of the data that results from analysis and interpretation of results.

Objectives:

By the end of this learning session, participants will have:

1. Discussed the importance and purpose of hand tabulation.

Preparation/Materials:

Step 1:

- **TR 1-55: Why Tabulate Data BY HAND?**
- **TR 1-56: What to Look for When Tabulating/Analyzing KPC Data**
- Extra Reading: KPC 2000+ Field Guide, pp. 91–94

Time:

10 minutes

Steps:

1. Discuss the importance of hand tabulation – 10 minutes

Steps

1. **Discuss the importance of hand tabulation** – 10 minutes

Explain that the purpose of this learning session is to understand the importance of hand tabulation. Ask:

- **What is the purpose of tabulation in general?** [*Tabulation is bringing together the information collected during the interviews in a logical format so you can analyze it and use it to make program decisions. This information is called “data.”*]
- **Why might you want to tabulate your survey data by hand, even if you have the capability to do it on the computer?**

After their responses, refer to TR 1- 55: Why Tabulate Data BY HAND? to summarize. Say:

1-55

Hand Tabulation

Hand tabulation does not need to be an “all or nothing” proposition. Many projects use computer analysis as their principal method, but still use hand tabulation as an effective way to involve communities and stakeholders in the analysis process. For example, they enter the data on computer but include 1 or 2 examples of indicators produced by hand as part of the analysis workshop.

Refer to TR 1-56: What to Look for When Tabulating/Analyzing KPC Data. Encourage discussion and additions to the list.

1-56

18. Quality Control of Data

Purpose:

To understand the need for controlling the quality of data and the various levels of quality control.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed the importance of data quality control in the field.
2. Discussed how to control the quality of data at three levels.

Preparation/Materials:

Step 1:

- Flip charts with titles: In the Field, During Data Entry, During Final Cleaning
- 30 colored papers cut in 7” circles with a tail of string attached to each (like a balloon)
- Flip chart with GIGO Principle: Garbage In, Garbage Out
- Balloons—filled with air and on a string, approximately two for each participant
- **TR 1-57: General Principles for Supervising Data Entry**
- **TR 1-58: Quality Data Entry with Epi-Info**

Time:

45 minutes

Steps:

1. Brainstorm ways to ensure quality – 45 minutes

Steps

1. **Brainstorm ways to ensure quality – 45 minutes**

Explain:

We are going to explore together the need for taking certain steps to ensure that the information we receive in the field is of the highest quality and that a high level of quality is maintained throughout the KPC Survey process. We will look at the process from three different levels; in the field, during data entry and during the final cleaning. It is critical to ensure that all data is accurate and complete.

Post the three flip charts, side by side:

In the Field	During Data Entry	During Final Cleaning

Give each person two or three paper balloons. Ask them to write on each balloon one concrete step to take at each level to ensure quality. After they finish, have them place their balloons on the appropriate flip chart. If necessary, add balloons for any of the following key points if they are not

included. Review each level and discuss the ideas presented on each flip chart and who should do the data quality control at each level. Be sure the following ideas are presented:

FIELD LEVEL:

- Adequate training of Supervisors and Interviewers
- Practice, practice, practice
- Ratio of one Supervisor to every two Interviewers
- Close inspection of all questionnaires before leaving the community
- Observation by supervisor of one interview by each Interviewer every day
- Additional review of all questionnaires by Core Team each evening

Checking the Questionnaires

Many mistakes cannot be corrected once they reach the data entry people—correct answers that were skipped or written incorrectly can only come from the mother/interviewer and can only be corrected in the community while the mother and/or interviewer are still available. Look for:

1. Blanks where responses should have been recorded
2. Wrong codes
3. Incorrect skip patterns (going to the wrong question after the respondent gives a particular answer)
4. Response in incorrect locations
5. Unreadable marks/words

DATA ENTRY LEVEL:

- Good training of the data entry staff
- Use of double-entry or entry-validation processes
- Random checking of a sample of entered records
- MINIMAL DISTRACTIONS for data entry people—freeing them from other work for the duration of data entry
- Good working conditions for data entry people (good lighting, comfort, organized work space)
- Use of software packages such as Epi-Info that have built-in methods to help ensure the accuracy of data entry after the questionnaires have been cleaned
- Development of clear coding sheets

Post the GIGO “Garbage In/Garbage Out” flip chart. Say:

GIGO: Garbage In/Garbage Out

Remember that a computer program can do nothing to correct data that is originally written incorrectly by the Interviewer. Do not forget the GIGO principle: Garbage In, Garbage Out. Good data quality MUST start in the field!

18: Quality Control of Data

Refer participants to **TR 1-57: General Principles for Supervising Data Entry** and **TR 1-58: Quality Data Entry with Epi-Info**. Review and discuss the information.

1-57

FINAL CLEANING LEVEL:

- Put one person in charge of data management
- Use a Data Coordinator with experience
- Have the data entry people enter the data not the Data Coordinator
- Check the data records frequently to ensure that data is being entered properly
- Run frequencies and look for outliers—results that are very high or very low or unexpected that may indicate a possible error
- Visually scan all records in the data base to identify errors
- Check denominators for all indicators—use of incorrect denominators is the most common error

1-58

One would think that by the time you reach this level, if the previous levels of quality control have been conducted well, the data would be “sparkling” clean. Unfortunately, that is sometimes not the case. The important point regarding catching errors at this stage is that they are often difficult to correct, since going back to the original questionnaires may not always give a clear answer, and Interviewers may no longer be available to return to clusters.

Sometimes, missing or contradictory data at this stage require that an entire record—meaning all of a mother’s answers—be dropped from the database. This is always very frustrating since you worked so hard to collect the data and to have a sample size that gives you enough power to detect statistical significance. If you have to drop many records due to bad data, it may affect the conclusions you are able to make from your analysis.

Congratulate the group on a job well done and give each participant two balloons.

19. Developing a Data Analysis Plan

Purpose:

To discuss decisions about how to analyze the data and which aspects to analyze.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed the components of a plan for data analysis.

Preparation/Materials:

Step 2:

- **TR 1-59: Data Analysis Plan**
- Extra Reading: KPC 2000+ Field Guide, pp. 95–100

Time:

20 minutes

Steps:

1. Present the essential points – 20 minutes

Steps

1. **Present the essential points** – 20 minutes

Explain:

The purpose of this learning session is to review the components of the data analysis plan which forms the backbone for the analysis of the KPC survey.

- **Why do you need to develop an analysis plan?** [1) Which data is analyzed and how data is analyzed needs to be based on your project hypothesis, not just a random check of everything; 2) An analysis plan results in a more efficient use of time and resources and enables staff to focus only on what the project is really going to affect; and 3) The information can be used to complete a logistics plan and budget.]

Remind the participants of the work they previously completed—setting up tables for frequencies and cross-tabs in Learning Sessions 15 and 16. This work would be completed as part of the data analysis plan.

1-59

*Refer participants to **TR 1-59: Data Analysis Plan** as an example of how to formulate a data analysis plan. Explain:*

Review each point to determine if any questions or points need further clarification.

19: Developing a Data Analysis Plan

Data Entry

Most experienced computer users can input at least 20 questionnaires each day. Less experienced users may only be able to enter five to ten questionnaires. If 300 questionnaires need to be entered, and experienced computer users are used, it takes 15 person-days (e.g., five people working three days or three people working five days). Are you going to use double entry? It is best to begin entering the data on the day after the first day of interviewing (rather than waiting until all questionnaires have been completed). This allows you to detect data errors early and provide further training so that the remaining data entry is of higher quality.

If the decision is to use hand tabulation, it is recommended that two days of staff time be added for a Tabulation Workshop. You must also locate a site with enough room for all of the tabulators to work, as well as arranging for food and lodging.

Encourage them to read the KPC 2000+ Field Guide, pp. 95–100 for more information.

20. Preparations for Training Supervisors and Interviewers

Purpose:

To understand the need for draft materials to be developed prior to training of Supervisors and Interviewers.

Objectives:

By the end of this learning session, participants will have:

1. Analyzed a plan for translating and back-translating the **KPC Survey Questionnaire** from English, French or Spanish to a local language.
2. Developed examples of a draft lexicon based on the questionnaire to standardize local language for the collection of accurate data.
3. Practiced using a draft Events Calendar to be used for determining the age of children.
4. Discussed the importance of an Informed Consent Form
5. Reviewed the training agenda for Supervisors and Interviewers to determine training needs.

Preparation/Materials:

Step 2:

- **TR 1-60: Translating and Back-Translating the KPC Survey Questionnaire**

Step 3:

- Flip chart with title: Local Lexicon
- **KPC Survey Questionnaire** from the case study

Step 4:

- **TR 1-61: Events Calendar** (sample)
- Flip chart with title: Events Calendar for Estimating Age in Children
- **TR 1-62: Tips on Making and Using an Events Calendar**

Step 5:

- **TR 1-63: Informed Consent Form**
- Flip chart with title: Why Seek Informed Consent?

Step 6:

- **TR 1-64: Sample Agenda for Training Supervisors and Interviewers**

- Extra Reading: KPC 2000+ Field Guide, pp. 32–36 and 79–84

Time:

120 minutes (2 hours)

Steps:

1. Introduction –15 minutes
2. Understanding the need for a plan for translation – 20 minutes
3. Defining what should be included in a local lexicon – 20 minutes
4. Using a draft Events Calendar – 30 minutes
5. Note the importance of the Informed Consent Form – 10 minutes
6. Determine training needs for personnel – 25 minutes

20: Preparations for Training Supervisors and Interviewers

Steps

1. Introduction – 15 minutes

Review the TOST process, reminding participants of the importance of training field staff as part of the KPC Survey methodology. Explain to the participants that we will review how the Supervisors and Interviewers will be trained. The first step is to prepare certain draft documents for use in the training workshop for Supervisors and Interviewers; the next step is to look at the agenda for their training.

2. Understanding the need for a plan for translation – 20 minutes

Discuss the importance of using a translation/back-translation technique. Ask participants to share their previous experience with translating documents. Say:

Describe any experiences you have had with both translating AND back-translating a questionnaire.

➤ **What have been your successes and challenges?**

*Discuss the importance and flow of translation/back-translation by referring to **TR 1-60: Translating and Back-Translating the KPC Survey Questionnaire.***

1-60

*Keeping the points from **TR 1-60** in mind, ask the group what would be the best way to translate the questionnaire. An ideal option would be to have two Supervisors or members of the Core Team translate, another person not involved in the KPC survey to back-translate, and the Core Team to review the back-translation.*

3. Defining what should be included in a local lexicon – 20 minutes

Say:

To make the **KPC Survey Questionnaire** completely understandable to the respondents, it is critical to develop a local lexicon to standardize the translation and the meaning of the questions. Local areas always have local ways of expressing concepts and locally available foods and customs. We will now review the draft questionnaire to identify those words or concepts which need to be modified according to local usage.

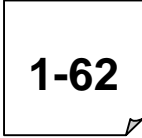
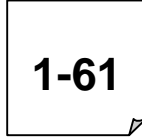
Have participants identify words in the questionnaire for which standardization of understanding is essential. Note that this includes the identification of local foods and drink (vitamin A sources, first foods, treatments for diarrhea, etc.), local folk remedies, alternative sources of care, and local disease terminology. This list will be used to modify the KPC Survey Questionnaire so that wording in questions will be posed in a standard way that is easily understood in the local area. It can also be used to develop alternative ways the questions can be asked when a respondent does not understand a question that the Interviewer is asking. The local adaptation will also be reviewed by Supervisors and Interviewers and field tested, which may reveal alternate phrasings

that can be used after repeating a question word-for-word. Any extensive lists of local vocabulary—e.g., vitamin A foods—should be typed and given to Interviewers.

4. Using a draft Events Calendar – 30 minutes

Ask:

- **Does anyone have experience making or using an events calendar for estimating age?** *[If there are experienced people, ask them to explain how an events calendar is used and how it is constructed.]*



*Refer to **TR 1-61: Events Calendar** and **TR 1-62: Tips on Making an Events Calendar**. Ask participants to silently read the materials and ask any questions to enhance understanding. Give example of how to use the calendar and brainstorm the types of events which could be included.*

5. Note the importance of the draft Informed Consent Form – 10 minutes

Ask:

- **Why should we request the consent of the respondents before beginning the KPC Survey Questionnaire?**

*Explain to participants that a generic consent form is included as part of the materials for the KPC 2000+ Survey. Refer participants to **TR 1-63: Informed Consent Form**. Ask participants to take a few moments to carefully read through the Informed Consent Form. Review the form together and ensure that participants understand the importance of this consent.*



Discuss the procedure to use if potential respondents decline to participate in the survey. After the discussion, ask them to identify any areas on the Informed Consent Form that might need modification in language, style or comprehension.

6. Determine training needs for personnel – 25 minutes

*Refer to **TR 1-64: Sample Agenda for Training Supervisors and Interviewers**. Ask participants to review the agendas. Explain:*



The purpose of this activity is to review the sample training agenda for Supervisors and Interviewers and to determine the amount of time that will be required to train them. The normal pattern is to train Supervisors and Interviewers together for three days, plus one day for a field test. The length of training is determined by the level of previous experience of the Supervisors and Interviewers and what anthropometric indices will be used.

- **What modifications might need to be made in this sample agenda?**

Refer participants to pp. 32–36 and 79–84 of the Field Guide for additional information.

21. Developing a Logistics Plan and Budget

21. Developing a Logistics Plan and Budget

Purpose:

Review the tools for preparing a logistics/management plan for implementing a KPC survey.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed the different parts of a logistics/management plan and the criteria for each part.

Preparation/Materials:

If possible, assign the review of the Field Guide Chapter 2 as a homework assignment before beginning this session.

Step 1:

- **TR 1-65: KPC Logistics and Management Planning Form**
- Flip chart with title: Things to Consider When Setting Dates for a KPC Survey

Time:

45 minutes

Steps:

1. Review the planning tools – 45 minutes

Steps

1. Review the planning tools – 45 minutes

*Ask participants to use **Field Guide Chapter 2** as a guide. Refer participants to **TR 1-65: KPC Logistics and Management Planning Form**. Review the criteria for each part of the logistics/management plan and budget.*

1-65

Conducting a KPC survey represents a major effort on the part of the organization, the MOH, and partners, plus the time required of community members. In order to efficiently complete an activity of this magnitude, it is critical to have a systematic plan for logistics and overall management. In fact, it is as critical as having adequate funds to pay for this important activity.

Timing

Ask:

- **What might affect the dates that you choose for your KPC survey?**

Ensure that the following are included (use the calendar as needed):

- Holidays
- Weather conditions
- Potential availability of the respondents
- Other scheduled project activities
- Migration patterns
- Disease-prevalence patterns
- Food security and eating patterns (hungry season)

The last two items—disease and food security patterns—can affect how representative the survey findings are, and they should also be taken into account when analyzing the data.

Personnel

KPC Survey Trainer: If a member of the Core Team has received the KPC TOST training, that person can serve as the Survey Trainer. If this is not an option, hire a Survey Trainer (consultant) to work with the Core Team. These consultants are often contracted for about 15 to 20 days (for preparation, KPC survey training, data analysis and the KPC Survey report). A consultant also could be contracted only for specific tasks that cannot be completed by project staff (e.g. data analysis).

Transportation

*Ask a participant to read the transportation section of **Field Guide Chapter 2**. Then ask:*

Ask participants to think back to the map they developed in Learning Session 12. Share experiences and respond to questions.

Printing

*Ask a participant to read the section of **Field Guide Chapter 2** about how to develop a plan for editing, printing, and photocopying/reproducing forms and materials. Add the following information:*

- You need a computer and a good printer to edit and print the questionnaire file.
- You need photocopies of the questionnaire for pre-testing and training.
- You need to make photocopies of the (modified) questionnaire shortly before the survey.
- You need to decide who will make changes on the computer and where and when the final product can be photocopied.
- You may need to adjust your survey schedule as necessary to ensure that photocopies are available for training, pre-testing, and conducting the survey.

➤ **What problems can you anticipate?**

Share experiences and respond to questions.

Other Administrative and Logistical Issues

*Ask a participant to read the section of **Field Guide Chapter 2** about administrative and logistical issues. Say:*

21. Developing a Logistics Plan and Budget

Remember:

- It is important for the local people to know that a survey is going to be conducted. Some communities refuse to be interviewed if they are not properly informed in advance.
- If possible, ask the data entry people to attend part of the training for Interviewers. This helps them to understand the KPC survey process and to appreciate the importance of good data.
- Realize that translation of the *KPC Survey Questionnaire* can be a time-intensive activity.
- A well thought out pre-test eliminates many problems with KPC survey implementation.

Budget

Use *Field Guide Chapter 2* to discuss how to develop a budget. Remind participants to keep some commonly overlooked items in mind, such as:

- Translation costs
- Pre-testing
- Double entry of data
- Analysis
- Feedback activities: how, who, when and where

Ask what questions the group has on developing a logistics plan and budget. Explain that this represents the end of what would be included in the Core Team training. We will now do an exercise on interviewing, which would be part of the training for Supervisors and Interviewers.

22. Proper Interviewing

Purpose:

To identify proper interviewing techniques and practice using the KPC Survey Questionnaire and Quality Improvement Checklist.

Objectives:

By the end of this learning session, participants will have:

1. Developed a list of proper interviewing techniques.
2. Discussed improper interviewing techniques and identified the issue that will be addressed by each point in the Quality Improvement Checklist.
3. Practiced proper interviewing techniques.

Preparation/Materials:

Step 1:

- Flip chart with title: Ideas for Effective Interviews
- **TR 1-66: Proper Interviewing Techniques**

Step 2:

- **TR 1-68: Quality Improvement Checklist**

Step 3:

- **TR 1-69: Instructions for the Triad Activity**
 - Prepare one copy of **TR 1-67: KPC Survey Questionnaire** for each participant
 - Make one copy of **TR 1-68: Quality Improvement Checklist** for each participant
 - Prepare several sets of signs to designate roles—a “set” is three signs: Interviewer, Respondent, and Supervisor. To determine the number of sets needed, divide the total number of participants by three.
- Extra Reading: KPC 2000+ Field Guide, pp. 85–89

Time:

120 minutes (2 hours)

Steps:

1. List proper and improper interviewing techniques – 20 minutes
2. Review and discuss the Quality Improvement Checklist – 10 minutes
3. Practice in triads as Interviewer, Respondent and Supervisor – 90 minutes

Steps

1. **List proper interviewing techniques – 20 minutes**

Say:

We worked previously on selecting the proper person to interview, let’s look at how to interview that person. Turn to the person seated next to you and discuss what factors are most important in proper interviewing. For example, one technique might be to “speak loudly and clearly,” or another might be to “make eye contact with the respondent.”

21. Developing a Logistics Plan and Budget

After one or two minutes, ask for volunteers to suggest some proper interviewing techniques. List their ideas on the flip chart.

Ideas for Effective Interviews

*After a few ideas are listed on the flip chart, refer to **TR 1-66: Proper Interviewing Techniques**. Ask participants to take turns reading each point. Compare the flip chart list with **TR 2-12**.*

1-66

*Ask the participants to turn to the same partner to brainstorm about improper techniques. Then ask for volunteers to give some examples. Summarize by pointing out what to avoid when interviewing and state that now they will have the opportunity to practice using the **KPC Survey Questionnaire** with good interviewing techniques.*

2. Review and discuss the Quality Improvement Checklist – 10 minutes

Say:

In the KPC survey, it is extremely important that all of the Interviewers ask the questions exactly the same way. For this reason, each Interview Team is led by a Supervisor who checks that Interviewers all follow the same guidelines and rules. The Supervisor must review every questionnaire while the Interview Team is still in the community so that mistakes can be corrected immediately. In addition, a **Quality Improvement Checklist** is provided as a daily tool to help Supervisors catch errors in interviewing or recording techniques.

Without proper and immediate feedback, the quality of the KPC survey suffers because an Interviewer can make the same mistake over and over again while conducting the KPC Survey. Waiting until after the KPC survey is completed to implement quality control measures leaves many problems until it is too late to correct them.

*Refer to **TR 1-68: Quality Improvement Checklist**. Ask a volunteer to read the instructions on **TR 1-68**. Ask:*

1-68

➤ **What questions do you have about the instructions on the Quality Improvement Checklist?**

Address any questions and stress the need for Supervisors to use the **Quality Improvement Checklist** to observe/evaluate interviews. Remind Supervisors not to talk to the Interviewers during the observation. Stress that the purpose of the **Quality Improvement Checklist** is to improve performance and document the quality of the interviews.

After clarifying the instructions, ask for volunteers to read the questions in the **Quality Improvement Checklist**. Pause occasionally to describe proper and improper interview techniques and to clarify what is meant by the questions.

Ask:

- **Can you identify the interview “problem” the Supervisor is trying to correct for each point on the checklist?**

Say:

There are a number of levels of quality control during a KPC survey. The computer/data entry people are trained to clean the data, but many mistakes cannot be corrected once they reach the data entry people—questions that were incorrectly skipped or answers that were coded improperly or written illegibly or incorrectly can only be adjusted by the Interviewer who may, in some cases, need to go back to the respondent to ask for clarifications or additional information.

Important

The Interviewers and Supervisors play the most important role in assuring data quality. All **KPC Survey Questionnaires** should be checked immediately after completion while it is still possible to send an Interviewer/Supervisor back to find the particular respondent and clarify the information.

3. Practice in triads as Interviewer, Respondent and Supervisor – 90 minutes

*Distribute one (1) copy of the **KPC Survey Questionnaire** and one (1) copy of the **Quality Improvement Checklist** to each participant.*

*Divide the participants into triads (groups of three members each). Give one set of signs (Interviewer, Respondent and Supervisor) to each triad. Explain that participants now have an opportunity to practice using the **KPC Survey Questionnaire** and the **Quality Improvement Checklist**. Each member of the triad should take one sign.*

*Each person in the triad should play a different role, depending on what sign the person is holding. The person who is the Supervisor should use the **Quality Improvement Checklist** during the interview and then provide feedback to the Interviewer at the end of the interview. The signs should be passed on at the end of each round, before the next practice interview begins.*

*Ask the participants to complete three rounds so that each participant has an opportunity to play each of the three roles. Refer participants to **TR 1-69: Instructions for the Triad Activity**.*

1-69

Explain to the participants that now we will move to Post-Survey activities, using the case study to begin to take actions based on the outcome of the KPC Survey.

23: Making Decisions Using KPC Survey Data

23. Making Decisions Using KPC Survey Data

Purpose:

To use data from the KPC survey to identify health problems, and help in planning intervention activities and strategies.

Objectives:

By the end of this learning session, participants will have:

1. Practiced using KPC survey results to make decisions.
2. Discussed how to use KPC survey data to identify health problems, interventions, activities, and strategies.

Preparation/Materials:

Step 1:

- **TR 1-70: Questions for Analyzing Frequency Tables**
- Flip chart with title: Priority Health Problems
- Flip chart with title: Analyzing Frequency Tables: Issues Requiring Further Investigation

Step 2:

- **TR 1-71: Questions for Analyzing 2x2 Tables**
- Flip chart with title: Analyzing 2x2 Tables: Issues Requiring Further Investigation
- Extra Reading: KPC 2000+ Field Guide, pp. 95–100, 108–112

Time:

50 minutes

Steps:

1. Use data in frequency tables to draw conclusions – 20 minutes
2. Use data in two-by-two tables to draw conclusions – 20 minutes
3. Discuss what actions should be taken – 10 minutes

Steps

We are going to look at the KPC survey results using two different methods: frequencies and two-by-two tables.

1. Use data in frequency tables to draw conclusions – 20 minutes

*Ask the participants to look at the data set frequencies from the case study in pairs or small groups. Suggest they use **TR 1-70: Questions for Analyzing Frequency Tables** to assist them in the analysis. Review **TR 1-70**. (Depending on the project interventions, an alternative would be to focus on one intervention at a time.)*

1-70

Be sure to capture the answers to the following questions on flip charts:

- **What are the priority health problems shown?**

Priority Health Problems

- **What questions that require further investigation are raised by these results?** (*Note: this flip chart will be used in Learning Session 26.*)

**Analyzing Frequency Tables:
Issues Requiring Further Investigation**

2. Use data in two-by-two tables to draw conclusions – 20 minutes

Ask participants to look at cross-tabulations from the case study in pairs or small groups and explore whether differentials exist for certain indicators. Give participants sufficient time to look at and understand the data. Suggest that they use the questions in TR 1-71: Questions for Analyzing 2x2 Tables.

1-71

- **What questions that require further investigation are raised by these results?**
(*Note these on a separate flip chart to be used in Learning Session 26.*)

**Analyzing 2x2 Tables:
Issues Requiring Further Investigation**

3. Discuss what actions should be taken – 10 minutes

*The analysis of data should be structured to assist in making key decisions. These decisions vary depending on the timing of the survey. Review the following information, helping participants think through the actions that correspond to the actual KPC survey (baseline, mid-term or final). **Only** present the information for the type of KPC survey they are actually analyzing (baseline, mid-term or final).*

23: Making Decisions Using KPC Survey Data

Actions Following Baseline Surveys

1. Decide on the final set of objectives/indicators for the project: Compare the values of the survey variables: a) with each other; and b) with available comparable data (such as DHS for regional or national level). Based on this comparison (as well as other issues), decide on the final set of priority objectives/indicators for the project to go into the Detailed Implementation Plan (DIP). (This comparison will be made in Learning Session 3.)
2. Decide on target values and benchmarks for the project that should be measured during the final survey and perhaps during mid-term surveys. (This task will be addressed in Learning Session 4.)
3. Decide if interventions need to be targeted at specific populations. As time allows, cross-tab project indicators and use the results to help decide if it makes sense locally to give certain populations more attention. For example, compare findings among indicators for urban vs. rural; different age groups of mothers; different age groups of children; religions; ethnicity, etc. Significant differences can suggest which groups most need to be targeted. Differences which are not statistically significant can also be used for developing hypotheses that certain groups should receive more attention (this needs to be investigated further with quantitative or qualitative assessment).
4. Develop a monitoring plan for tracking both process and impact indicators throughout the life of the project. Be sure to include the monitoring of activities at various levels of intervention—such as health facilities—through the use of tools that complement the KPC survey.

Actions Following Mid-term Surveys

1. Decide whether or not to continue the current intervention strategies. If an indicator is not improving sufficiently (based on the manager's judgment when comparing the results to benchmarks), this could indicate two things:
 - a. The intervention strategy is insufficient or inappropriate; and/or
 - b. The intervention strategy is not being carried out as planned/designed.

The first task following a mid-term survey—for indicators that are not improving—is to determine if the problem is the strategy itself or is how the strategy is being implemented.

Conducting the KPC survey just prior to the mid-term evaluation can give the evaluators an opportunity to focus on what questions they want to address.

2. Decide whether or not to change HOW to carry out any of the intervention strategies that are retained. This decision usually requires process data and client satisfaction assessments (which may not come from the KPC survey).

The above suggests a two-step process: 1) a household survey to flag problem indicators, and 2) a mid-term evaluation or similar type of focused investigation that looks at the process related to problem indicators. If the process seems to be acceptable, then a decision may be made to change the strategy. If the process has problems, then decide to first improve the process; one cannot really test the strategy and determine if it is right or wrong unless the process is first examined and found to be appropriate.

Actions Following Final Surveys

1. Determine to what extent the project has met its objectives and targets.
2. Decide whether or not a follow-on project should address objectives/indicators different from the current project. Compare the values of the survey variables a) with each other; b) with the project targets; and c) with the available comparable data (such as DHS for regional or national level). Based on this comparison (as well as other issues), suggest a set of priority objectives/indicators for a follow-on project.
3. For any objectives/indicators that one decides to retain from the previous project, decide whether or not to continue the current intervention strategies in follow-on activities to the project. If an indicator is not improving sufficiently (based on the manager's judgment when comparing the results to project targets and/or national or regional levels), this could indicate two things:
 - a. The intervention strategy was insufficient or inappropriate; and/or
 - b. The intervention strategy was not being carried out as planned/designed.
4. Determine whether, if certain indicators are not improving, the problem is the strategy itself or how the strategy is being implemented. Conducting the survey just before the final evaluation can give the evaluators an opportunity to focus on what questions they want to address.
5. Decide whether or not to change HOW to carry out any of the intervention strategies that are retained. This decision usually requires process data and client satisfaction assessments (which may not come from the KPC survey).
6. If the project will not be continued, ask:
 - What are the principal lessons learned from this project? What worked? What did not work?
 - How can these lessons learned be shared to effectively utilize both positive and negative experiences?

24. (For Baseline Surveys) Using KPC Results to Establish Targets

Purpose:

To use an existing study on indicator performance of PVOs to act as a guide in establishing project targets.

Objectives:

By the end of this learning session, participants will have:

1. Reflected on how to use the target setting index to set mid-term and final targets.

Preparation/Materials:

Step 1:

- **TR 1-72: Use of Target Setting Performance Index**

Step 2:

- **TR 1-73: Setting Targets**

Step 3:

- **TR 1-74: Target Worksheet**

Time:

45 minutes

Steps:

1. Present the Target Setting Performance Index – 5 minutes
2. Demonstrate the use of the Target Setting Performance Index – 15 minutes
3. Use an example from the Target Setting Table – 25 minutes

Steps**1. Present the Target Setting Performance Index – 5 minutes**

*Tell participants that the next step is to decide what targets to set for each indicator now that we know the baseline levels. Refer participants to **TR 1-72: Use of Target Setting Performance Index**. Ask them to silently read the information and underline the most important points. When they finish, ask 1 or 2 volunteers to share what they thought was most important.*

1-72

Before continuing with the demonstration, ask what comments or questions participants have.

2. Demonstrate the use of the Target Setting Performance Index – 15 minutes

Explain that this study developed a series of formulas to help in setting potential targets. It is not the intention of this learning session to explain how the formulas were developed, only to present the formulas and give participants an opportunity to use the formula for determining final targets.

Write the formula on a flip chart.

$$\frac{(\text{final level} - \text{baseline level})}{(100 - \text{baseline level})}$$

Present the example and say:

If the baseline level of measles immunization coverage was 20% and the final level was 40%, the (PI) Performance Index value is calculated as: $(40 - 20) / (100 - 20) = (20 / 80) = 25\%$. In this case, the project achieved 25% of what was possible to achieve, given a starting level of 20%.

Ask two participants to figure out the Performance Index for two more examples: an increase from 20% to 60% and an increase from 55% to 95%, using the formula written on the flip chart. Ask the participants to show their work on a flip chart.

Answers:

$$\begin{aligned} (60 - 20) / (100 - 20) &= 50\% \\ (95 - 55) / (100 - 55) &= 89\% \end{aligned}$$

Point out that—for the two examples—there was an increase of 40 percentage points in both; however, the Performance Index is higher in the second example.

- **Which do you think is harder to achieve: an increase from 20% to 60%, or an increase from 55 to 95%?**

Give them time to reflect and respond, then explain:

The increase to 95% would probably be more difficult, since getting those last few beneficiaries (e.g., with full immunization) is usually hardest—one has to maintain a 90% coverage (for example) while getting the last few beneficiaries covered. As coverage goes up, it often costs more per beneficiary to increase coverage. The Performance Index reflects this fact: the Performance Index for the first example is 50%, while for the second example it is 89%.

*Refer participants to **TR 1-73: Setting Targets** and explain the following:*

- Not all of the KPC 2000+ and Rapid CATCH indicators are listed in this table. Only the indicators used by a significant number of organizations in the previously mentioned study are given.
- For other indicators, you can choose a similar indicator in the table, one that follows a comparable process of implementation and has a similar outcome in terms of knowledge, behavior or coverage. Be sure to take into consideration what steps in the process are directly under your control—e.g. education sessions—and what steps are dependent on actions out side of your control e.g. availability of antigens. Use your best judgment, looking at what your organization has achieved in the past in this country or other countries, or what other PVOs have accomplished in similar settings.

1-73

- In general, we can see from the table that it is easier to increase services over which the organization has the most control (e.g., immunizations). Change is more difficult to effect in mother’s practices, compared with just changing knowledge. Promoting a positive change in practice is especially difficult if there is an opposing trend locally or nationally without the intervention, as in the trend in many areas against prolonged breastfeeding.
- THIS TABLE IS NOT A SUBSTITUTE FOR REFLECTION ON AN ORGANIZATION’S HISTORY AND ABILITY TO PROMOTE CHANGE WITHIN A GIVEN CONTEXT. This table gives an organization a starting place for setting some indicator levels, but discussion within the organization and with partners should take place as well to set these levels.

3. Use an example from the Target Setting Table – 25 minutes

Ask all participants to work through the following as an example of how to use the table:

For “Access to immunizations for children 12–23 months by card (DPT 1),” the Performance Index is 36%. That means that:

$$F = 0.36 + (1 - 0.36) * B, \text{ where } F = \text{Final level and } B = \text{Baseline level}$$

Let us assume the baseline level was 20%; therefore, we would expect the final level to be

$$\text{Final} = 0.36 + (0.64 \times .20) = 48.8\%, \text{ which we would round up to } 49\%$$

Refer to the last page of TR 1-73 where it starts: “If you want to be on the conservative side....” Ask participants to take turns reading sections of this page aloud.

- **How would being more conservative affect the example we just completed?**
- **What factors need to be taken into consideration for your project?** *[Time in the area, strength of partnerships, political stability, level of effort planned, how difficult it is to make change in the local situation, current trends related to the indicator, etc.]*

Ask a participant to go through the calculations for the second indicator on the chart. This helps you—the Trainer—to evaluate participants’ understanding.

25. (Mid-term or Final Surveys) Assessing the Achievement of Targets

Purpose:

To assess the achievement of targets (either mid-term or at the end of the project) by looking at current and previous KPC survey indicator levels to determine if changes are statistically significant.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed information about confidence intervals.
2. Discussed indicators with their confidence intervals and stated whether a change is statistically significant.
3. Discussed what it means if a change in an indicator is not statistically significant.
4. Determined if indicators from current and previous surveys show statistically significant changes.

Preparation/Materials:

Step 1:

- Prepare flip charts with numbers written out (see samples in Step 1)

Step 2:

- Assemble project indicators with results from current and baseline KPC surveys
- **TR 1-74: Comparison of Achievements to Targets**

Time:

15 minutes

Steps:

1. Review some examples of confidence intervals – 10 minutes
2. Compare the results from the current KPC survey with baseline KPC surveys – 5 minutes

Steps

1. Review some examples of confidence intervals – 10 minutes

Post the first flip chart with the numbers written out:

- 30/150, or 20%, with a confidence interval of 10.9% – 29.1% at baseline
- 83/152, or 54.6%, with a confidence interval of 43.4% – 65.8% at mid-term

Tell the participants:

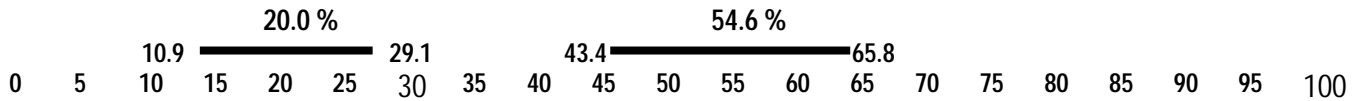
Let us say that you conduct a KPC survey using cluster sampling and for a particular indicator—full immunization coverage before the first birthday—you get:

- 30/150, or 20%, with a confidence interval of 10.9% – 29.1% at baseline; and
- 83/152, or 54.6%, with a confidence interval of 43.4% – 65.8% at mid-term.

25: (For Mid-term or Final Surveys) Assessing the Achievement of Targets

- **Was the change statistically significant?** [*Yes. There is no overlap in the confidence intervals, so the change is statistically significant.*]

Draw the two-point estimates on a line representing their confidence intervals, one on top of the other, and show how the two intervals do not overlap.



Post the other flip chart with the numbers written out:

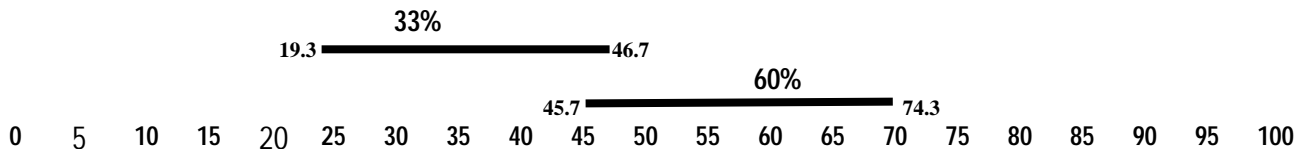
- 30/90, or 33%, with a confidence interval of 19.3% – 46.7% at baseline
- 54/90, or 60%, with a confidence interval of 45.7% – 74.3% at final

Say:

Let us say that you conduct a KPC survey using cluster sampling and for a particular indicator—giving more liquids to a child with diarrhea—you get:

- 30/90, or 33%, with a confidence interval of 19.3% – 46.7% at baseline; and
 - 54/90, or 60%, with a confidence interval of 45.7% – 74.3% at final.
- **Was the change statistically significant?** [*No. There is an overlap in the confidence intervals: the points between 45.7 and 46.7 overlap, so the change is **not** statistically significant.*]

Draw the two-point estimates on a line representing their confidence intervals, one on top of the other, and show how the two intervals overlap.



- **What do you notice about the confidence interval for this estimate as compared to the first?** [*It is wider, because the sample size for that particular question is smaller—only 90 children were discussed (as compared to 150 children in the previous indicator), since this question was only for mothers of children who had diarrhea. On questions like this where the sample size is considerably smaller, it is difficult to see a statistically significant change unless the change is really large.*]

Ask:

- **What can we say about this second situation?**

Be sure that the following point is raised, adding it only if participants do not mention it:

There *appears* to have been a change but that the change was not statistically significant. For management purposes, we would act as if there were a change but look at it with some doubt, realizing that there may not have been a change. The larger the overlap, the more doubt we have that the change was real. The smaller the overlap, the less doubt we have that the change was real.

2. Compare the results from the current KPC survey with previous KPC surveys – 5 minutes

*Distribute the data on project indicators from the current and baseline KPC surveys. Ask the participants to review their indicators from the baseline KPC survey and ask them how they would complete **TR 1-74: Comparison of Achievements to Targets**. Explain that once indicators are placed in **TR 1-74** they can mark with a yellow underlining pen those indicators that show a statistically significant change.*

1-74

- ◀ **What actions need to be taken, based on the results of this comparison?**

26. Identifying Follow-up Activities

Purpose:

To identify follow-up activities needed to better understand the results of the KPC survey and to promote change at multiple levels that affect household behaviors.

Objectives:

By the end of this learning session, participants will have:

1. Discussed examples of gaps in understanding when looking at KPC survey data.
2. Reviewed the KPC 2000+ Modules to identify a list of follow-up qualitative research questions that can be asked to fill in some of those gaps.
3. Determined where change would need to occur in order to for families to alter their behavior and how to measure them.

Preparation/Materials:

Step 1:

- Make sure the flip charts from Learning Session 23 are available: *Analyzing Frequency Tables: Issues Requiring Further Investigation* and *Analyzing 2x2 Tables: Issues Requiring Further Investigation*

Step 4:

- Prepare a flip chart based on the model provided (modify the sample, putting pertinent points under each level according to project activities)

Step 5:

- **TR 1-75: Levels of Action to Manage Diarrhea**
- **TR 1-76: Case Study on Effecting Change**
- **TR 1-77: Worksheet on Effecting Change**
- **TR 1-78: Responses for Case Study on Effecting Change**

Time:

60 minutes

Steps:

1. Introduce the use of qualitative questions for follow-up – 10 minutes
2. Review the KPC 2000+ Modules to identify possible qualitative questions – 20 minutes
3. Identify other levels where change needs to occur – 5 minutes
4. Determine appropriate actions at various levels for the intervention – 25 minutes

Steps

1. **Introduce the use of qualitative questions for follow-up – 10 minutes**

Ask the participants:

- **If you were a newspaper reporter, what are the things you need to include in a news article?** [*who, what when, where, how, how much, why*]

Write the responses on a flip chart. Ask:

- **Which of these questions are answered by the KPC survey?** [*who, what, when, where, how much*]

On the flip chart, place a “” next to the five (5) correct responses. Tell the participants:*

As we saw in the previous learning session, the KPC survey can answer many types of questions, but it should also stimulate new questions. We often have “why” and “how” type questions after a KPC survey is conducted that we cannot answer with just KPC survey data. Qualitative methods are best used to answer why and how type questions.

Refer to the flip charts prepared during Learning Session 23, Steps 2 and 3: Analyzing Frequency Tables: Issues Requiring Further Investigation and Analyzing 2x2 Tables: Issues Requiring Further Investigation. Give the following theoretical examples:

A particular situation is occurring that is unexpected:

- 75% of mothers can correctly explain how to make ORS, but only 15% of mothers say that they used ORS the last time their child had diarrhea. Question raised:
 - **Why do most of the mothers not use ORS, even though they have been educated about it?**
- 83% of mothers say that a TBA attended their last birth, despite the fact that access to health centers with birthing facilities is very good. Question raised:
 - **Why do most of the mothers use the TBAs rather than the health centers for deliveries?**

A particular way of doing something is not well understood:

- 62% of mothers say that both they and their children slept under a bednet last night. Questions raised:
 - **How often do the mothers use the bednets?**
 - **Are the mothers sharing a bednet, or does each person have one?**
- Breastfeeding ceases for most children at about 13 months of age. Ninety percent (90%) of mothers are breastfeeding children at 12 months of age, and only 20% are doing so when the children are 14 months of age. Questions raised:
 - **How do mothers wean children?**
 - **Why do they all seem to stop breastfeeding at about the same age?**

The mode of transmission of particular messages and information is not well understood:

- Ninety-four percent (94%) of women of reproductive age mentioned “Avoid Kissing” as a way to prevent HIV/AIDS. Questions raised:
 - **How did they develop this opinion?**
 - **Did they come up with this themselves, or is someone telling them this?**
 - **The proportion is so high ... did they hear it by word of mouth or through some official source?**

26: Identifying Follow-up Activities

2. Review the KPC 2000+ Modules to identify possible qualitative questions – 20 minutes

Ask participants to look at their copies of the KPC 2000+ Modules. Point out that each module contains questions that can be used for follow-up. Ask:

- **How can these questions be used to answer some of the uncertainties that emerge during the analysis of KPC survey data?** *[During Focus Groups, Key Informant Interviews, and while using other qualitative methods can be used to conduct this follow-up formative (before) or operations (during-the-project) research.]*

Use the first four previous examples (75% of mothers can correctly explain how to make ORS, but only 15% of mothers say that they used ORS the last time their child had diarrhea, 83% of mothers say that a TBA attended their last birth, despite the fact that access to health centers with birthing facilities is very good, 62% of mothers say that both they and their children slept under a bednet last night, Ninety percent (90%) of mothers are breastfeeding children at 12 months of age, and only 20% are doing so when the children are 14 months of age) divide the group into 4 small groups and have them identify in the KPC 2000+ Modules examples of questions relating to each of the 4 findings.

Have each group briefly explain where they found the qualitative questions and what they are.

3. Identify other levels where change needs to occur – 5 minutes

Say:

We previously looked at the various levels of action that are included within a project: PVO, Local Partners and Community/ Individuals. We will now look at where and what must be done at different levels in order to promote change at the household level. Use the case study as an example of other levels.

PVO Level:

- PVO (Headquarters in the United States)
- Health unit of the PVO (HQ health office)
- Local country project staff (in the field office)

Local Partners Level:

- Local NGOs
- Private sector partners (pharmacies, mobile drug sellers, traditional health providers)
- MOH (central, departmental, local health centers and posts)
- District/municipal government

Community/Individual Level:

- Communities
- Community-based organizations
- Community Health Workers
- Private Providers
- Household/Individuals

- **What kinds of activities might be implemented at these other levels to promote change at the family level?** *[e.g., train MOH staff, improve the supply of vaccines, visit supervision areas where performance is good to hear about lessons learned, etc.]*
- **How can we determine whether what we are doing at these other levels is effective?** *[by measuring impact, e.g., conducting health facility assessments to identify supply-side factors, using a Quality Improvement Checklist with Community Health Workers, etc.]*

4. Determine appropriate actions at various levels for the intervention – 25 minutes

*Use the example of children with diarrhea to focus on what other activities are necessary at levels other than the mother/household to make changes in the KPC survey indicators. Refer participants to **TR 1-75: Levels of Action to Manage Diarrhea**. Say:*

1-75

Let us look further in this one example at actions that are necessary to influence changes in indicators, but at other levels beyond the household level.

*Refer participants to **TR 1-76: Case Study on Effecting Change** and **TR 1-77: Worksheet on Effecting Change**. Help participants observe the levels at which actions could be taken, what activities could be included at each level to facilitate change and what tools could be used to measure those changes.*

1-76

1-77

Ask the group:

- **What other types of tools have you used to measure change at various levels?** *[institutional assessment, health facility assessments, supervision checklist, quality improvement checklist, etc.]*

*Refer participants to **TR 1-78: Responses for Case Study on Effecting Change** for additional information on actions at various levels.*

1-78

Encourage participants to remember that the KPC survey only measures change at the individual level and other tools are needed to complement information from the KPC survey.

27. Writing the KPC Survey Report

27. Writing the KPC Survey Report

Purpose:

To organize the results of the KPC survey into a KPC Survey Report that summarizes the findings and action plan for project staff and stakeholders.

Objectives:

By the end of this learning session, participants will have:

1. Discussed why a KPC Survey Report is necessary and when the report should be completed.
2. Determined future actions to complete the KPC Survey Report.
3. Prepared a draft outline for the KPC Survey Report, completed writing some sections and prepared for finishing it.

Preparation/Materials:

Step 1:

- **TR 1-79: Checklist for Preparing a KPC Survey Report**
- **TR 1-80: KPC Survey Report Template**
- Writing the KPC Survey Report, available at:
http://www.childsurvival.com/kpc2000/survey_report.doc
- Extra Reading: KPC 2000+ Field Guide, pp. 101–107 and 115–117

Time:

30 minutes

Steps:

1. Define why a KPC Survey Report should be written and what it should cover – 30 minutes

Steps

1. **Define why a KPC Survey Report should be written and what it should cover** – 30 minutes

Ask the participants:

- **Why is it important to write a KPC Survey Report?** *[To provide a history of the process and results so that all of the information about how the survey was completed and its findings is easily accessible in one place, to share information with all stakeholders, to clarify analysis and interpretation, to use when planning future project strategies and activities and to use as a tool to advocate for funding.]*
- **What should be included in a KPC Survey Report?**

Show TR 1-79: Checklist for Preparing a KPC Survey Report. Review each point, show how it can be used to determine if you already have the information (place a check mark in: Have, Do Not Have) and defining where the information will come from (Who Has It? Where Is It?). Much of the information will come from the project proposal,

1-79

27. Writing the KPC Survey Report

logistics plan, data analysis, etc. In the last column, determine who is responsible for organizing the information to include in the report

*Refer participants to **TR 1-80: KPC Survey Report Template**. Explain:*

1-80

This is a blank report with headers, sample tables, etc. This, along with reading in the KPC 2000+ Field Guide (pp. 101–107 and 115–117), will be useful when you write the KPC Survey Report.

28. Presenting KPC Survey Data to Stakeholders

28. Presenting KPC Survey Data to Stakeholders

Purpose:

To make plans for conducting feedback and analysis sessions of the results of the KPC survey to community members and other stakeholders.

Objectives:

By the end of this learning session, participants will have:

1. Reviewed a handout concerning different ways in which survey results can be reported to stakeholders.
2. Developed a draft plan for dissemination for two groups: communities and partners.

Preparation/Materials:

Step 1:

- **TR 1-81: Presenting KPC Survey Data to Stakeholders**

Time:

60 minutes

Steps:

1. Present the KPC survey data presentation ideas – 10 minutes
2. Define “who” should receive feedback and “when” they should receive it – 10 minutes
3. Prepare draft presentations for two stakeholders – 40 minutes

Steps**1. Present the KPC survey data presentation ideas – 10 minutes**

*Refer the participants to **TR 1-81: Presenting KPC Survey Data to Stakeholders** to explain how to share information with community members and other stakeholders.*

1-81

Ask what questions or comments they have and respond with clarifying information.

2. Define “who” should receive feedback and “when” they should receive it – 10 minutes

Ask the participants:

- **Who should receive feedback?** [community, partners/MOH, donor, decision-makers]

For each group that should receive feedback, ask participants to define how and when the feedback sessions should take place [community meetings, Analysis Workshop, donor meetings]

3. Prepare draft presentations for two stakeholders – 40 minutes

Ask participants to form two groups. Say:

We are going to choose two groups of stakeholders and concentrate on them: communities and partners.

28. Presenting KPC Survey Data to Stakeholders

One group will work on methodologies for presenting and analyzing KPC survey results with communities. The other group will work on developing an agenda and methodologies for an Analysis Workshop for partners and MOH.

The goal of both of these tasks is to involve the stakeholders in the analysis process, not just to give them data. Please include examples of indicators that would be most important to include in the feedback session with your particular group of stakeholders.

Give each group 30 minutes to develop their presentation. Then ask the groups to present their methodologies to the plenary.