



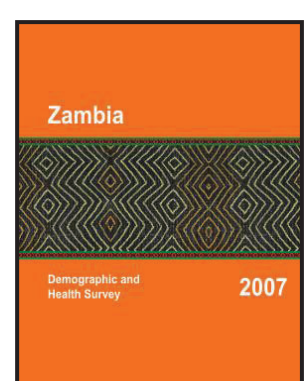
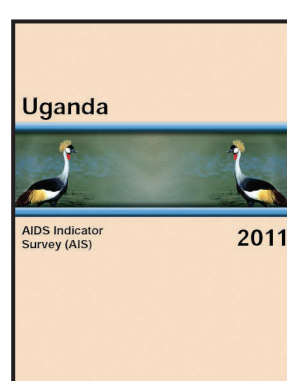
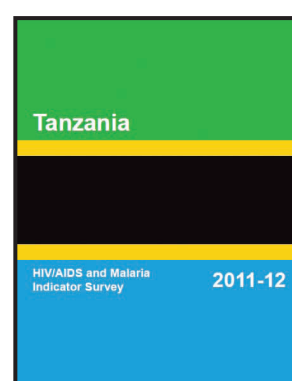
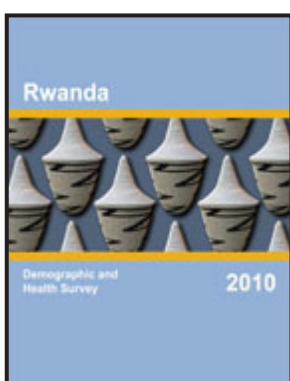
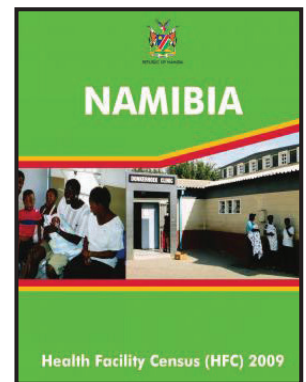
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MODULE I

Understanding and Using the Demographic and Health Surveys

DHS Curriculum
Facilitator's Guide
March 2014



About the DHS Curriculum Facilitator's Guide

The following persons (in alphabetical order) have contributed to developing, reviewing, and editing *Understanding and Using the Demographic and Health Surveys – DHS Curriculum Facilitator's Guide*: Sarah Balian, Thada Bornstein, Sarah Bradley, Anne Cross, Joy Fishel, Lia Florey, Debbie Gachuhi, Hannah Guedenet, Kiersten Johnson, Shane Khan, Laurie Liskin, Erica Nybro, Cameron Taylor, and Sally Zweimueller

The DHS Curriculum Facilitator's Guide is a comprehensive package of ready-made training materials about understanding and using Demographic and Health Survey reports. The curriculum is designed for use in African universities and with public health program staff. Over 25 hours of instruction are divided into eight stand-alone modules designed to be a course on its own or customized and integrated into existing curricula. Each module is complete with instructor guides, Power Point slides, exercises, handouts, pre and post tests and answer keys. The DHS Curriculum Facilitator's Guide is available in both print and electronic versions.

Questions and comments regarding the DHS Curriculum can be sent to curriculum@dhsprogram.com

About The DHS Program

The DHS Program assists countries worldwide in the collection and use of data to monitor and evaluate population, health, and nutrition programs. Funded by the U.S. Agency for International Development (USAID) under the terms of Contract No. GPO-C-00-08-00008-00, The DHS Program is implemented by ICF Macro in Rockville, Maryland. The opinions expressed herein are those of the authors and do not necessarily reflect the views of the U.S. Agency for International Development.

The main objectives of The DHS Program are:

- 1) to provide decision makers in survey countries with information useful for informed policy choices
- 2) to expand the international population and health database
- 3) to advance survey methodology
- 4) to develop in participating countries the skills and resources necessary to conduct quality demographic and health surveys

Information about The DHS Program or the status of The DHS Program surveys is available on the Internet at <http://www.dhsprogram.com> or by contacting:

ICF International
530 Gaither Road, Suite 500
Rockville, MD 20705 USA
Telephone: 301-572-0200
Fax: 301-572-0999
Email: info@dhsprogram.com

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Course Overview

Session 1

15 minutes

Session Objective

Course Overview

Compare the course goal and objectives with participants' expectations.

STEP 1

PRESENT **Slide 1**.

Welcome participants to the course.

PRESENT **Slide 2**.

By the end of this course, students should be able to:

- Describe the DHS and other surveys supported through The DHS Program
- Describe how the DHS is carried out in countries
- Define common statistical and public health terms used in the DHS
- Correctly read and interpret DHS tables and graphs
- Describe types of information collected by the DHS
- Describe how the DHS estimates national HIV and malaria prevalence
- Identify methods for disseminating and using survey results to inform health programs and policies

TELL participants that the goal of this course is to introduce them to the Demographic and Health Surveys (DHS) and identify ways they can use the survey findings in their future studies and professional work. EXPLAIN that the DHS is an important resource for planning development agendas.

DESCRIBE the overall course objectives, and EXPLAIN that there are eight modules in the course.

ASK for questions, comments, or clarifications.

Go around the room and ASK participants for their expectations for the course. COMPARE participants' expectations to the course purpose, objectives, and content. Identify which expectations will be addressed. If any expectations are not within the scope of the course, EXPLAIN where the participant can go to get the desired information or experience.

DISCUSS the teaching and learning methods to be used,

and emphasize the need for everyone to participate to ensure effective learning. TELL participants that they will be expected to participate in class discussions, complete individual and group exercises, and do homework.

STEP 2

EXPLAIN that the DHS is among the most widely used sources of data in developing countries. The surveys are a standard resource for public health professionals all over the world. They are used by international organizations like the World Health Organization, UNICEF, and the World Bank. They are used by national governments to develop public health programs. And they are also used by NGOs, researchers, and donor agencies.

To explain the terminology and the background regarding the names of the surveys, TELL participants that The DHS Program is a USAID-funded project carried out by ICF International, a US-based company. The project helps in-country implementing agencies conduct the DHS.

The DHS Program carries out several different types of national surveys that will be discussed today. All of these surveys are sometimes collectively referred to as “the DHS.”

End this session by ASKING participants if they have any questions about the course goals and objectives.

Module 1: Introduction to Demographic and Health Surveys (DHS)

PREPARATION

Review Instructor Guide

Equipment, Materials, Supplies

- LCD projector and screen
- Flipchart or writing board
- Markers
- PowerPoint presentation
- Copies of DHS Final Reports

Exercise and Other Preparation

Review Exercise 1.1, *Defining Data Collection Methods*, and its answer sheet

Identify recent DHS surveys carried out in your country, and review the DHS Final Report from your country

Handouts

Make copies for each participant of:

- Handout 1.1, *Descriptions of Various Data Collection Methods*
- Handout 1.2, *National Surveys in the DHS*
- Exercise 1.1, *Descriptions of Various Data Collection Methods*
- The Table of Contents and Key Findings (pp. xxiii-xxvii) from the *Kenya SPA Survey 2010* final report (available at: <http://dhsprogram.com/pubs/pdf/SPA17/SPA17.pdf> and <http://dhsprogram.com/pubs/pdf/SR182/SR182.pdf>)

Room Arrangements

Participants should be seated at tables in groups of four to seven, if possible.

PURPOSE

The purpose of this module is to give participants an overview of DHS surveys and explain the rationale for doing surveys. The module also discusses different types of national surveys in The DHS Program and the advantages and limitations of different types of surveys.

OBJECTIVES

By the end of this module, participants should be able to:

- Define sample surveys
- Explain why surveys are conducted
- Describe a DHS survey
- Discuss other types of national surveys in The DHS Program
- Discuss the SPA survey (optional)

TIME

4 hours, 45 minutes

MODULE OVERVIEW

Session 1	Course Overview	15 minutes
Session 2	Introduction to Surveys	1 hour
Session 3	The Demographic and Health Survey (DHS)	1.5 hours
Session 4	Other National Surveys in The DHS Program	1 hour
Session 5	The Service Provision Assessment (SPA) Survey	1 hour

Session 2

1 hour

Session Objective

Introduction to Surveys

Define sample surveys and explain why surveys are conducted

STEP 1

PRESENT **Slides 3 and 4.**

SHARE the session's objective with participants.

TELL participants that this session will provide an introduction to surveys.

STEP 2

WRITE the word "Survey" on a flipchart or writing board. ASK participants to define **surveys**. ASK who has ever conducted or taken part in a survey. ASK what happened or what they did during the survey. DISCUSS the purpose of surveys and what they do.

RECORD participants' key ideas about surveys on a flipchart. Make sure the following points are discussed:

- A survey is a method of collecting data from a population.
- Surveys use a questionnaire; the same questions are asked of everyone who participates in the survey to get comparable data.
- Surveys can collect quantitative (numeric) or qualitative (descriptive) data.
- Surveys may be self-administered (that is, the survey respondent fills in the survey by him/herself) or conducted by an interviewer in person or over the telephone. Surveys can be carried out in households, like the DHS, or in other venues, such as health care facilities, schools, etc.
- Self-administered surveys can be distributed in newspapers, mailed to homes, or posted on the Internet.

REFER participants to any local surveys that might be available in their country. ASK if they have seen any final reports from these surveys. TELL them to look through these final reports during their free time.

STEP 3

DIVIDE participants into groups of three. GIVE each group an index card with one of the following terms written on it:

- Information
- Data

- Quantitative data
- Qualitative data
- Population
- Sample
- Representativeness
- Representative sample
- Bias

Some groups may have more than one term. ASK participants to define and discuss the term(s) as a group and then select one person to present their definition to the group.

DISCUSS the following points that should emerge from the list:

The terms **information** and **data** are often used interchangeably.

Data often refers to the reported responses to survey questions; these are often called the “raw data” that statisticians and researchers work with.

Information or survey **findings** usually refer to data presented in a report or presentation.

Quantitative data are data that focus on numbers and frequencies. Quantitative data answer the questions: *When? Where? How many? How often?* The DHS collects quantitative data.

Qualitative data:

- Focus on meaning and experience, and answer the questions: *How? Why?*
- Can provide further detail about a specific research question. For example, quantitative surveys can measure *whether* a person goes for HIV testing, but qualitative studies can measure *how the person feels about* the testing experience.
- Cannot be generalized to a large population like quantitative data can. Quantitative data collection methods rely on their representativeness to be able to make a statement about a larger population.

Population and Sample

There are two other key terms participants need to know to understand surveys: **population** and **sample**. A **population** refers to the entire universe of people or things that are under study. For example, population can refer to all the people living in a country or, if the survey is

limited to just one province, it can refer to all the people living in that province.

A **sample** is a subset of a population that is selected to participate in a survey. Samples for the DHS always include women age 15-49. Some countries request that the DHS sample only include currently married women. Other countries include all women—married, never married, widowed/separated/or divorced—in the DHS sample. Many, but not all, DHS surveys include unmarried and married men.

(If applicable) ASK participants if they know anyone who was interviewed in the DHS in their country.

A **representative sample** has very similar key characteristics to the population from which it is drawn. This allows researchers to generalize survey results to the entire population. For example, if the DHS collected data only from women who had completed secondary school, the results could not be applied to all women in the country.

Bias

Representativeness is important in survey research to ensure that the data collected from the sample is not biased.

ASK participants whether a sample is **representative** or **biased** if it does not accurately represent the entire population.

GIVE the following example: Suppose that we want to do a study of all of the students at this university, but we only have enough time to interview students in their first year. Would this sample accurately reflect all students? Answer: No, this would be a biased sample. We cannot draw conclusions about the population under study if the sample is not representative.

Additional examples: Suppose that a national survey was being conducted to gather information on malaria. However, due to the poor conditions of the roads during rainy season, the survey only gathers data from urban areas. Would this sample reflect the entire country? Answer: No, this would be a biased sample. We cannot draw conclusions about the entire country if the sample only included urban areas.

ASK what alternatives might avoid that bias.

TELL participants that the DHS uses special sampling methods to ensure that the samples selected for the survey are representative of the entire country. DHS sampling procedures will be discussed in more detail in Module 4.

STEP 4

Surveys provide information to help answer questions: What is working? What are our priorities? Where do we need to work first?

EXPLAIN each of the following points, and ASK participants for examples. If they cannot think of any examples, SHARE the examples presented in the parentheses.

DHS surveys can be used:

- To obtain objective information about a population (e.g., How many women get antenatal care?)
- To obtain information for planning programs and policies (e.g., How many men know where to get condoms? How many people in a region have been tested for HIV); surveys provide data to support **evidence-based** programs and policies
- To evaluate programs or interventions (e.g., What percentage of oral contraceptive users rely on socially marketed contraceptives?)
- To determine trends over time (e.g., Has infant mortality increased or decreased?)
- To determine if certain areas of a country or if certain segments of a population need more support (e.g., Is one region lagging behind in the use of mosquito nets? Are youth less knowledgeable about HIV/AIDS than older people?)

STEP 5

ASK participants to name some common methods of obtaining data (data collection) and to give a brief description of each one. WRITE these on a flipchart.

ADD any of the following that are missing:

- Census
- Population-based sample surveys
- Long- or short-term sentinel surveillance
- Focus groups
- In-depth interviews
- Content analysis
- Observations
- Record reviews

EXERCISE

DIVIDE participants into seven groups.

DISTRIBUTE **Exercise 1.1**, *Defining Data Collection Methods*.

ASSIGN each group one of the methods listed in the left

column of the handout, and ASK them to complete the form for that one data collection method. (If you have more than seven groups, give the same method to more than one group.) TELL each group to select a recorder to take notes and a spokesperson to present their ideas to the rest of the participants.

Allow about 15 minutes for this exercise, depending on participants' knowledge of research methods.

BRING everyone together, and ASK the spokespersons from each group to share their responses with the rest of the participants.

Make sure the following points are made:

- Data can be collected from people (e.g., a census or a survey) or from newspapers and records (e.g., content analysis or record reviews).
- Data can be collected from large samples of people (e.g., a census) or from a limited number of individuals (e.g., focus groups and in-depth interviews).
- The specific data collection method used depends on the study objectives.

DISTRIBUTE **Handout 1.1**, *Descriptions of Various Data Collection Methods*, and DISCUSS it with participants.

STEP 6

PRESENT **Slides 5 and 6** to summarize ideas from this session.

For **Slide 5**, make the following points:

- Quantitative means numeric, with each number being assigned a meaning.
- Questionnaires use structured questions and responses with several options for obtaining information. In self-administered questionnaires the respondent is asked to write in responses.
- It is possible to intercept respondents at certain places (e.g., at a business to assess satisfaction with a service).
- A sample survey uses statistical methods to select respondents to be interviewed. These techniques increase the ability of the survey to produce unbiased estimates of indicators.

For **Slide 6**, make the following point:

- The primary reason for doing a survey is to estimate a population parameter, that is, a characteristic of the population. For example, a survey can measure the percentage of women age 15-49 who are

currently pregnant.

STEP 7

End this session by EXPLAINING to participants that sample surveys are primarily used because they are the most time- and cost-effective means of deriving representative information. In many cases, sample surveys are the only source of up-to-date information in a country.

TELL participants to review **Exercise 1.1** and **Handout 1.1** in their free time.

Session 3

1.5 hours

Session Objective**The Demographic and Health Survey (DHS)**

Describe a DHS survey

STEP 1**PRESENT Slide 7.**

On the flipchart, WRITE the term “Demographic and Health Survey.” ASK participants if they have heard of the DHS.

Find out what they know about the DHS by ASKING the following questions:

- Has there been a DHS in your country? More than one?
- What kinds of information are in the DHS?
- How often are DHS surveys conducted?
- How many people are interviewed?

EXPLAIN that learning about the DHS is important because DHS results are among the most widely used sources of information about developing countries. They are used by government leaders, policymakers, and planners.

STEP 2**PRESENT Slide 8.**

EXPLAIN that DHS surveys are nationally representative household surveys with large sample sizes (usually between 6,000 and 30,000 households). They are usually carried out every five years.

ASK participants what data DHS surveys provide. EXPLAIN that DHS surveys provide data on fertility, family planning, maternal and child health, nutrition, and HIV—just to name a few. The DHS generally interviews women age 15-49 and men age 15-49 or sometimes older, depending on the country.

EXPLAIN that The DHS Program began in 1984 and is funded by the United States Agency for International Development (USAID). The DHS emerged from several other international survey efforts, including the World Fertility Survey and the Contraceptive Prevalence Surveys, which were primarily designed to support international family planning programs. Since 1984, questions have been added on maternal and child health, HIV/AIDS, infectious diseases, malaria, gender, domestic violence, female genital cutting, youth, and other evolving health

issues.

Note that, from 1998-2013, The DHS Program was called "MEASURE DHS". Many participants may know the project by this name. In 2013, with the 7th cycle of the project, USAID and ICF International changed the name to The Demographic and Health Surveys (DHS) Program.

STEP 3

PRESENT **Slide 9.**

TELL participants that the DHS uses standard methods for all of its surveys—that is, the same type of sampling methods, questionnaires, training of interviewers, data processing, and national coverage.

Countries can add questions on special topics based on their specific needs, such as questions on health insurance or media exposure to a specific radio or television program. Some commonly added topics include: domestic violence, environmental health, female genital cutting, and other topics.

EXPLAIN that the DHS is a cross-sectional survey. ASK participants if they can define a **cross-sectional survey**. Write this term and others discussed in the session on a flip chart.

EXPLAIN that this means the DHS collects information at a single point in time and takes a "snapshot" or picture of what is occurring at that time. Cross-sectional data are useful to assess relationships at one point in time. They cannot explain why something happens, and they do not link cause and effect the way some other kinds of research do, for example a prospective (or cohort) study that follows participants for a long time to see patterns in risk behavior and disease.

STEP 4

PRESENT Slide 10.

TELL participants that local statistical agencies actually carry out the DHS survey with locally hired interviewers. The ICF team from the US provides technical assistance for all phases of a survey.

In 2001, DHS started including HIV testing in the surveys.

ASK participants if HIV testing is included in their country's DHS. ASK if they know how the testing is done. If no one does, EXPLAIN that survey respondents are asked to donate a few drops of blood. The blood is saved on special laboratory paper and sent to a laboratory to be tested for HIV. Through this process, we learn what percentage of the survey sample (and, by extrapolation, the country) is infected with HIV. TELL participants that this will be

discussed in more detail in Module 5.

STEP 5

ASK participants: Why is the DHS so highly regarded?

After participants have responded, PRESENT **Slide 11**. Make sure the following points emerge:

The DHS uses **nationally representative samples**. (People are selected randomly.)

ASK participants to define **random selection**. Random selection means that each person in a population is as likely, statistically speaking, to be selected as any other person.

ASK why this is important. EXPLAIN that this eliminates bias found in non-random samples. A **nationally representative sample** means that the survey results apply to everyone in the country.

EXPLAIN that DHS surveys use **standard questionnaires and methods**. The surveys use very similar questionnaires, sampling procedures, training and pretesting methods, and protocols. This is called **standardization**. It means that one DHS, for example, the 2011 Uganda survey, is very comparable to other DHS surveys carried out earlier in Uganda (in 1988, 1995, 2000/2001, and 2006) and also to DHS surveys conducted in other countries.

ASK why this comparability is important. The following points should emerge:

- It allows us to describe trends over time within a country and to compare a country to its neighbors.
- It helps to show if any progress has taken place.
- It contributes to identifying problem areas.
- It helps push governments to act on certain problems.

TELL this story as an example of how the DHS can influence governments to act:

When the 2004 Nigeria DHS results were published, government leaders were shocked to see that only 13 percent of children nationwide had been fully immunized, and more than 25% of children had not received any immunizations. They were also surprised that poorer neighboring countries had higher immunization rates. The DHS results contributed to a national effort to increase childhood immunization.

EXPLAIN that steps are taken in every country to ensure the accuracy and quality of the data. This is often referred to as **quality control**. For example, questionnaires are

translated into local languages so that respondents are interviewed in their own language. They are then “back translated” into English to ensure that the question is asked correctly. Quality control will be discussed in more detail as we go through the course.

EXPLAIN that survey interviewers all come from the country being surveyed and are very carefully trained for at least three weeks to be sure they understand the questionnaire and that they can talk easily and respectfully with survey respondents.

EXPLAIN that interviewers are supervised to ensure **consistency**. Completed questionnaires are checked very soon after each interview to catch errors and inconsistencies. During data entry, the results from each questionnaire are entered into the computer twice, by two different data entry specialists. A supervisor checks for inconsistencies in data entry.

EXPLAIN that in many countries, the same survey organizations and survey specialists have carried out the DHS several times. They are highly skilled and experienced. This helps to ensure continuity.

EXERCISE

If possible, DISTRIBUTE copies of a DHS Final Report from your own or another country. REVIEW the Table of Contents with participants, noting the different sections in the report, how it is organized, and the topics it covers.

ASK participants to form groups of three or four and list the kinds of information collected by the DHS. TELL each group to select a recorder to take notes and a spokesperson who will present the group’s conclusions to the rest of the participants.

Allow 20 minutes for this, and then BRING everyone together. ASK the spokesperson from each group to share their ideas with the rest of the participants. WRITE them on the flipchart as they report back.

PRESENT **Slides 12 and 13**. COMPARE the types of information they list with the list created by the participants.

ASK participants if they are aware of the DHS web tools. Ask them to list them.

PRESENT **Slides 14 and 15**. Explain to participants that DHS web tools and social media will be covered in more detail in Module 7.

STEP 6

ASK participants if they have any questions about DHS surveys before proceeding to Session 4.

Session 4

1 hour

Session Objective**Other National Surveys in The DHS Program**

Discuss other types of national surveys in The DHS Program

STEP 1

PRESENT **Slide 16**, and DISCUSS this session's objective.

REMIND participants that while the DHS is the most well-known survey in The DHS Program, the project helps to implement several other important surveys as well. ASK participants if they can name some of these other surveys.

WRITE their correct responses on the flipchart. Correct any answers that are not accurate and PRESENT **Slide 17**.

STEP 2

PRESENT **Slide 18**.

EXPLAIN that AIS surveys are comparable to DHS surveys, but have a narrow HIV/AIDS focus. They use the same methodology for sampling and selecting respondents as the DHS. Thus, it is possible to compare AIS and DHS surveys.

The AIS particularly helps countries evaluate HIV programs and policies. Because these surveys have a smaller sample and a shorter questionnaire, they are less expensive to conduct and take less time to finish.

PRESENT **Slide 19**.

EXPLAIN that in the AIS women and men answer the same questions, unlike the DHS which has separate questionnaires for men and women.

The AIS has a separate chapter on young women and men age 15-24 that looks specifically at the knowledge, attitudes, and sexual practices that influence their risk of HIV infection.

PRESENT **Slide 20**.

EXPLAIN that some countries test for syphilis, herpes, and hepatitis.

Advantages of testing for these conditions: People with syphilis can be treated and/or referred immediately to health centers for treatment, and the information helps planners make evidence-based decisions.

Disadvantage: Testing for multiple infectious diseases complicates the survey and adds to the overall time and cost.

PRESENT Slide 21.

TELL participants which countries have conducted the AIS.

PRESENT Slide 22.

EXPLAIN that the MIS, like the AIS, uses a very similar methodology to the DHS but is narrower in focus. Still, MIS and AIS use the same type of sampling methods and standard questionnaires so the results are comparable across countries and over time.

Malaria kills more than one million people per year and there is increasing interest worldwide in prevention and prompt treatment of existing infections, especially in children and pregnant women. Discovery of the drug Artemisinin has sparked new interest. There is also funding for malaria programs through the Global Fund for HIV/AIDS, Malaria, and Tuberculosis and the US President's Malaria Initiative (PMI).

MIS was developed by an international partnership called Roll Back Malaria (RBM), which is coordinated through the World Health Organization with support from UNICEF, UNDP, and the World Bank.

PRESENT Slide 23.

EXPLAIN that the MIS includes questions about the use of specific types of antimalarial drugs, intermittent prophylactic treatment among pregnant women, and indoor residual spraying.

Malaria testing can be done using rapid tests or blood smears on microscope slides that are read by trained laboratory specialists.

If possible, the MIS is timed to correspond with the malaria transmission season in order to get a better estimate of mosquito net use, childhood fever, and parasitemia. High malaria transmission season is usually just as the rainy season is tapering off. This complicates data collection because the roads are in poor condition.

PRESENT Slide 24.

TELL participants which countries in sub-Saharan Africa have conducted MIS surveys.

PRESENT Slide 25.

EXPLAIN that MIS data can be used to calculate the prevalence of malaria in young children.

PRESENT **Slide 26.**

EXPLAIN that the KIS tool includes questionnaires, interviewers' manuals, guidelines for sampling and a tabulation plan. Questionnaires are short and relatively simple, but they are designed to produce indicators comparable to those in the DHS. Questionnaires are organized around the five strategic objectives (now called "elements") of USAID's Office of Global Health: family planning, maternal health, child health, HIV/AIDS, and infectious diseases.

PRESENT **Slide 27.**

EXPLAIN that the objective of the SPA is to provide information about the characteristics of health services in a country's health facilities.

Its comprehensive assessment also covers infrastructure, costs, quality of care, and components of care.

In smaller countries, such as Rwanda, the SPA will include virtually all health care facilities in the country. For example, in Namibia in 2009, all health facilities were surveyed, which is why the report is called the Namibia Health Facility Census. In larger countries, 10 percent or more of facilities will be sampled.

PRESENT **Slide 28.**

TELL participants which health services the SPA collects data on.

PRESENT **Slide 29.**

EXPLAIN that the SPA is a complex survey with four separate questionnaires.

Data collection teams are made up of specially trained nurses and sometimes medical students and young doctors. They fill out facility checklists, observe providers at work, and interview providers and clients at each facility. A SPA generally includes observations of about 4,000 provider-client interactions and interviews with at least 1,000 health care providers.

PRESENT **Slide 30.**

STEP 3

TELL participants which countries have conducted a SPA.

End this session by ASKING participants to read the first chapter in the DHS final report from their country and **Handout 1.2** before the next class.

**Session 5
(Optional)**

1 hour

**Session
Objective**

Service Provision Assessment (SPA) Survey

Discuss the SPA survey

STEP 1PRESENT **Slide 31**, and DISCUSS this session's objective.**STEP 2**PRESENT **Slide 32**.

EXPLAIN that unlike the DHS or MIS, the SPA collects data from health care facilities. It aims to identify the strengths and weaknesses of service delivery. The major objective of the SPA is to describe how well prepared health care facilities are to provide good quality services.

While questions are based on international standards, they are adapted for specific national standards. For example, in Tanzania, the SPA included questions on the availability of vouchers for mosquito nets in health care facilities because this is part of a nationwide program to prevent malaria. In Kenya, the SPA included questions on Emergency Obstetric Care indicators at the request of maternal health specialists in the country.

PRESENT **Slide 33**.

EXPLAIN that sample size of the SPA depends on the size of the country and the total number of existing facilities. The SPA usually surveys all hospitals in the country along with a sample of other types of health care facilities, including the lowest level of primary care and the most advanced referral hospitals.

ASK participants what facilities they think might be included in the sample. EXPLAIN that the sample includes facilities managed by the government (public sector) and by NGOs, FBOs (faith-based organizations), and private for-profit groups.

In smaller countries, such as Rwanda, the SPA will include virtually all health care facilities in the country. For example, in Namibia in 2009, all health facilities were surveyed, which is why the report is called the Namibia Health Facility Census. In larger countries, 10 percent or more of facilities will be sampled.

PRESENT **Slide 34**.

EXPLAIN that some countries do not include the questions on HIV/AIDS. Others, like Zambia, have surveyed *only* HIV/AIDS services.

PRESENT **Slide 35**.

REMIND participants that the SPA is a complex survey with four separate questionnaires.

Data collection teams are made up of specially trained nurses and sometimes medical students and young doctors. They fill out facility checklists, observe providers at work, and interview providers and clients at each facility.

PRESENT **Slide 36**.

EXPLAIN that SPA indicators are based on international standards, for example, WHO's Integrated Management of Childhood Illness (IMCI) or WHO's intermittent prophylactic treatment against malaria.

An international working group of specialists reviews the questionnaire regularly.

Many of the HIV questions were designed specifically to monitor PEPFAR indicators.

PRESENT **Slides 37 and 38**.

EXPLAIN that the SPA provides a picture of the health care services on the day of the interview. The SPA doesn't show if the facility always has certain drugs in stock, just whether those drugs were available on the day of the survey.

PRESENT **Slide 39**.

EXPLAIN that the sampling procedure allows for national and sometimes regional or provincial comparisons, depending on the country.

PRESENT **Slides 40 and 41**.

EXPLAIN that these are the standard methods used for all SPA surveys.

PRESENT **Slides 42 and 43**.

TELL participants how data is collected and which countries have conducted SPA surveys.

STEP 3

INTRODUCE the Kenya SPA 2010, and DISTRIBUTE copies of the Table of Contents and Key Findings from the final report of the KSPA to participants.

ASK participants to skim the Table of Contents and read through the Key Findings (pages xxix-xxxiii of the final report).

ASK them what they think the most important topics covered are, and what topics are covered in both the SPA and the DHS.

Answers will vary, but should include:

- Vaccination coverage
- Maternal health services
- Treatment of childhood diseases
- Family planning availability
- STIs and HIV
- Tuberculosis
- Malaria

ASK how the SPA differs from the DHS. There are many differences, but make sure the participants understand that:

- The SPA surveys facilities, not individuals in the population, except for clients at the facility.
- There is not a direct correlation between the clients visiting health centers surveyed in the SPA and the individuals surveyed in the DHS. For example, the children with diarrhea surveyed in the DHS are not the same children who are observed seeking treatment for diarrhea in facilities surveyed by the SPA.

STEP 4

TELL participants that the following series of slides will summarize some of the results of the Kenya SPA.

PRESENT **Slides 44 and 45.**

EXPLAIN that the SPA provides an overview of service availability (seen in slide 43) as well as more detailed information about each type of health care service. Here we see that most facilities in Kenya offer care for sick children and STI services. Only about three-quarters of facilities offer antenatal care and two-thirds offer child immunization services. Fewer than one-quarter offer facility-based 24-hour delivery services.

PRESENT **Slide 46.**

EXPLAIN that the SPA also provides information about the infrastructure available at facilities, such as the water supply. Fifty-eight percent of hospitals in Kenya have a regular water supply, compared with only 35 percent of dispensaries. Overall, 46% of health facilities in Kenya have a regular water supply.

PRESENT **Slide 47.**

EXPLAIN that the SPA also shows facility-based data by region. On average, 68% of facilities in Kenya offer a complete package of basic child health services, which includes outpatient care for sick children, growth monitoring, and childhood immunization. But availability of these services varies by region. Just 45% of facilities in the Central Province have all basic child health services, compared with more than 90% of facilities in Nyanza Province.

PRESENT **Slide 48.**

EXPLAIN that two-thirds of all facilities in Kenya have first-line medications to treat sick children. Other medications are less widely available.

PRESENT **Slide 49.**

EXPLAIN that SPA interviewers observe interactions between clients and providers. Here we see that, of the 293 children who were diagnosed with pneumonia or bronchio-pneumonia, only 34% had their respiratory rate checked, but almost all were given an antibiotic.

STEP 5

PRESENT **Slide 50.** Introduce the discussion of integrating SPA and DHS data by EXPLAINING that the SPA and the DHS should be considered together in order to get a broader understanding of health care needs in a specific country.

Present **Slide 51.**

ASK participants each question. Be sure the following points are covered in their answers.

Question 1: Why doesn't the vaccination rate among children reported by the DHS match the percent of children

in a SPA survey who were observed being vaccinated in a facility?

Answer: Because not all the children in a country go to health facilities for vaccination. Even if all children who do come to the facility are vaccinated, it is still possible that only half of the children in the country are vaccinated.

Question 2: If all surveyed facilities in a SPA provide delivery services, does this mean that all women who give birth have a skilled attendant at delivery?

Answer: No. Unfortunately, just because a service is available does not mean that all people will take advantage of it. There may be other barriers to access. For example, cost, distance, lack of a female provider where culturally appropriate, or lack of knowledge that such services exist may discourage or prevent women from having a skilled attendant at delivery.

Present **Slide 52**.

EXPLAIN that this slide illustrates the major differences to keep in mind when examining DHS and SPA surveys, using childhood diarrhea as an example.

The DHS will tell you how many children in the households surveyed had diarrhea in the two weeks before the survey. The DHS will also tell you what treatment these children received, if any, and whether the child was taken to a health facility. But it cannot tell you what type of services those children received at a health facility, and you can only guess at the quality or availability of those services.

The SPA, in contrast, will give you a better picture of the services provided to those children who visit health facilities. SPA interviewers observe sick child visits to assess whether children are accurately assessed for their illness. In the case of diarrhea, the SPA can tell you:

- Were children with severe cases of diarrhea or dysentery accurately diagnosed?
- Were caretakers given appropriate instructions on how to administer medications or to increase the amount of food and liquids given to the child?
- Did the facility have the items needed to begin Oral Rehydration Therapy, including oral rehydration salts, a jar, cup, and spoon?
- What fees are charged for sick child visits?

Keep in mind that the children included in the DHS are not the same children who are observed in the SPA facilities. But because the SPA is a representative sample of facilities, the type of care shown in the SPA should be

EXERCISE

similar to the care received by the children surveyed in the DHS.

DIVIDE participants into pairs and PRESENT **Slide 53 and 54**. Each pair should work together to answer the questions on the slides. GIVE participants 20 minutes to complete this activity

BRING everyone together, and ASK the pairs to share their answers with the other participants. Make sure the following points are made:

Question 1: The DHS shows that vaccination rates are particularly low in Region X. What might you look to find in the SPA?

Answer: You would want to know if vaccination services are less available in that region, or if there is some other barrier to access (for example, perhaps there are only private health care facilities in that region, and costs for immunization are too high).

Question 2: The DHS shows that infant mortality has declined dramatically in recent years. What indicators of improvement would you expect to see in the SPA?

Answer: Anything that indicates better care at delivery, such as emergency obstetric care or improved newborn care practices.

Question 3: The DHS reports that only 10% of adults have ever been tested for HIV. What do you want to know about facilities?

Answer: You want to know what percent of facilities offer voluntary counseling and testing and how many facilities can provide treatment for HIV/AIDS for those who are found to be HIV-positive.

Question 4: According to the DHS, most women do not use contraception, and many of those who do discontinue use within one year. But the SPA shows that most facilities offer family planning. What else can we learn from the SPA about other barriers to using family planning?

Answer: What methods are offered? Is there a choice? Are methods available every day? What are the costs associated with the methods? Is there privacy during family planning counseling sessions? Do providers use visual aids to make sure that women understand their family planning options? Are providers trained and supervised to provide quality care? Are clients assessed properly to help them choose an appropriate method (e.g., women who want to get pregnant in a year probably do not want a long-term method). Do users of hormonal methods know about the side effects?

STEP 6

End the session by ASKING participants if they have any additional questions about the SPA or any of the other DHS surveys.



Course Overview

Introduction to the Demographic and Health Surveys

Course Objectives

- By the end of this course, students should be able to:
- Describe the DHS and other surveys supported through The DHS Program
 - Describe how the DHS is carried out in countries
 - Define common statistical and public health terms used in the DHS
 - Correctly read and interpret DHS tables and graphs
 - Describe types of information collected by the DHS
 - Describe how the DHS estimates national HIV and malaria prevalence
 - Identify methods for disseminating and using survey results to inform health programs and policies

Module 1 Session 2

Introduction to Surveys

Objectives for Module 1

- By the end of the module, participants should be able to:
- Define sample surveys
 - Explain why surveys are conducted
 - Describe a DHS survey
 - Discuss other types of national surveys in the DHS project

What is a Sample Survey?

- Method of collecting data from a population
- Uses statistical methods
- Collects quantitative data
- Uses a structured questionnaire
- May be self-administered or administered by interviewers
- Various forms: face-to-face interviews or by telephone, mail, or Internet

Why Conduct Surveys?

- To obtain objective information about a population
- To obtain information for developing **evidence-based** programs and policies
- To evaluate programs or interventions
- To determine trends over time
- To identify areas or groups at high risk or with special needs
- To develop priorities

Module 1

Session 3

Demographic and Health Surveys

What is a DHS? (1)

- Nationally representative household survey
- Uses statistical sampling methods
- Samples households and selects women and, more recently, men to be interviewed
- Provides data on population, health, and nutrition

What is a DHS? (2)

- Uses a standard survey protocol, including questionnaires and sampling methods
- Extra questions on specific topics can be added
- The DHS is cross-sectional: it takes a snapshot of the situation

Facts about the DHS

- More than 300 DHS surveys have been conducted in 90 countries worldwide since 1984*
- Local statistical agencies carry out the DHS
- The DHS is widely regarded and used by national and international agencies
- HIV testing began in 2001

* as of March 2014

Why is the DHS So Highly Regarded?

- Nationally representative
- Uses standard questionnaires and survey methods
- Strict quality control
- Emphasis on quality, continuity, and consistency

What Kinds of Data Does the DHS Collect? (1)

- **Households:** composition of households, education levels, access to water, sanitary facilities, household durable goods, and wealth index
- **Fertility:** fertility rates, family planning, desired family size, and sexual practices
- **Women's health:** use of antenatal delivery care (ANC); postnatal care; tetanus toxoid and iron supplementation during pregnancy; access to health care; and, in some countries, maternal mortality and female genital cutting
- **Child health:** infant and child mortality; treatment of fever, diarrhea, and acute respiratory infection; and vaccination rates

What Kinds of Data Does the DHS Collect? (2)

- **Nutrition:** infant feeding practices, duration of breastfeeding, malnutrition, vitamin A supplementation, and anemia levels
- **Malaria:** use of mosquito nets; use of preventive treatment during pregnancy; treatment; and, in some countries, malaria testing
- **HIV/AIDS and other STIs:** knowledge and attitudes about HIV/AIDS and STIs; use of counseling and testing; sexual behavior; orphanhood; and, in some countries, HIV prevalence
- **Women's status:** employment; decisionmaking; and, in some countries, domestic violence and FGC

DHS Web Tools

- www.DHSprogram.com free publications, free datasets, survey search, methodology, employment, press room and much more
- www.statcompiler.com allows users to make custom tables, visualize data in column charts, line graphs, maps, and scatterplots based on hundreds of demographic and health indicators across more than 70 countries. Customize tables to view indicators by background characteristics, over time, and across countries.
- <http://userforum.DHSprogram.com/> ask questions, help other users with their data-related challenges, and have topic- and country-specific conversations.

DHS Social Media

- **Facebook:** /DHSprogram
- **Twitter:** @DHSprogram
- **YouTube:** /DHSprogram
- **Linked In:** /company/dhs-program
- **Pinterest:** /DHSprogram

Module 1 Session 4

Other National Surveys in
The DHS Program

Other Types of Surveys

The DHS Program has designed and implements several types of surveys in addition to the DHS, including the:

- AIDS Indicator Survey (AIS)
- Malaria Indicator Survey (MIS)
- Key Indicators Survey (KIS)
- Service Provision Assessment Survey (SPA)

AIDS Indicator Survey (AIS)

- The AIDS Indicator Survey (AIS) provides countries with a standardized tool to obtain HIV/AIDS indicators.
- The AIS is comparable to the DHS but has a narrow HIV/AIDS focus and includes a subset of the DHS questionnaire.
- The AIS uses a smaller sample and shorter questionnaire to provide less costly data for reporting on various indicators.

AIS: Data Collection (1)

- The AIS has two survey instruments:
 - Household questionnaire
 - Individual questionnaire used for both women and men
- The AIS has a separate chapter on youth, which looks at age of first sex, use of condoms, number of partners, etc.

AIS: Data collection (2)

- Depending on the country, the AIS may collect blood samples to test for HIV and sometimes other diseases like syphilis and herpes
- Some countries (Tanzania) combine the AIS and the Malaria Indicator Survey (MIS)

AIS Surveys Conducted

- AIS surveys have been conducted in:
 - Congo-Brazzaville 2009
 - Côte d'Ivoire 2005
 - Guyana 2005
 - Mozambique 2009, 2014 (ongoing)
 - Tanzania 2003-04, 2007-08, 2011-12
 - Uganda 2004-05, 2011
 - Vietnam 2005

Malaria Indicator Survey (MIS)

- Newest survey in the DHS project
- Reflects emerging global interest in malaria prevention and treatment
- Survey developed by the Monitoring and Evaluation Working Group of Roll Back Malaria, an international partnership

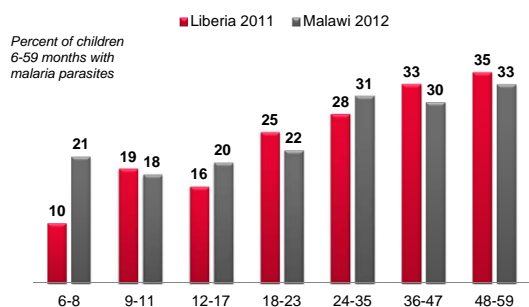
MIS: Data Collection

- Provides information on ownership and use of mosquito nets, treatment, indoor residual spraying, and use of antimalarial drugs
- In some countries, it includes blood testing for anemia and malaria parasites
- Ideally, the MIS is conducted during or just after the rainy season

MIS Surveys Conducted

- MIS surveys have been conducted in:
 - Angola 2006-07, 2011
 - Burundi 2012
 - Kenya 2010
 - Liberia 2009, 2011
 - Madagascar 2011, 2013
 - Malawi 2012, 2014 (ongoing)
 - Nigeria 2010
 - Rwanda 2013 (ongoing)
 - Senegal 2006, 2008-09
 - Tanzania 2003-04, 2007-08, 2011
 - Uganda 2009

MIS: Sample Findings



Module 1, Slide 25

Key Indicators Survey (KIS)

- The Key Indicators Survey (KIS) is designed to monitor and evaluate the needs of programs involved in population and health activities in developing countries.
- It produces data for small areas—regions, districts, and catchment areas—that may be targeted by an individual project, although the KIS can be used in nationally representative surveys as well.

Service Provision Assessment (SPA)

- SPA surveys are conducted in a sample of health facilities nationwide.
- The SPA obtains information on health and family planning services including: availability of specific services, infrastructure, availability of equipment and supplies, and quality of services.
- The sample includes 400-600 public and private facilities at all levels, from dispensaries to hospitals.

SPA: Data Collection

- SPA collects data from the following services:
 - Child health
 - Maternal health
 - Family planning
 - STIs
 - Malaria
 - HIV and TB

Module 1, Slide 28

SPA Questionnaires

1. *Facility audit questionnaire*: drugs, equipment, infection control, infrastructure, and fees
2. *Observation protocol*: observes client-provider interactions in maternal health, child health, family planning, infectious diseases
3. *Health worker/provider interviews*: training qualifications, and supervision
4. *Client exit interview*: client's understanding and recall of advice, satisfaction

SPA Surveys Conducted

- Bangladesh 1999-2000, 2014 (ongoing)
- Egypt 2002, 2004
- Ethiopia 2013-14 (ongoing)
- Ghana 2002
- Guyana (HIV/AIDS) 2004
- Kenya 2004, 2010
- Malawi 2013 (ongoing)
- Namibia 2009
- Rwanda 2001, 2007
- Senegal 2012-13, 2013-14 (ongoing)
- Tanzania 2006, 2013-14 (ongoing)
- Uganda 2007
- Zambia (HIV/AIDS) 2005

Module 1

Session 5

Service Provision Assessment (SPA) Survey

What is the SPA Survey?

- Sample survey of health facilities designed to identify strengths and weaknesses in service delivery
- Based on international standards of care – such as the Integrated Management of Childhood Illnesses (IMCI) – and on specific national standards
- Collects data on infrastructure, equipment and drug supplies, and patient care

SPA: Sample of Facilities

- Data are collected from a sample of 400 to 600 facilities, including stand-alone clinics, dispensaries, maternity homes, and hospitals
- Sample includes public and private facilities
- Breakdown of facility types depends on the specific country
- Findings are representative for the country, provinces/regions, and facility types

Services Assessed by the SPA

- Maternal health
- Child health
- Family planning
- Infectious diseases (STIs and TB) and malaria
- HIV/AIDS: testing, treatment, PMTCT, and ART
- Laboratory
- Pharmacy

SPA Questionnaires

1. *Facility audit questionnaire*: drugs, equipment, infection control, infrastructure, and fees
2. *Observation protocol*: observing client-provider interactions in maternal health, child health, family planning, infectious diseases
3. *Health worker/provider interview*: training, qualifications, and supervision
4. *Client exit interview*: client's understanding and recall of advice, satisfaction

What Data Does the SPA Provide? (1)

- Overview of health system by facility type and region:
 - Indicators are based on internationally accepted standards for services defined by international technical working group

What Data Does the SPA Provide? (2)

- Picture of the quality of health services on any given day
- Answers questions such as:
 - Is necessary equipment functioning and in a location relevant to the service?
 - Are protocols, guidelines, forms, registers up to date and in locations relevant to the services?
 - Are service providers routinely supervised and routinely provided with relevant training for the services they provide?

What Data Does the SPA Provide? (3)

- Do providers follow standards for services (regarding examination, information shared, treatment, and client education) during observed consultations?
- Is there evidence that infrastructure and systems to support quality (including quality assurance, logistics, infection control, reporting, laboratory and pharmacy practices, adequate privacy, water, and electricity/light) are in place at the facility?

Sampling in the SPA (1)

- Sample selected from a listing of all health facilities in the country
- Sample size ranges from 400 to 600 facilities
- Hospitals are often oversampled because they most often provide HIV and ARV treatment

Sampling in the SPA (2)

- Average of 8 interviews with health care workers per facility (all health care workers in facilities with fewer than 8 staff)
- Total of 2,000+ health care workers interviewed per SPA
- Average of 15 client-provider observations conducted per health facility
- Total of 2,000-4,000 observations per SPA

Sampling in the SPA (3)

- Typically more observations are done for outpatient care for sick children and antenatal care
- No more than 5 observations per provider, and no more than 15 observations per facility
- All observed clients (or caretakers) are interviewed as they leave the facility

Data Collection in the SPA

- Data collected by teams of trained interviewers, usually nurses, doctors, and/or medical students
- Data collection typically takes 4 to 6 months

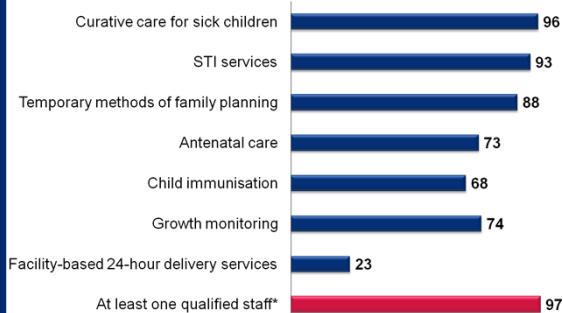
SPA Surveys Conducted

- Bangladesh 1999-2000, 2014 (ongoing)
- Egypt 2002, 2004
- Ethiopia 2013-14 (ongoing)
- Ghana 2002
- Guyana (HIV/AIDS) 2004
- Kenya 2004, 2010
- Malawi 2013 (ongoing)
- Namibia 2009
- Rwanda 2001, 2007
- Senegal 2012-13, 2013-14 (ongoing)
- Tanzania 2006, 2013-14 (ongoing)
- Uganda 2007
- Zambia (HIV/AIDS) 2005

Example of SPA Results on Child Health from Kenya (2010 KSPA)

Availability of Basic Services

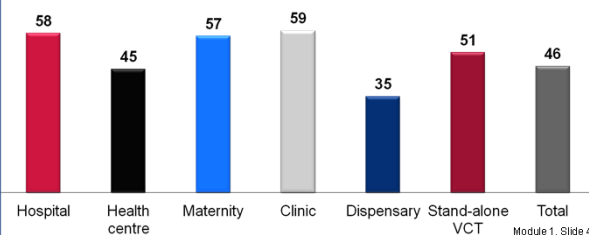
Percentage of all facilities (N=695)



Module 1, Slide 45

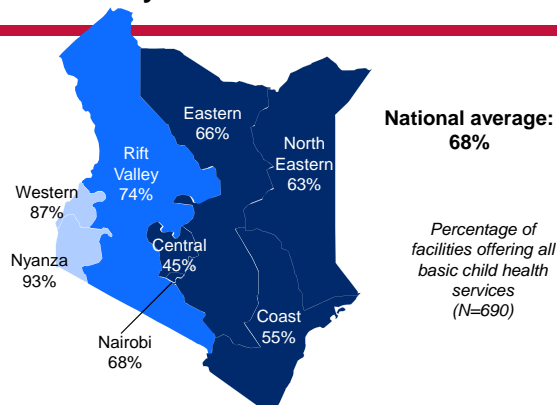
Facility Infrastructure: Regular Water Supply

Percentage of all facilities with year-round water supplied by tap or from a protected pump/well available within 500 meters of facility (N=695)



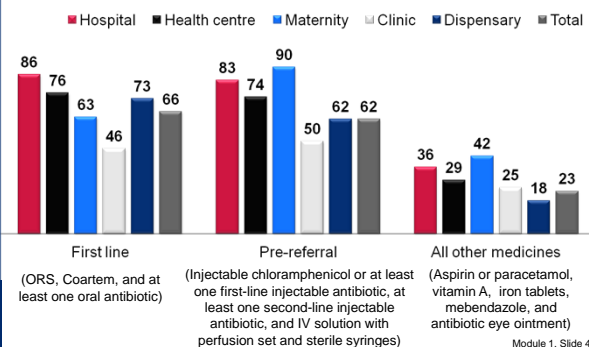
Module 1, Slide 46

Availability of Basic Child Health Services



Availability of Medicines to Treat Children

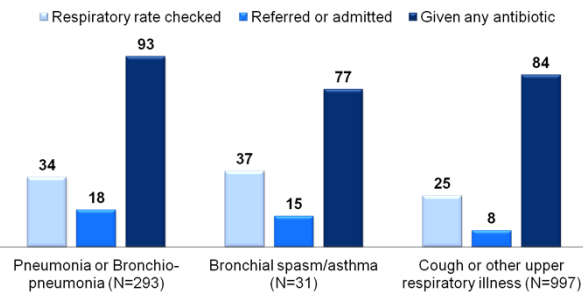
Percentage of facilities offering outpatient care for sick children (N=666)



Module 1, Slide 48

Assessment and Treatment of Children with Respiratory Illness

Among observed children with indicated diagnosis



Module 1, Slide 49

Integrating DHS and SPA Data: Seeing the Big Picture

Integrating DHS and SPA Data

DHS and SPA data are NOT directly comparable because they survey two different groups: individuals versus facilities.

- **Question 1:** Why doesn't the vaccination rate among children reported by the DHS match the percent of children in a SPA survey who were observed being vaccinated in a facility?
- **Question 2:** If all surveyed facilities in a SPA provide home delivery services, does this mean that all women who give birth have a skilled attendant at delivery?

The SPA Provides Context

DHS Indicator	SPA Topics
Prevalence of diarrhea in children	Was the diarrhea accurately assessed? Is it severe or dysentery?
Percent of children who received ORS or other treatment	Was the child assessed for dehydration? Were caretakers given appropriate instructions on how to administer medication?
Percent who visited a health care provider	Availability of ORS at facilities, as well as jar, cup, and spoon to administer ORS.
Feeding practices during diarrhea	Did the provider assess the child's feeding? Were caregivers told to give the child extra fluids?
Not a standard DHS indicator	What fees do clients pay for child health services?

Making Better Decisions (1)

How can we use data from the DHS and SPA together to make better decisions?

1. The DHS shows that vaccination rates are particularly low in Region X. What might you look to find in the SPA?
2. The DHS shows that infant mortality has declined dramatically in recent years. What indicators of improvement would you expect to see in the SPA?
3. The DHS reports that only 10% of adults have ever been tested for HIV. What do you want to know about facilities?

Module 1, Slide 53

Making Better Decisions (2)

4. According to the DHS, most women do not use contraception, and many of those who do discontinue use within one year. But the SPA shows that most facilities offer family planning. What else can we learn from the SPA about other barriers to using family planning?

EXERCISE 1.1

Defining Various Data Collection Methods

Data Collection Method	Definition	Population covered	Benefits	Limitations
Population-based survey				
Census				
Sentinel surveillance				
Focus groups				

EXERCISE 1.1

In-depth interviews				
Content analysis				
Observation				
Record reviews				

Handout 1.1

Descriptions of various data collection methods

Data Collection Method	Definition	Population Covered	Benefits	Limitations
Population-based survey	Collects information from a scientifically selected set of respondents	Randomly-selected sample of the study population	Results can be generalized to the wider population; information can be collected on a wide range of topics	Large effort; expensive; time-consuming; cannot define causal relationships easily
Census	Collects information from every member of a given population	Entire population	Comprehensive; thorough; less bias	Large effort; expensive; time-consuming (more so than population-based survey); collects information on a limited number of topics
Sentinel surveillance	Collects data from specific sites (such as a hospital or clinic) that provide an indication of what is happening on a larger scale	Only clients or populations that attend particular health facilities	Provides a bird's eye view on a small scale; captures trends at an affordable price	Conclusions should be generalized only to the population from which data are taken
Focus group discussion (FGD)	Guided group discussions focused on a few topics. Uses group dynamics and the flow of discussion to collect qualitative data. FGDs are held with small groups of people who have common characteristics. A trained moderator leads the discussion, using a question guide to introduce topics of interest and probe for deeper responses. Not appropriate for generalizing behavior, but an excellent technique for learning about attitudes and perceptions.	Specific targeted groups, usually homogeneous	Useful for probing deeply into the images, beliefs, and concepts that people have about a particular subject	Difficult to transcribe; time consuming; some persons may dominate the discussion; social status issues may repress truthful participation; does not yield quantitative data; cannot be generalized to larger population

Handout 1.1

In-depth interview (IDI)	One person (the interviewer) asks questions of another person (the respondent)	Individuals	Can collect in-depth information on personal circumstances, such as sexual experiences	Cannot be generalized to other people
Content analysis	Examines recorded communication (most often newspapers, television, books, laws, and Web pages), looking for use of certain words, ideas, and topics. Since the 1980s, it has been increasingly used for media evaluation.	Written or filmed products, including newspaper articles, books, and television advertisements	Inexpensive to carry out; can include materials produced over a long period of time; useful for studying trends	Limited to recorded communication; subject to sampling bias; recorded communication may not be valid or reliable
Observation	A technique for directly observing events or phenomena in their natural setting, such as a health care provider counseling a client or a shopkeeper waiting on customers	Individuals at a health care facility or store	Measures behavior directly, not through self-reporting	People may change their behavior if they know they are being watched; cannot be generalized to larger population
Record review	Examines a health facility's records to evaluate what services are being provided there: for example, how many women receive family planning when they visit the facility.	Individuals at a health care facility or district health management staff	Provides information on the components of care people receive when visiting a health facility	Difficult to ensure quality of record keeping; only applies to people who visit a health facility (sampling bias)

Handout 1.2

National Surveys in the DHS

Demographic and Health Surveys (DHS)

Since 1984, The Demographic and Health Surveys (DHS) Program has provided technical assistance to more than 260 surveys in more than 90 countries. DHS results have advanced global understanding of health and population trends in the developing world and have led to changes in national policies and programmes in many countries. The strategic objective of The DHS Program is to improve and institutionalize the collection and use of data by host countries for program monitoring and evaluation and for policy development decisions. The DHS Program is funded by the United States Agency for International Development (USAID) with contributions from many other donors.

Survey tools: The DHS includes three survey instruments: the Household Questionnaire, the Woman's Questionnaire, and the Man's Questionnaire. With these instruments, as well as through physical testing to collect biological indicators of health (or biomarkers), the DHS collects data on a wide range of indicators in fertility; family planning; maternal and child health; nutrition; infant and adult mortality; malaria; sexually transmitted infections (STIs); HIV knowledge, attitudes, and practices; and HIV prevalence.

Sample design: The DHS uses a conventional two-stage cluster sample. The first stage consists of choosing clusters from domain areas (such as regions, provinces, or states), based on a listing provided by the host country (often a census). During the second stage, samplers select households from the selected clusters. The end result is a sample that is representative at the national and provincial/regional levels. From 6,000 to 30,000 households are sampled, and surveys usually include more than 6,000 respondents.

Timetable: A standard DHS takes up to 20 months to complete. Field work typically takes three to six months, depending on the size of the country and the number of interview teams.

DHS surveys completed: A full listing of DHS surveys is available at The DHS Program website (www.DHSprogram.com).

AIDS Indicator Surveys (AIS)

The AIDS Indicator Survey (AIS) provides countries with standardized questionnaires to obtain key pieces of information, or indicators, about the HIV/AIDS epidemic. These surveys are timely, reasonable in terms of cost, and are used extensively for reporting to various agencies, including the President's Emergency Plan for AIDS Relief (PEPFAR) and the United

Handout 1.2

Nations General Assembly Special Session on AIDS (UNGASS). AIS surveys use the same methodology as the DHS so their results are comparable to the DHS, but they include many fewer questions. The questions included are mainly related to HIV. Some AIS surveys include HIV testing.

Survey tools: The AIS includes two survey instruments: the Household Questionnaire and the Individual Questionnaire. The same Individual Questionnaire is used with both women and men.

The AIS collects data on:

- *Background characteristics:* age, marital status, education, ethnicity, and sometimes religion
- *Orphans and vulnerable children:* living arrangements, education, and care and support of orphans
- *Reproductive health and sexual behavior:* marital patterns, age of sexual debut, female genital cutting and male circumcision, patterns of sexual behavior and condom use, and experience of sexually transmitted infections (STIs)
- *Knowledge and attitudes about HIV/AIDS:* knowledge of transmission and prevention, knowledge of a source for condoms, HIV testing history, and attitudes and stigma related to HIV
- *HIV prevalence:* estimates of national, provincial/regional, and urban/rural prevalence; HIV prevalence among cohabiting couples; and HIV prevalence among youth

Sample design: The AIS uses the same two-stage cluster sample as the DHS, only with fewer households. The AIS typically samples about 3,000 households. In each household selected, all women and men age 15-49 are eligible to participate.

Timetable: The AIS takes approximately nine months to complete, including two months of fieldwork and two months of data entry and editing.

AIS surveys completed and underway: As of March 2014, AIS surveys were underway or had been completed in the following countries:

- Congo-Brazzaville (2009)
- Cote d'Ivoire (2005)
- Guyana (2005)
- Mozambique (2009, 2014 – ongoing)
- Tanzania (2003-04, 2007-08, 2011-12)
- Uganda (2004-05, 2011)
- Vietnam (2005)

Handout 1.2

Service Provision Assessment (SPA)

SPA surveys offer a comprehensive overview of a country's health care services and their capacity to provide quality care. The SPA examines the strengths and weaknesses of a country's public and private health services. It focuses on five key services: (1) child health, (2) maternity and newborn care, (3) family planning, (4) sexually transmitted infections (STIs) and other infectious diseases, and (5) HIV/AIDS.

SPA surveys are conducted in health facilities. The objective of the SPA is to provide information about the characteristics of health services, including the quality of services provided, infrastructure, and availability of various services (see list below).

Survey tools: The SPA uses four data collection tools: a Facility Audit Questionnaire; an Observation Protocol for observing client-provider interactions during sick child care, antenatal care, family planning, and STI consultations; an Exit Interview Guide for clients leaving the facility; and a Health Worker/Provider Interview Guide.

SPA surveys look at a wide range of indicators including:

- *Availability of services:* types of services, hours and days of operation, and health care providers available
- *Facility infrastructure:* water, electricity, latrines, and infection control.
- *Availability of equipment and pharmaceutical supplies*
- *Support systems:* training, supervision, quality assurance, equipment maintenance, storage of commodities, national guidelines, and visual aids
- *Management systems:* quality of management information systems (MIS) for clients, logistic systems, and the cost of services
- *Providers' adherence to national and international standards:* patient history, risk assessment, health education/counseling, and examinations

The HIV/AIDS SPA focuses on the delivery of preventive care and support services. It collects data on voluntary counseling and testing, prevention of maternal-to-child transmission of HIV/AIDS, and antiretroviral therapy.

Sample design: Each SPA survey involves a representative sample of 400 to 600 facilities, including all types of public and private health services sites from hospitals to health posts. Data collection teams fill out facility checklists, observe providers at work, and interview providers and clients at each facility. A SPA generally includes observations of about

Handout 1.2

4,000 provider-client interactions and interviews with at least 1,000 health care providers.

Timetable: The survey takes approximately 14 months to complete, including 3-4 months of fieldwork, and 2 months of data entry and editing.

SPA surveys completed: As of March 2014, SPA surveys were underway or had been completed in the following countries:

- Bangladesh (1999-2000, 2014 – ongoing)
- Egypt (2002, 2004)
- Ethiopia (2013-14 – ongoing)
- Ghana (2002)
- Guyana (2004)
- Haiti (2013 – ongoing)
- Kenya (2004, 2010)
- Malawi (2013 – ongoing)
- Namibia (2009)
- Rwanda (2001, 2007)
- Senegal (2012-13, 2013-14 – ongoing)
- Tanzania (2006, 2013-14 – ongoing)
- Uganda (2007)
- Zambia (2005)

Malaria Indicator Surveys (MIS)

Every year, malaria kills more than one million people worldwide. Young children are most at risk, but adults, particularly pregnant women, are also affected, resulting in major economic losses from missed work and household expenditures for drugs and medical fees. Understanding the extent of the disease, the frequency of preventive practices, and the use of antimalarial medicines is essential for developing and evaluating effective interventions.

The MIS provides much needed information about the use of mosquito nets, prevention of malaria during pregnancy, prompt and effective treatment of fever in young children, and indoor residual spraying of insecticide to kill mosquitoes. The MIS was developed by the Monitoring and Evaluation Reference Group (MERG) of Roll Back Malaria (www.rollbackmalaria.org), an international partnership developed to coordinate global efforts to fight malaria. A stand-alone household survey, the MIS collects national and provincial/regional data from a representative sample of respondents. The survey is designed to help national malaria control programs and international health organizations advance the centuries old struggle against this common and deadly disease. The DHS Program chairs the MERG Survey and Indicator Guidance Task Force and has been a major contributor to the

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development of the MIS package. The MIS package includes questionnaires, manuals, and guidelines that are based on DHS survey materials. The DHS Program is also active in the implementation of the MIS.

Many of the questions in the MIS instrument were derived from DHS surveys and Multiple Indicator Cluster Surveys (www.childinfo.org).

Survey tools: To help countries and organizations conduct a MIS survey, the Roll Back Malaria partnership has developed a MIS package (www.rollbackmalaria.org/merg_surveytaskforce.html). This package contains guidelines, questionnaires, and manuals to support the conduct of the survey as well as recommended tabulations for analyzing the data.

The MIS collects data on all of the internationally recognized malaria indicators, including:

- Household ownership of insecticide-treated mosquito nets and their use by children under age five and pregnant women
- Intermittent preventive treatment against malaria during pregnancy
- Type and timing of treatment of high fever in children under age five
- Indoor residual spraying of insecticide to kill mosquitoes
- Background data on the characteristics of household members and the ownership of household assets, such as electricity, bicycles, radios, and indoor plumbing

Depending on the needs of the country, the MIS may also measure the prevalence of malaria parasites and anemia (a common result of malaria) among household members most at risk—that is, children under age five and pregnant women. Specially trained interviewers take a few drops of blood from the fingers of eligible respondents who consent to the tests. The blood is immediately tested for anemia in the field, and the results are provided to respondents within a few minutes. The blood can be tested for malaria parasites either with a rapid diagnostic test in the field or by microscopy in a laboratory. To date, anemia testing has been conducted in more than 50 DHS surveys; the MIS in Angola has also tested for malaria parasites. Talks are underway to include biomarker testing in Liberia, Senegal, and Uganda.

Timetable: Unlike the DHS, which is carried out at various times during the year, the MIS is usually timed to correspond with the high malaria transmission season. Fieldwork for the MIS typically takes a month or two. This is essential if the MIS includes biomarker testing for malaria.

MIS surveys completed: The MIS is a relatively new survey. As of June 2011, MIS surveys were underway or had been completed in the following countries:

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- Angola (2006-07, 2011)
- Burundi (2012)
- Kenya (2010)
- Liberia (2009, 2011)
- Madagascar (2011, 2013)
- Malawi (2012, 2014 – ongoing)
- Nigeria (2010)
- Rwanda (2013 – ongoing)
- Senegal (2006, 2008-09)
- Sierra Leone (2013 – ongoing)
- Tanzania (2003-04, 2007-08, 2011)
- Uganda (2009)

Key Indicators Surveys (KIS)

The Key Indicators Survey (KIS) is designed to provide data for small areas—regions, districts, or catchment areas. The KIS uses the same methodology and parts of the same questionnaires as a standard DHS. Thus, the results of a KIS in a particular district or catchment area are comparable to the results of the DHS in a province/region or country. An individual project may use the KIS in a specific area or in nationally representative surveys.

Survey tools: KIS tools include questionnaires, interviewer's manuals, guidelines for sampling, and a tabulation plan. Questionnaires are short and relatively simple. Questionnaires are organized around five of the most important areas of public health in developing countries:

- *Family planning:* total fertility rate, contraceptive prevalence rate, birth spacing, births to young mothers (under age 18), and high parity births (five or more)
- *Maternal health:* antenatal care from skilled health personnel, skilled delivery assistance, and institutional deliveries
- *Child health:* immunization coverage, the use of oral rehydration for children with diarrhea, safe disposal of children's stools, vitamin A supplementation among children under age five, prevalence of underweight children, exclusive breastfeeding of children under age six months, and treatment of drinking water
- *HIV/AIDS:* higher risk sex among women and men age 15-49, condom use during high risk sex, and sexual experience of youth age 15-19
- *Infectious diseases:* household ownership of insecticide-treated nets (ITNs), and use of ITNs by children under age five

Module 1:Pre-Test

1. A survey

- a. Is a method of collecting data from a population
- b. Asks the same questions of everyone who participates to get comparable data
- c. Can collect quantitative (numeric) or qualitative (descriptive) data
- d. All of the above

2. Which of the following are advantages of the surveys in the DHS program?

- a. results are representative at the national and regional level
- b. results can be compared across countries and over time
- c. the survey process provides an opportunity for capacity building
- d. all of the above

3. Who are usually interviewed in the Demographic and Health Survey's individual questionnaire? (Circle all that apply)

- a. Children age 5-12
- b. Women age 15-49
- c. Men age 15-49
- d. Women and men age 60+

4. All of the following are true about the SPA survey except

- a. it includes interviews with clients
- b. it includes health facilities of all different types
- c. it covers topics such as family planning and child health
- d. it can be directly linked to DHS survey results

(Turn over for final question)

5. Match the following terms to their definition

_____ Quantitative data

_____ Qualitative data

_____ Population

_____ Sample

_____ Representative sample

_____ Bias

- a. data that focus on numbers and frequencies. *When? Where? How many? How often?*
- b. the data does not accurately represent the entire population
- c. a subset of a population that is selected to participate in a survey
- d. the entire universe of people or things that are under study
- e. focus on meaning and experience, and answer the questions: *How? Why?*
- f. allows researchers to generalize survey results to the entire population

Module 1:Post-Test

1. A survey

- a. Is a method of collecting data from a population
- b. Asks the same questions of everyone who participates to get comparable data
- c. Can collect quantitative (numeric) or qualitative (descriptive) data
- d. All of the above

2. Which of the following are advantages of the surveys in the DHS program?

- a. results are representative at the national and regional level
- b. results can be compared across countries and over time
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(Turn over for final question)

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- d. the entire universe of people or things that are under study
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- f. allows researchers to generalize survey results to the entire population

ANSWER KEY

Module 1

1. A survey

- a. Is a method of collecting data from a population
- b. Asks the same questions of everyone who participates to get comparable data
- c. Can collect quantitative (numeric) or qualitative (descriptive) data
- d. All of the above**

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ANSWER KEY

A Quantitative data

E Qualitative data

D Population

C Sample

F Representative sample

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