

# Bangladesh - Demographic and Health Survey 2011

**National Institute for Population Research and Training (NIPORT) - Ministry of  
Health and Family Welfare, Bangladesh**

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# Sampling

## Sampling Procedure

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### Sample Design

The sample for the 2011 BDHS is nationally representative and covers the entire population residing in noninstitutional dwelling units in the country. The survey used as a sampling frame the list of enumeration areas (EAs) prepared for the 2011 Population and Housing Census, provided by the Bangladesh Bureau of Statistics (BBS). The primary sampling unit (PSU) for the survey is an EA that was created to have an average of about 120 households.

Bangladesh has seven administrative divisions: Barisal, Chittagong, Dhaka, Khulna, Rajshahi, Rangpur, and Sylhet. Each division is subdivided into zilas, and each zila into upazilas. Each urban area in an upazila is divided into wards, and into mohallas within a ward. A rural area in the upazila is divided into union parishads (UP) and mouzas within a UP. These divisions allow the country as a whole to be easily separated into rural and urban areas.

The survey is based on a two-stage stratified sample of households. In the first stage, 600 EAs were selected with probability proportional to the EA size, with 207 clusters in urban areas and 393 in rural areas. A complete household listing operation was then carried out in all the selected EAs to provide a sampling frame for the second-stage selection of households. In the second stage of sampling, a systematic sample of 30 households on average was selected per EA to provide statistically reliable estimates of key demographic and health variables for the country as a whole, for urban and rural areas separately, and for each of the seven divisions. With this design, the survey selected 18,000 residential households, which were expected to result in completed interviews with about 18,000 ever-married women. In addition, in a subsample of one-third of the households, all evermarried men age 15-54 were selected and interviewed for the male survey. In this subsample, a group of eligible members were selected to participate in testing of the biomarker component, including blood pressure measurements, anemia, blood glucose testing, and height and weight measurements.

Note: See Appendix A (in final survey report) for the details of the sample design.

## Deviations from Sample Design

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The 2007 BDHS sampled all ever-married women age 10-49. The number of eligible women age 10-49 was 11,234, of whom 11,051 were interviewed for a response rate of 98.4 percent. However, there were very few ever-married women age 10-14 (55 unweighted cases or less than one percent). These women have been removed from the data set and weights recalculated for the 15-49 age group. The tables in the survey report discuss only women age 15-49.

## Response Rate

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From a total of 17,964 selected households, 17,511 were found to be occupied. Interviews were successfully completed in 17,141 households, or 98 percent of all the occupied households. A total of 18,222 evermarried women age 12-49 were identified in these households, and 17,842 were interviewed, yielding a response rate of 98 percent. In one-third of the households, ever-married men over age 15 were eligible for interview. Of the 4,343 eligible men, 3,997, or 92 percent, were successfully interviewed. The 2011 response rates were similar to those in the 2007 BDHS.

Note: See summarized response rates by residence (urban/rural) in Table 1.3 of the survey final report.

## Weighting

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Due to the non-proportional allocation of sample to divisions and urban and rural areas, and the differences in response rates, sampling weights are required for any analysis using the 2011 BDHS data to ensure the representativeness of the survey results at national and domain levels. Because the 2011 BDHS sample is a two-stage stratified cluster sample, sampling weights were calculated based on sampling probabilities separately for each sampling stage and cluster.

Note: See Appendix A.4 (in final survey report) for the details of sampling weight calculation.

# Questionnaires

## Overview

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The 2011 BDHS used five types of questionnaires: a Household Questionnaire, a Woman's Questionnaire, a Man's Questionnaire, a Community Questionnaire, and two Verbal Autopsy Questionnaires to collect data on causes of death among children under age 5. The contents of the household and individual questionnaires were based on the MEASURE DHS model questionnaires. These model questionnaires were adapted for use in Bangladesh during a series of meetings with a Technical Working Group (TWG) that consisted of representatives from NIPORT, Mitra and Associates, International Centre for Diarrheal Diseases and Control, Bangladesh (ICDDR,B), USAID/Bangladesh, and MEASURE DHS. Draft questionnaires were then circulated to other interested groups and were reviewed by the 2011 BDHS Technical Review Committee. The questionnaires were developed in English and then translated and printed into Bangla.

The Household Questionnaire was used to list all the usual members and visitors in the selected households. Some basic information was collected on the characteristics of each person listed, including age, sex, education, and relationship to the head of the household. The main purpose of the Household Questionnaire was to identify women and men who were eligible for the individual interview. In addition, information was collected about the dwelling unit, such as the source of water, type of toilet facilities, materials used to construct the floors and walls, and ownership of various consumer goods.

The Household Questionnaire was also used to record for eligible individuals:

- Height and weight measurements
- Anemia test results
- Measurements of blood pressure and blood glucose

The Woman's Questionnaire was used to collect information from ever-married women age 12-49. Women were asked questions on the following topics:

- Background characteristics (e.g., age, education, religion, and media exposure)
- Reproductive history
- Use and source of family planning methods
- Antenatal, delivery, postnatal, and newborn care
- Breastfeeding and infant feeding practices
- Child immunizations and childhood illnesses
- Marriage
- Fertility preferences
- Husband's background and respondent's work
- Awareness of AIDS and other sexually transmitted infections
- Food security

The Man's Questionnaire was used to collect information from ever-married men age 15-54. Men were asked questions on the following topics:

- Background characteristics (including respondent's work)
- Marriage
- Fertility preferences
- Participation in reproductive health care
- Awareness of AIDS and other sexually transmitted infections

The Community Questionnaire was administered in each selected cluster during the household listing operation. Data were collected by administering the Community Questionnaire to a group of four to six community leaders who were knowledgeable about socioeconomic conditions and the availability of health and family planning services/facilities, in or near the sample area (cluster). Community leaders included such persons as government officials, social workers, teachers, religious leaders, traditional healers, and health care providers.

The Community Questionnaire collected information about the existence of development organizations in the community and the availability and accessibility of health services and other facilities.

During the household listing operation, the geographic coordinates and altitude of each cluster were also recorded. The information obtained in these questionnaires was also used to verify information gathered in the Woman's and Man's Questionnaires on the types of facilities accessed and health services personnel seen.

The Verbal Autopsy Questionnaires were developed based on the work done by an expert group led by the WHO, consisting of researchers, data users, and other stakeholders under the sponsorship of the Health Metrics Network (HMN). The verbal autopsy tools are intended to serve the various needs of the users of mortality information. Two questionnaires were used to collect information related to the causes of death among young children; the first questionnaire collected data on neonatal

deaths (deaths at 0-28 days), and the second questionnaire collected data on deaths between four weeks and five years. These questionnaires were administered to mothers who reported the death of a child under age 5 in the five-year period prior to the 2011 BDHS survey or care taker who were knowledgeable about the symptoms and treatment preceding the death. The questionnaires contained both structured (pre-coded) questions and nonstructured (open-ended) questions. The following topics were covered in the Verbal Autopsy Questionnaires:

- Identification including detailed address of respondent
- Informed consent
- Detailed age description of deceased child
- Respondent's account of illness/events leading to death
- Maternal history, including questions on prenatal care, labor and delivery, and obstetrical complications
- Information about accidental deaths
- Detailed signs and symptoms preceding death
- Mother's health and contextual factors
- Information on treatment module and information on direct, underlying contributing causes of death from the death certificate, if available.

## Data Collection

### Data Collection Dates

Start	End	Cycle
2011-07	2011-12	N/A

### Data Collection Mode

Face-to-face

#### DATA COLLECTION NOTES

##### Training and Fieldwork

Forty-seven people were trained to carry out the listing of households, to delineate Enumeration Areas (EAs), and to administer Community Questionnaires. They were also trained in the use of global positioning system (GPS) units, to obtain locational coordinates for each selected EA. The training lasted a total of seven days from May 11-21, 2011. A household listing operation was carried out in all selected EAs from May 22 to October 5, 2011 in four phases, each about three weeks in length. Initially, 19 teams of two persons each were deployed to carry out the listing of households and to administer the Community Questionnaires. The number of teams was reduced to 15 in the second and third phases and to 6 in the final phase. In addition, six supervisors were deployed to check and verify the work of the listing teams.

The Household, Woman's and Man's Questionnaires were pre-tested in March 2011. Four supervisors, 10 interviewers, and 4 biomarker staff were trained for the pretest. The questionnaires were pre-tested on 100 households, 100 women, and 70 men in one urban and one rural cluster in Comilla District and one urban and one rural cluster in Dhaka. Based on observations in the field and suggestions made by the pretest teams, revisions were made to the wording and translations of the questionnaires.

Training for the main survey was conducted for four weeks from June 6 to July 5, 2011. A total of 173 fieldworkers were recruited based on their educational level, prior experience with surveys, maturity, and willingness to spend up to six months on the project. Training included (1) lectures on how to conduct an interview and complete the questionnaires, (2) mock interviews by participants, and (3) field practice.

Fieldwork for the 2011 BDHS was carried out by 16 interviewing teams, each consisting of one supervisor, one field editor, five female interviewers, two male interviewers, and one logistics staff member. Data collection was implemented in five phases, starting on July 8, 2011 and ending on December 27, 2011. In addition, from January 2-19, 2012 there were re-visits to collect blood samples from respondents interviewed during Ramadan who had agreed to participate in blood testing, but declined to be tested during Ramadan.

### Data Collectors

Name	Abbreviation	Affiliation
Mitra and Associates		Research Firm

#### SUPERVISION

Data quality was ensured through four quality control teams, each comprised of one male and one female staff person. In addition, NIPORT monitored fieldwork by using extra quality control teams. Data quality was also monitored through field check tables generated concurrently with data processing. This was an advantage because the quality control teams were able to advise field teams of problems detected during data entry. In particular, tables were generated to check various data quality parameters. Fieldwork was also monitored through visits by representatives from USAID, ICF International, and NIPORT.

# Data Processing

## Data Editing

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The completed 2011 BDHS questionnaires were periodically returned to Dhaka for data processing at Mitra and Associates offices. The data processing began shortly after the start of fieldwork. Data processing consisted of office editing, coding of open-ended questions, data entry, and editing of inconsistencies found by the computer program. The data were processed by 16 data entry operators and two data entry supervisors. Data processing commenced on July 23, 2011 and ended on January 15, 2012. Data processing was carried out using the Census and Survey Processing System (CSPRO), a joint software product of the U.S. Census Bureau, ICF International, and Serpro S.A.

# Data Appraisal

## Estimates of Sampling Error

See Appendix B (in final survey report) for the details of estimates of sampling errors.

## Other forms of Data Appraisal

### Data Quality Tables

- Household age distribution
- Age distribution of eligible and interviewed women
- Age distribution of eligible and interviewed men
- Completeness of reporting
- Births by calendar years
- Reporting of age at death in days
- Reporting of age at death in months

Note: See Appendix C (in final survey report) for the details of data quality tables.



## Related Materials

### Questionnaires

#### 2011 Demographic and Health Survey, Questionnaire

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Title 2011 Demographic and Health Survey, Questionnaire  
 Author(s) National Institute of Population Research and Training (NIPORT) Ministry of Health and Family Welfare Mitra and Associates  
 Country Bangladesh  
 Language English  
 Filename Bangladesh\_2011\_DHS\_questionnaire.pdf

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### Reports

#### Bangladesh Demographic and Health Survey 2011, Report

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Title Bangladesh Demographic and Health Survey 2011, Report  
 Author(s) National Institute of Population Research and Training (NIPORT) Dhaka, Bangladesh Mitra and Associates, Dhaka, Bangladesh MEASURE DHS, ICF International, Calverton, Maryland, USA  
 Date 2013-01-01  
 Country Bangladesh  
 Language English  
 Description This report summarizes the findings of 2011 Bangladesh Demographic and Health Surveys (BDHS) conducted under the authority of the National Institute of Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare and implemented by Mitra and Associates of Dhaka.  
 Filename <http://www.dhsprogram.com/pubs/pdf/FR265/FR265.pdf>

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#### Bangladesh 2011 Demographic and Health Survey, Policy Briefs

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Title Bangladesh 2011 Demographic and Health Survey, Policy Briefs  
 Author(s) Measure DHS  
 Date 2013-01-01  
 Country Bangladesh  
 Language English  
 Filename <http://www.dhsprogram.com/pubs/pdf/PB6/PB6.pdf>

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### Technical documents

#### DHS Survey Organization Manual

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Title DHS Survey Organization Manual  
 Author(s) MEASURE DHS  
 Date 2012-02-01  
 Language English  
 Description This manual is intended as an aid to host country survey staff, donors, and others. It explains the standard approach to implementing Demographic and Health Surveys (DHS), giving general organization and implementation guidelines.

Filename [http://www.dhsprogram.com/pubs/pdf/DHSM10/DHS6\\_Survey\\_Org\\_Manual\\_7Dec2012\\_DHSM10.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM10/DHS6_Survey_Org_Manual_7Dec2012_DHSM10.pdf)

## Training Field Staff for DHS Surveys

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Title Training Field Staff for DHS Surveys  
 Author(s) MEASURE DHS  
 Date 2009-09-01  
 Language English  
 Description This manual was produced as an aid for use in the design and implementation of field staff training. This document provides general guidelines for organizing and conducting the training of the field staff. The manual also includes a section on supervising fieldwork and the use of fieldcheck tables.  
 Filename [http://www.dhsprogram.com/pubs/pdf/DHSM3/Training\\_Field\\_Staff\\_for\\_DHS\\_Surveys\\_Oct2009.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM3/Training_Field_Staff_for_DHS_Surveys_Oct2009.pdf)

## DHS Interviewer's Manual

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Title DHS Interviewer's Manual  
 Author(s) MEASURE DHS  
 Date 2012-09-01  
 Language English  
 Description This manual is designed to explain to interviewers how to do their job. The manual complements the 2005 versions of the DHS Model Survey Questionnaires and includes information about implementation of the survey, training activities, and fieldwork procedures. It discusses in detail interview techniques and procedures for completing the questionnaires.  
 Filename [http://www.dhsprogram.com/pubs/pdf/DHSM1/DHS6\\_Interviewer\\_Manual\\_19Oct2012\\_DHSM1.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM1/DHS6_Interviewer_Manual_19Oct2012_DHSM1.pdf)

## DHS Supervisor's and Editor's Manual

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Title DHS Supervisor's and Editor's Manual  
 Author(s) MEASURE DHS  
 Date 2011-03-01  
 Language English  
 Description This manual is designed to explain to field supervisors and field editors how to do their jobs. The instructions for both positions have been combined into one manual because supervisors and field editors are expected to share many activities, e.g., editing questionnaires and tracking interviewers' performance. The manual complements the 2005 versions of the DHS Model Survey Questionnaires.  
 Filename [http://www.dhsprogram.com/pubs/pdf/DHSM2/DHS6\\_Supervisor\\_Editor\\_Manual\\_30Mar2011.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM2/DHS6_Supervisor_Editor_Manual_30Mar2011.pdf)

## DHS Biomarker Field Manual

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Title DHS Biomarker Field Manual  
 Author(s) MEASURE DHS  
 Date 2011-07-01  
 Language English  
 Description This manual is meant to accompany hands-on biomarker training and field practice and covers collection of anthropometry data, capillary blood drop samples, anemia testing, dried blood spot (DBA) testing, HIV testing, and biohazard waste disposal.  
 Filename [http://www.dhsprogram.com/pubs/pdf/DHSM7/DHS6\\_Biomarker\\_Manual\\_9Jan2012.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM7/DHS6_Biomarker_Manual_9Jan2012.pdf)

## Sampling and Household Listing Manual

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Title Sampling and Household Listing Manual  
 Author(s) MEASURE DHS  
 Date 2012-09-01  
 Language English

Description The DHS Sampling Manual presents the DHS approach to sampling issues such as optimum sampling frames, sample domains, stages, and sample selection.

Filename [http://www.dhsprogram.com/pubs/pdf/DHSM4/DHS6\\_Sampling\\_Manual\\_Sept2012\\_DHSM4.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM4/DHS6_Sampling_Manual_Sept2012_DHSM4.pdf)

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## Preliminary Report Tabulation Plan for MEASURE DHS Phase 3

Title Preliminary Report Tabulation Plan for MEASURE DHS Phase 3

Author(s) MEASURE DHS

Date 2011-06-15

Language English

Description This plan provides the tables for presenting the preliminary results obtained from the DHS survey.

Filename [http://www.dhsprogram.com/pubs/pdf/DHSM5/DHS6\\_Preliminary\\_report\\_tables\\_15Jun2011.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM5/DHS6_Preliminary_report_tables_15Jun2011.pdf)

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## Tabulation Plan for DHS Final Report

Title Tabulation Plan for DHS Final Report

Author(s) MEASURE DHS

Date 2012-01-01

Language English

The Guidelines for the Main Survey Report (also known as the Tabulation Plan) provides model tables that set forth the major findings of a survey in a manner that will be useful to policy makers and program managers. The data are presented in terms of national level statistics and for population subgroups such as those defined by age, education, marital status, economic status, urban/rural residence and region of the country. When appropriate to a topic, further data disaggregations are shown.

Description The Guidelines complement the 2005 versions of the DHS Model Survey Questionnaires. Those survey instruments are substantially longer than previous model DHS Questionnaires, primarily because they incorporate topics formerly addressed in separate modules—topics such as malaria, HIV prevalence, information on orphans and vulnerable children, and support for chronically ill household members. Accordingly, this is an expanded version of previous DHS Guidelines and consists of nearly 250 tables contained in 16 substantive chapters.

Filename [http://www.dhsprogram.com/pubs/pdf/DHSM6/Final\\_Report\\_Tab\\_Plan\\_22Jan2013\\_DHSM6.pdf](http://www.dhsprogram.com/pubs/pdf/DHSM6/Final_Report_Tab_Plan_22Jan2013_DHSM6.pdf)

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## Guide to DHS Statistics

Title Guide to DHS Statistics

Author(s) MEASURE DHS

Date 2006-09-01

Language English

Description A reference guide to help users who work with DHS survey indicators and datasets to better understand indicator definitions and the calculations used to generate the data.

Filename [http://www.dhsprogram.com/pubs/pdf/DHSG1/Guide\\_to\\_DHS\\_Statistics\\_29Oct2012\\_DHSG1.pdf](http://www.dhsprogram.com/pubs/pdf/DHSG1/Guide_to_DHS_Statistics_29Oct2012_DHSG1.pdf)

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## International Indicators

Title International Indicators

Author(s) MEASURE DHS

Language English

Description A list of DHS Indicators that correspond to indicators from international agencies and organizations. Taken from Appendix D of the Tabulation Plan for DHS Final Report.

Filename [http://www.dhsprogram.com/pubs/pdf/DHSG2/DHS\\_Intl\\_Indicators\\_9Jan2012.pdf](http://www.dhsprogram.com/pubs/pdf/DHSG2/DHS_Intl_Indicators_9Jan2012.pdf)