Bangladesh

Demographic and Health Survey

2011

BANGLADESH
DEMOGRAPHIC AND HEALTH SURVEY

2011

National Institute of Population Research and Training
Dhaka, Bangladesh

Mitra and Associates
Dhaka, Bangladesh

MEASURE DHS
ICF International
Calverton, Maryland, U.S.A.

January 2013

Cover motif: A tapestry by Rashid Chowdhury, 1984
Courtesy**:** H. E. Mr. Md. Abdul Hannan, Ambassador & Permanent Representative, Permanent Mission of Bangladesh to the UN Office and other International Organizations in Geneva and Vienna.

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. ICF International provided financial and technical assistance for the survey through USAID/Bangladesh. The BDHS is part of the worldwide Demographic and Health Surveys program, which is designed to collect data on fertility, family planning, and maternal and child health. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of USAID, the Government of Bangladesh, or donor organizations.

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Suggested citation:

National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International. 2013. *Bangladesh Demographic and Health Survey 2011.* Dhaka, Bangladesh and Calverton, Maryland, USA: NIPORT, Mitra and Associates, and ICF International.

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Senior Secretary
Ministry of Health and Family Welfare
Government of the People's Republic of Bangladesh

সিনিয়র সচিব
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়
গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

The 2011 Bangladesh Demographic and Health Survey (BDHS) is the sixth national demographic and health survey designed to provide information on basic national indicators of social progress, including fertility, childhood mortality and causes of death, fertility preferences and fertility regulation, maternal and child health, nutritional status of mothers and children, awareness and attitudes towards HIV/AIDS, and prevalence of noncommunicable diseases.

In addition to presenting the main findings on fertility, family planning, maternal and child health, and nutrition, this report highlights the major changes that have taken place in Bangladesh's demographic and health situation since the previous BDHS surveys. Results illustrate that the Total Fertility Rate continues to decline—three of seven divisions are at replacement level. Contrarily, the Contraceptive Prevalence Rate (CPR) continues to increase, and in the last four years Sylhet division demonstrates the highest increase in CPR, followed by Chittagong. BDHS data show continued decline in childhood mortality, and Bangladesh is on-track to achieve the MDG 4 target by 2015. There is also evidence that Bangladesh is moving ahead in achieving MDG 5. Since the 2007 BDHS, deliveries attended by skilled providers and deliveries in health facilities have increased by more than 50 percent, and the equity gap between rich and poor has narrowed. However, improvement of the nutritional status of children is a great challenge for us—more than one in three children is still underweight. Similarly, challenges remain from the high prevalence of two major non-communicable diseases: hypertension and diabetes. One in three adult women and one in five adult men are hypertensive, while one in nine adult men and women suffer from diabetes.

The findings of this report and its policy and programmatic implications are very important for monitoring and evaluation of the Health, Population and Nutrition Sector Development Program (HPNSDP). The need, however, for further detailed analysis of BDHS data remains. I hope that such analysis will be carried out by academicians, researchers, and program personnel to provide more in-depth knowledge for the future direction and effective implementation of the HPNSDP in the coming years.

The successful completion of the 2011 BDHS was made possible by the contributions of a number of organizations and individuals. I would like to thank NIPORT, Mitra and Associates, and ICF International for their efforts in conducting the 2011 BDHS. I deeply appreciate the United States Agency for International Development (USAID), Bangladesh, for providing the financial assistance that has helped ensure the ultimate success of this important national survey.

Md. Humayun Kabir

PREFACE

Director General
National Institute of Population Research and Training
Ministry of Health and Family Welfare

The 2011 Bangladesh Demographic and Health Survey (BDHS) is the sixth survey of its kind conducted in Bangladesh. This survey was implemented through a collaborative effort of the National Institute of Population Research and Training (NIPORT), ICF International (USA), and Mitra and Associates. The financial support for the survey was provided by the United States Agency for International Development (USAID), Bangladesh.

The 2011 BDHS is a nationwide sample survey of men and women of reproductive age that provides information on childhood mortality levels; fertility preferences; use of family planning methods; and maternal, child, and newborn health. Included are breastfeeding practices; nutrition levels, including the presence of anemia and iodine deficiency; knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections; and community-level data on accessibility and availability of health and family planning services. The special feature of this survey is its provision of biomarker indices of adult male and female populations, which are instrumental in determining the increasing risk of noncommunicable diseases.

Members of the Technical Review Committee (TRC), consisting of experts from government, nongovernment, and international organizations as well as researchers and professionals working in the health, nutrition, and population sectors, contributed their expert opinion in various phases of the survey implementation. A Technical Working Group (TWG) was also formed with the representatives from NIPORT; ICDDR,B; USAID, Bangladesh; ICF International; and Mitra and Associates for designing the survey questionnaires and implementing the survey. I would like to put on record my sincere appreciation to TRC and TWG members for their efforts in different stages of the survey.

The preliminary results of the 2011 BDHS, with its key indicators, were released through a dissemination seminar in April 2012. This final report brings more comprehensive analysis of the survey results. Along with the key results, detailed findings and possible interpretations are presented. I hope this information will give a hand to the policymakers and program managers as they monitor and design programs and strategies for improving health and family planning services in the country. It is worth mentioning that this report is an outcome of contributions from professionals at NIPORT, NIPSOM, Mitra and Associates, Dhaka University, Jahangirnagar University, ICDDR,B, MEASURE Evaluation, Population Council, SMC, Save the Children, and Eminence. I would like to acknowledge with great appreciation the contributions of the individual authors for their contributions to 2011 BDHS final report.

I am deeply indebted and grateful to all the professionals of the Research Unit of NIPORT for the successful completion of the survey. I also extend my thanks to ICF International and Mitra and Associates for completing the task in time. USAID, Bangladesh, deserves special thanks for providing technical and financial support for the survey.

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Special acknowledgement
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ABBREVIATIONS

AIDS	Acquired immune deficiency syndrome
ANC	Antenatal care
ARI	Acute respiratory infection
ASA	Association of Social Advancement
ASFR	Age-specific fertility rates
BBS	Bangladesh Bureau of Statistics
BCC	Behavior change communication
BCG	Bacille-Calmette-Guerin vaccine against tuberculosis
BDHS	Bangladesh Demographic and Health Survey
BFS	Bangladesh Fertility Survey
BMI	Body Mass Index
BP	Blood pressure
BRAC	Bangladesh Rural Advancement Committee
CBR	Crude birth rate
CDC	The Centers for Disease Control and Prevention
CPS	Contraceptive Prevalence Survey
CSBA	Community-skilled birth attendant
DBP	Diastolic blood pressure
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DHS	Demographic and Health Survey
DPT	Diphtheria, pertussis, and tetanus vaccine
EA	Enumeration area
EmOC	Emergency obstetric care
EPI	Expanded Program on Immunization
FP	Family planning
FPG	Fasting plasma glucose
FWA	Family welfare assistant
FWV	Family welfare visitor
GAR	Gross attendance ratio
GAVI	Global Alliance for Vaccination and Immunization
GDP	Gross domestic product
GFR	General fertility rate
GOB	Government of Bangladesh
GPI	Gender parity index
GPS	Global positioning system
HA	Health assistant
HDI	Human Development Index
HIV	Human immunodeficiency virus
HMN	Health Metrics Network

HNPSP	Health, Nutrition and Population Sector Program
HPI	Human Poverty Index
HPNSDP	Health, Population and Nutrition Sector Development Program
HPSP	Health and Population Sector Program
ICDDR,B	International Center for Diarrhoeal Disease Research, Bangladesh
ICPD	International Conference on Population and Development
IDU	Injection drug user
IMCI	Integrated management of childhood illness
IUD	Intrauterine device
IYCF	Infant and Young Child Feeding
LAPM	Long-acting and permanent method
LDC	Least developed country
LMP	Last menstrual period
LPG	Liquid petroleum gas
MA	Medical assistant
MDGs	Millennium Development Goals
MICS	Multiple Indicator Cluster Survey
MMR	Maternal mortality ratio
MOHFW	Ministry of Health and Family Welfare
MR	Menstrual regulation
MSM	Men who have sex with men
MTCT	Mother-to-child transmission
NAR	Net attendance ratio
NASP	National AIDS/STD Programme
NCD	Noncommunicable diseases
NGO	Nongovernmental organization
NID	National immunization day
NIPORT	National Institute for Population Research and Training
NN	Neonatal mortality
ORS	Oral rehydration salts
ORT	Oral rehydration therapy
PHC	Population and Housing Census
PIP	Program Implementation Plan
PNN	Postneonatal mortality
PRSP	Poverty Reduction Strategy Paper
PSU	Primary sampling unit
RTI	Reproductive tract infection
SACMO	Sub-assistant community medical officer
SBA	Skilled birth attendant
SBP	Systolic blood pressure
SD	Standard deviation
SHS	Secondhand smoke
SMC	Social Marketing Company
STI	Sexually-transmitted infection
SWAp	Sector-Wide Approach

TBA	Traditional birth attendant
TC-NAC	Technical Committee of the National AIDS Council
TFR	Total fertility rate
TT	Tetanus toxoid
TWFR	Total wanted fertility rate
TWG	Technical Working Group
UESD	Utilization of Essential Service Delivery Survey
UNDP	United Nations Development Program
UNICEF	United Nations Children's Fund
UP	Union Parishad
USAID	United States Agency for International Development
VAD	Vitamin A deficiency
VAQ	Verbal autopsy questionnaire
WHO	World Health Organization

MILLENNIUM DEVELOPMENT GOAL INDICATORS

Millennium Development Goal Indicators by sex

Bangladesh 2011

Goal	Value		
	Female	Male	Total
1. Eradicate extreme poverty and hunger			
1.8 Prevalence of underweight children under five years of age	38.5	34.3	36.4
2. Achieve universal primary education			
2.1 Net enrollment ratio in primary education[1]	76.6	73.0	74.8
2.3 Literacy rate of 15-24 year olds	81.9	67.8	74.9
3. Promote gender equality and empower women			
3.1a Ratio of girls to boys in primary education	na	na	1.1
3.1b Ratio of girls to boys in secondary education	na	na	1.1
3.1c Ratio of girls to boys in tertiary education	na	na	0.6
4. Reduce child mortality			
4.1 Under-five mortality rate (per 1000 live births)[2]	50	57	53
4.2 Infant mortality rate (per 1000 live births)[2]	37	48	43
4.3 Proportion of 1 year-old children immunized against measles	86.8	88.3	87.5
5. Improve maternal health			
5.1 Proportion of births attended by skilled health personnel[3]	na	na	31.7
5.2 Contraceptive prevalence rate[4]	61.2	na	na
5.3 Adolescent birth rate[5]	118.3	na	na
5.4a Antenatal care coverage: at least 1 visit by skilled health professional[3]	54.6	na	na
5.4b Antenatal care coverage: at least 4 visits by any provider[3]	25.5	na	na
5.5 Unmet need for family planning	13.5	na	na
6. Combat HIV/AIDS, malaria and other diseases			
6.1 Percentage of population 15-24 years with comprehensive knowledge of HIV/AIDS[6]	11.9	14.4	13.1

na = Not applicable

[1] Net attendance ratio measured in BDHS approximates MDG indicator 2.1

[2] Expressed in terms of deaths per 1,000 live births

[3] Rate refers to live births in the three years preceding the survey

[4] Percentage of currently married women age 15-49 using any method of contraception

[5] Equivalent to the age-specific fertility rate for women age 15-19, expressed in terms of births per 1,000 women age 15-19

[6] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

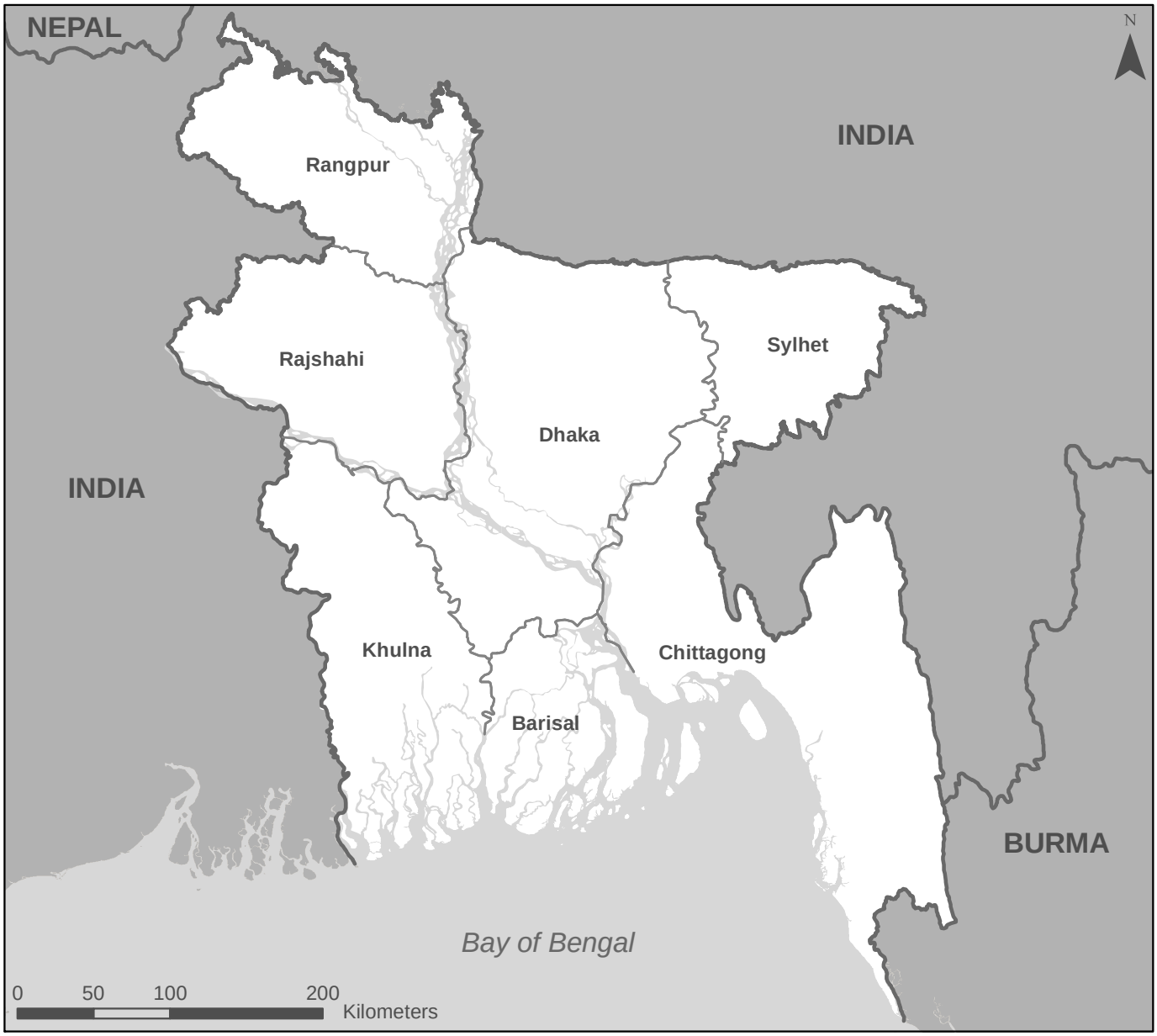
Millennium Development Goal Indicators by residence

Bangladesh 2011

Goal	Urban	Rural	Total
7. Ensure environmental sustainability			
7.1 Percentage of population using an improved drinking water source[1]	99.4	98.2	98.5
7.2 Percentage of population with access to improved sanitation[2]	43.3	34.4	36.6

[1] Proportion whose main source of drinking water is a household connection (piped), public standpipe, borehole, protected dug well or spring, or rainwater collection.
[2] Improved sanitation technologies are: flush toilet, ventilated improved pit latrine, traditional pit latrine with a slab, or composting toilet.

BANGLADESH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INTRODUCTION 1

1.1 GEOGRAPHY AND ECONOMY

Bangladesh is located in the northeastern part of South Asia and covers an area of 147,570 square kilometers. It is almost entirely surrounded by India, except for a short southeastern frontier with Myanmar and a southern coastline on the Bay of Bengal. It lies between latitudes 20° 34′ and 26° 38′ north and longitudes 88° 01′ and 92° 41′ east. The entire country has a tropical climate.

The Moguls ruled the country from the 13th century until the 18th century, when the British took over and administered the subcontinent until 1947. During British rule, Bangladesh was part of India. In 1947, the independent states of Pakistan and India were created. The present territory of Bangladesh was a part of Pakistan. Bangladesh emerged on the world map as a sovereign state on March 26, 1971, after fighting a nine-month war of liberation.

Most of Bangladesh is low, flat land that consists of alluvial soil. The most significant feature of the land is the extensive network of large and small rivers that are of primary importance to the socioeconomic life of the nation. Chief among these, lying like a fan on the face of the land, are the Ganges-Padma, Brahmaputra-Jamuna, and Megna rivers.

The climate of Bangladesh is dominated by seasonal monsoons. The country experiences a hot summer season with high humidity from March to June; a somewhat cooler, but still hot and humid, monsoon season from July through early October; and a cool, dry winter from November through the end of February. The fertile delta is subject to frequent natural calamities, such as floods, cyclones, tidal bores, and drought.

For administrative purposes, the country consists of 7 divisions, 64 districts, and 545 upazilas/thanas (BBS, 2012a). Muslims make up almost 90 percent of the population of Bangladesh, Hindus account for about 9 percent, and other religions constitute the remaining 1 percent (BBS, 2007). The national language of Bangladesh is Bangla, which is spoken and understood by all.

Industry has emerged as the largest sector of the economy, contributing about 30 percent to the gross domestic product (GDP). The GDP exhibited a robust growth rate of 6.7 percent in fiscal year (FY) 2010-2011 compared with 6.1 percent recorded in FY 2009-2010. The overall growth was led by the manufacturing and construction sub-sectors, which recorded impressive expansions of 10 and 6 percent, respectively, in FY 2010-2011. The accelerated growth in these sectors was mainly due to huge investments in large- and medium-scale industry. Agriculture is the second largest sector of the economy, contributing 20 percent to the total GDP in FY 2010-2011. The largest contributor in the agricultural sector is crops and horticulture (11 percent) followed by the fishery sector (4 percent). The average per capita income in Bangladesh has increased from US$599 during FY 2007-2008 to US$848 during FY 2011-2012 (BBS, 2008; MOF, 2012).

Bangladesh is still struggling to emerge from poverty. Bangladesh ranks 146th among nations on the Human Development Index (HDI) as presented in the 2011 Human Development Report (UNDP, 2011). The HPI is a multidimensional measure of poverty for developing countries; it takes into account social exclusion, lack of economic opportunities, and deprivations in survival, livelihood, and knowledge. The country's HDI value of 0.500 is above the average of 0.456 for countries in the low human development group and below the average of 0.548 for countries in South Asia. Countries in South Asia that are close to Bangladesh in its 2011 HDI rank and population size are Pakistan and Nepal, which rank 145th and 157th on the HDI, respectively.

1.2 POPULATION

Bangladesh is the most densely populated country in the world, excluding city-states such as Singapore, Bahrain, and the Vatican. Table 1.1 summarizes the basic demographic indicators for Bangladesh from the 2001 and 2011 Population and Housing Census (PHC). According to the results of the 2011 PHC, the population of the country stood at about 149.8 million[1], with a population density of 1,015 persons per square kilometer (BBS, 2012b). During the past century, the population of Bangladesh has increased exponentially. Between 2001 and 2011, about 19.8 million people were added to the population, which represents a 15 percent increase and a 1.37 percent annual growth rate. Between the 2001 and 2011 censuses, life expectancy in Bangladesh increased by about two years for males and by more than three years for females. Female life expectancy is slightly higher than male life expectancy (69 years versus 67 years).

The country is now experiencing a demographic transition. The continuous decline of the natural growth rate is expected to lead to a smaller population increase in the coming decades. In comparison with other countries in the region, this population growth rate places Bangladesh in an intermediate position between low-growth countries, such as Thailand, Sri Lanka, and Myanmar, and medium-growth countries, such as India and Malaysia (BBS, 2011a). The 2010 projections by the United Nations estimated that the population of Bangladesh in 2050 would be about 194 million (medium variant) and 226 million (high variant (UN, 2010).

Table 1.1 Basic demographic indicators

Demographic indicators from selected sources, Bangladesh, 2001 and 2011

Indicators	Census 2001	Census 2011
Population (millions)	130.03	149.8
Intercensal growth rate (percent)	1.54	1.374
Density (population/km^2)	881	1015
Percent urban	23.5	27.0
Life expectancy(year)*	2002	2010
Male	64.5	66.6
Female	65.4	68.8

Source: Bangladesh Bureau of Statistics (2012b)
* Source: BBS, 2011b

According to the National Population Policy, Bangladesh aims to achieve replacement level fertility by 2015 (MOHFW, 2009). Additionally, the Health Population Nutrition Sector Development Program (HPNSDP) plans to reduce the Total Fertility Rate (TFR) to 2.0 children per woman by 2016 (MOHFW, 2011).

1.3 POPULATION, FAMILY PLANNING, AND MATERNAL AND CHILD HEALTH POLICIES AND PROGRAMS

Family planning was introduced in Bangladesh (then East Pakistan) in the early 1950s through the voluntary efforts of social and medical workers. The government of Bangladesh, recognizing the urgency of the goal to achieve moderate population growth, adopted family planning as a government sector program in 1965.

The policy to reduce fertility rates has been repeatedly reaffirmed by the government of Bangladesh since the country's independence in 1971. The first Five-Year Plan (1973-1978) emphasized "the necessity of immediate adoption of drastic steps to slow down the population growth" and reiterated that "no civilized measure would be too drastic to keep the population of Bangladesh on the smaller side of

[1] According to BBS projection, the population on July 17, 2012 was 152.5 million.

15 *crore* (i.e., 150 million) for sheer ecological viability of the nation" (GOB, 1994). Beginning in 1972, the family planning program received virtually unanimous, high-level political support. All subsequent governments that have come into power have identified population control as the top priority for government action. This political commitment plays a crucial role in the fertility decline in Bangladesh.

In 1976, the government declared the rapid growth of the population to be the country's number one problem and adopted a broad-based, multisectoral family planning program along with an official population policy (GOB, 1994). Population planning was seen as an integral part of the total development process and was incorporated into the successive five-year plans. Policy guidelines and strategies for the population program are formulated by the National Population Council, which is chaired by the country's prime minister.

In the mid-1970s the government instituted the deployment of full-time, local family welfare assistants, who served as community-based family planning motivators and distributors. At its height a few years ago, this program had a staff of almost 24,000. During the same period, a social marketing program to promote the sale of birth control pills and condoms was initiated. The population program involves more than 200 nongovernmental organizations (NGOs).

Since 1980 the family planning program has emphasized the importance of integrating health and family planning services. The goal is to provide an essential integrated package of high quality, client-centered reproductive and child health care, family planning, communicable disease control, and curative services at a one-stop service point.

Since 1998 the health program in Bangladesh has drawn on the sector-wide approach (SWAp). The SWAp program aims to provide a package of essential, quality health care services that respond to population needs, especially those of children, women, the elderly, and the poor.

The first SWAp—the Health and Population Sector Program (HPSP) was formulated as part of the fifth Five-Year Plan (1998-2003). It was followed by the second SWAp, the Health, Nutrition and Population Sector Program (HNPSP), which began in 2003 and expired in June 2011 (MOHFW, 2004b).

The current HPNSDP was initiated by the Ministry of Health and Family Welfare (MOHFW) for a period of five years from July 2011 to June 2016. The HPNSDP is the SWAp for the overall improvement of health, population and nutrition sectors. The main objectives of the HPNSDP are to create conditions that allow the Bangladeshi people to reach and maintain the highest attainable level of health as a fundamental human right and an issue of social justice.

The government of Bangladesh is working toward achieving Millennium Development Goals (MDGs). Of the eight MDGs, three are related to health (child mortality, maternal health, and HIV/AIDS and malaria) and these could exert a direct impact on the Bangladeshi population. Furthermore, three other goals (universal primary education, poverty eradication, and gender equity) are closely related to human resource development. The HPNSDP Program Implementation Plan (PIP) document sets out the sector-specific strategies to achieve its goal (MOHFW, 2011). These strategies are as follows:

- Streamline and expand the access to and quality of maternal, neonatal, and child health services, and, in particular, supervised deliveries (MDG 4 and MDG 5).
- Revitalize various family planning interventions to attain replacement-level fertility.
- Improve and strengthen nutritional services by mainstreaming nutrition within the regular Directorate General for Health Services (DGHS) and Directorate General for Family Planning (DGFP) services (MDG 1).
- Strengthen preventive approaches and control programs for communicable diseases (MDG 6).

- Expand noncommunicable disease control efforts at all levels by streamlining referral systems and strengthening hospital accreditation and management systems.

- Strengthen support systems by increasing the health workforce at Upazila and at community clinic levels, including capacity building and enhanced focus on coordinated implementation of operational plan, management information system, and monitoring and evaluation functions.

- Strengthen drug management and improve quality drug provision and procurement with information communication technology and additional staff to reduce the time between procurement and distribution.

- Increase coverage and quality of services by strengthening coordination with other intra- and intersectoral and private sector service providers.

- Pursue priority institutional and policy reforms, such as decentralization and local level planning, incentives for service providers in hard-to-reach areas, public-private partnerships, and a single annual work plan.

1.4 ORGANIZATION OF THE 2011 BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY

1.4.1 Survey Objectives and Implementing Organizations

The 2011 Bangladesh Demographic and Health Survey (BDHS) is the sixth DHS undertaken in Bangladesh, following those implemented in 1993-94, 1996-97, 1999-2000, 2004, and 2007. The main objectives of the 2011 BDHS are to:

- Provide information to meet the monitoring and evaluation needs of health and family planning programs, and

- Provide program managers and policy makers involved in these programs with the information they need to plan and implement future interventions.

The specific objectives of the 2011 BDHS were as follows:

- To provide up-to-date data on demographic rates, particularly fertility and infant mortality rates, at the national and subnational level;

- To analyze the direct and indirect factors that determine the level of and trends in fertility and mortality;

- To measure the level of contraceptive use of currently married women;

- To provide data on knowledge and attitudes of women and men about sexually transmitted infections and HIV/AIDS;

- To assess the nutritional status of children (under age 5), women, and men by means of anthropometric measurements (weight and height), and to assess infant and child feeding practices;

- To provide data on maternal and child health, including antenatal care, assistance at delivery, breastfeeding, immunizations, and prevalence and treatment of diarrhea and other diseases among children under age 5;

- To measure biomarkers, such as hemoglobin level for women and children, and blood pressure, and blood glucose for women and men 35 years and older;
- To measure key education indicators, including school attendance ratios and primary school grade repetition and dropout rates;
- To provide information on the causes of death among children under age 5;
- To provide community-level data on accessibility and availability of health and family planning services;
- To measure food security.

The 2011 BDHS was conducted under the authority of the National Institute of Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare. The survey was implemented by Mitra and Associates, a Bangladeshi research firm located in Dhaka. ICF International of Calverton, Maryland, USA, provided technical assistance to the project as part of its international Demographic and Health Surveys program (MEASURE DHS). Financial support was provided by the U.S. Agency for International Development (USAID).

1.4.2 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 (see Appendix A for the details of the sample design). In addition, in a subsample of one-third of the households, all ever-married 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. Table 1.2 shows which household members were eligible for which biomarker testing.

Table 1.2 Eligibility for anthropometric measurements and biomarker testing, 2011 Bangladesh DHS

Groups eligible for biomarker collection		Weight measurement	Height measurement	Anemia testing	Blood pressure measurement	Blood glucose testing
Children	0–6 months	All households	All households			
Children	6–59 months	All households	All households	1/3 households		
Ever-married women	12-34 years	All households	All households	1/3 households		
Ever-married women	35-49 years	All households	All households	1/3 households	1/3 households	1/3 households
Ever-married women	50+ years	1/3 households	1/3 households		1/3 households	1/3 households
Never-married women	35+ years	1/3 households	1/3 households		1/3 households	1/3 households
Ever-married men	15-34 years	1/3 households	1/3 households			
All men	35+ years	1/3 households	1/3 households		1/3 households	1/3 households

1.4.3 Questionnaires

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 (see Appendix E for a list of the TWG members). Draft questionnaires were then circulated to other interested groups and were reviewed by the 2011 BDHS Technical Review Committee (see Appendix E). 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.

1.4.4 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 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.

1.4.5 Data Processing

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.

1.4.6 Coverage of the Sample

Table 1.3 shows the results of the household and individual women's and men's interviews. 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 ever-married 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.

The principal reason for nonresponse among women and men was their absence from home despite repeated visits to the household. The response rates do not vary notably by urban-rural residence.

Table 1.3 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Bangladesh 2011

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	6,210	11,754	17,964
Households occupied	6,035	11,476	17,511
Households interviewed	5,868	11,273	17,141
Household response rate[1]	97.2	98.2	97.9
Interviews with ever-married women age 12-49			
Number of eligible women	6,390	11,832	18,222
Number of eligible women interviewed	6,196	11,646	17,842
Eligible women response rate[2]	97.0	98.4	97.9
Interviews with ever-married men age 15-54			
Number of eligible men	1,586	2,757	4,343
Number of eligible men interviewed	1,437	2,560	3,997
Eligible men response rate[2]	90.6	92.9	92.0

[1] Households interviewed/households occupied
[2] Respondents interviewed/eligible respondents

HOUSING CHARACTERISTICS AND HOUSEHOLD POPULATION 2

Key Findings

- Access to an improved source of drinking water is almost universal (99 percent) in Bangladesh.
- One in ten households uses an appropriate water treatment method.
- The proportion of households with no toilet facilities declined from 8 percent in 2007 to 5 percent in 2011. One-third of the households have an improved toilet facility that is not shared with other households.
- Six in ten households have electricity. This is a marked improvement from 2007, when only 47 percent of households had access to electricity. There is a wide urban-rural gap (90 and 49 percent, respectively).
- Eighty-six percent of households use solid fuel for cooking.
- Forty-five percent of households are exposed daily to secondhand smoke.
- Possession of mobile phones has increased sharply from 32 percent in 2007 to 78 percent in 2011 (89 percent in urban areas and 75 percent in rural areas).
- Thirty-five percent of the population is under age 15.
- Eleven percent of households are headed by a woman.
- Thirty-one percent of children under age 5 are registered, and 22 percent have a birth certificate.
- One in four women and 29 percent of men are not educated. School attendance for all age groups between 6-24 years in 2011 has increased from that in 2007.
- Sixty-four percent of men and 11 percent of women are currently working.

This chapter provides an overview of socioeconomic characteristics of the population, which includes conditions of the households, sources of drinking water, sanitation facilities, hand washing, availability of electricity, housing facilities, possession of household durable goods, and ownership of a homestead and land. Information on household assets is used to create an indicator of household economic status, the wealth index. This chapter also describes the demographic characteristics of the household population, including age, sex, educational attainment, and employment status.

A household in the 2011 BDHS is defined as a person or group of related and unrelated persons who usually live together in the same dwelling unit(s), who have common cooking and eating arrangements, and who acknowledge one adult member as head of the household. A member of the household is any person who usually lives in the household.

Information is collected from all usual residents of a selected household (de jure population) as well as persons who stayed in the selected household the night before the interview (de facto population). The difference between these two populations is very small, and all tables in this report refer to the de facto population, unless otherwise specified, to maintain comparability with other BDHS reports.

2.1 HOUSEHOLD CHARACTERISTICS

Access to basic utilities, sources of drinking water and water treatment practices, access to sanitation facilities, housing structure and crowdedness of dwelling spaces, and type of fuel used for cooking are physical characteristics of a household that are used to assess the general wellbeing and socioeconomic status of its members.

This section provides information from the 2011 BDHS on drinking water, sanitation facilities, housing characteristics, and possession of basic amenities.

2.1.1 Water and Sanitation

Access to safe water and sanitation are basic determinants of better health. Limited access to safe drinking water and sanitation facilities and poor hygiene are associated with skin diseases, acute respiratory infections (ARIs), and diarrheal diseases, the leading preventable diseases in Bangladesh. ARI and diarrheal diseases remain the leading causes of child deaths in Bangladesh (NIPORT et al., 2005).

Table 2.1 presents information on household drinking water by urban-rural residence. Access to an improved source of drinking water is universal in Bangladesh (99 percent). The most common source of drinking water in urban areas is a tube well or borehole (55 percent), followed by water piped into the

Table 2.1 Household drinking water

Percent distribution of households and de jure population by source, time to collect, and by treatment of drinking water, according to residence, Bangladesh 2011

	Households			Population		
Characteristic	Urban	Rural	Total	Urban	Rural	Total
Source of drinking water						
Improved source	99.4	98.2	98.5	99.4	98.2	98.5
Piped into dwelling	21.0	0.5	5.7	21.3	0.6	5.6
Piped to yard/plot	16.2	0.7	4.5	15.0	0.6	4.1
Public tap/standpipe	7.0	0.5	2.1	6.9	0.5	2.0
Tube well or borehole	54.6	95.8	85.5	55.7	95.8	86.0
Protected well	0.1	0.2	0.2	0.1	0.2	0.2
Protected spring	0.0	0.0	0.0	0.0	0.1	0.0
Rain water	0.3	0.5	0.4	0.3	0.4	0.4
Bottled water	0.3	0.0	0.1	0.2	0.0	0.1
Non-improved source	0.6	1.8	1.5	0.6	1.8	1.5
Unprotected well	0.0	0.3	0.2	0.0	0.3	0.2
Tanker truck/cart with drum	0.1	0.0	0.0	0.1	0.0	0.1
Surface water	0.4	1.4	1.2	0.4	1.4	1.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Percentage using any improved source of drinking water	99.4	98.2	98.5	99.4	98.2	98.5
Time to obtain drinking water (round trip)						
Water on premises	82.5	67.6	71.4	82.5	68.1	71.6
Less than 30 minutes	15.6	27.9	24.8	15.5	27.3	24.4
30 minutes or longer	1.8	4.4	3.7	1.9	4.6	4.0
Don't know/missing	0.1	0.1	0.1	0.1	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Water treatment prior to drinking[1]						
Boiled	23.4	0.6	6.3	23.3	0.6	6.1
Bleach/chlorine added	0.4	0.3	0.3	0.4	0.3	0.3
Strained through cloth	1.0	0.3	0.5	1.1	0.3	0.5
Ceramic, sand or other filter	10.8	2.3	4.4	11.2	2.5	4.6
Other	0.4	0.6	0.6	0.4	0.6	0.5
No treatment	68.7	96.2	89.3	68.8	96.0	89.4
Percentage using an appropriate treatment method[2]	30.9	3.2	10.2	30.8	3.5	10.1
Number	4,305	12,836	17,141	19,158	59,752	78,909

[1] Respondents may report multiple treatment methods so the sum of treatment may exceed 100 percent.
[2] Appropriate water treatment methods include boiling, bleaching, straining, filtering, and solar disinfecting.

dwelling (21 percent), water piped to the yard or plot (16 percent), and a public tap or standpipe (7 percent). In contrast, a tube well or borehole is practically the only source of drinking water in rural areas (96 percent). For 71 percent of households the source of drinking water is within the premises. One in four households spend less than 30 minutes round trip to obtain water. As expected, it takes longer to obtain drinking water in rural areas than in urban areas.

Nationally, 10 percent of households use an appropriate water treatment method. Rural households are much less likely than urban households to treat their water appropriately (3 percent and 31 percent, respectively). Overall, boiling water prior to drinking is the most common treatment method (6 percent). However less than 1 percent of rural households boil water, while almost one in four urban households do so.

Households without proper sanitation facilities have a greater risk of diseases like diarrhea, dysentery, and typhoid than households with improved sanitation facilities. Table 2.2 shows that 34 percent of households have an improved (not shared) toilet facility and 19 percent use a facility that would be considered improved if it were not shared with other households. Facilities that are shared are not considered to be as hygienic as those that are not shared. About half of the households use a non-improved toilet facility (47 percent); 31 percent of households use pit latrines without slabs, and 7 percent use a hanging toilet. Five percent of households have no toilet facility, an improvement since the 2007 BDHS, when 8 percent of households had no toilet facility (NIPORT, Mitra and Associates and Macro International, 2009). Rural households are more likely than urban households to have no toilet facility (6 percent versus 1 percent). Although the majority of households (60 percent) do not share their toilet, rural households are more likely than urban households to use a toilet facility that is not shared (62 versus 55 percent, respectively).

Table 2.2 Household sanitation facilities

Percent distribution of households and de jure population by type of toilet/latrine facilities, according to residence, Bangladesh 2011

	Households			Population		
Type of toilet/latrine facility	Urban	Rural	Total	Urban	Rural	Total
Improved, not shared facility	39.6	31.7	33.7	43.3	34.4	36.6
Flush/pour flush to piped sewer system	6.5	0.1	1.7	6.8	0.1	1.8
Flush/pour flush to septic tank	12.7	3.1	5.6	13.5	3.7	6.1
Flush/pour flush to pit latrine	0.9	0.5	0.6	0.9	0.6	0.7
Ventilated improved pit (VIP) latrine	8.6	7.8	8.0	9.6	8.6	8.8
Pit latrine with slab	10.8	20.0	17.7	12.4	21.4	19.3
Composting toilet	0.0	0.0	0.0	0.0	0.0	0.0
Shared facility[1]	25.6	16.7	18.9	22.3	14.9	16.7
Flush/pour flush to piped sewer system	4.5	0.1	1.2	4.0	0.0	1.0
Flush/pour flush to septic tank	6.5	0.9	2.3	5.4	0.9	2.0
Flush/pour flush to pit latrine	0.8	0.3	0.4	0.7	0.3	0.4
Ventilated improved pit (VIP) latrine	6.0	3.8	4.4	5.2	3.5	3.9
Pit latrine with slab	7.7	11.6	10.6	7.1	10.2	9.4
Composting toilet	0.0	0.0	0.0	0.0	0.0	0.0
Non-improved facility	34.8	51.6	47.4	34.3	50.7	46.7
Flush/pour flush not to sewer/septic tank/pit latrine	18.1	0.1	4.6	17.4	0.1	4.3
Pit latrine without slab/open pit	13.8	37.1	31.3	14.1	36.6	31.2
Hanging toilet/hanging latrine	2.0	8.6	6.9	1.9	8.8	7.1
No facility/bush/field	0.9	5.8	4.6	0.8	5.2	4.2
Total	100.0	100.0	100.0	100.0	100.0	100.0
Shared sanitation facility						
Not shared	54.5	62.2	60.3	59.7	66.2	64.6
Shared with						
1-4 households	25.6	33.9	31.8	23.0	30.2	28.5
5-9 households	11.7	3.3	5.4	10.0	2.9	4.6
10+ households	7.9	0.6	2.4	7.1	0.6	2.2
Don't know/missing	0.2	0.1	0.1	0.3	0.1	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number	4,305	12,836	17,141	19,158	59,752	78,909

[1] Shared facility of an otherwise improved type

Hand washing, which protects against communicable diseases, is promoted by the government of Bangladesh and its development partners. Table 2.3 provides information on designated places for hand washing in households and on the use of water and cleansing agents for washing hands, according to place of residence (urban or rural), divisions, and wealth quintile.

In the 2011 BDHS, interviewers were instructed to observe the place where household members usually wash their hands. They looked for regularity of water supply and observed whether the household had cleansing agents near the place of hand washing. In 86 percent of households, the interviewers observed designated places for hand washing; urban households, households in Rangpur, and households in the highest wealth quintile were more likely to have this facility observed than other households.

One in four households has soap and water in the place where household members wash their hands, 6 percent have water and other cleansing agents (ash, mud, sand, etc.), and the majority (67 percent) have water only. Overall, 2 percent of households do not have water, soap, or any cleansing agent.

Forty-six percent of urban households have soap and water compared with 17 percent of rural households. Availability of hand washing facilities varies across divisions, ranging from 28 percent of households in Dhaka to 14 percent in Barisal. The use of soap and water for hand washing increases with an increase in household wealth. For example, use of soap and water is lowest among households in the lowest wealth quintile (4 percent) and highest (67 percent) among those in the highest wealth quintile.

Table 2.3 Hand washing

Percentage of households in which the place most often used for washing hands was observed, and among households in which the place for hand washing was observed, percent distribution by availability of water, soap and other cleansing agents, Bangladesh 2011

Background characteristics	Percentage of households where place for washing hands was observed	Number of households	Among households where place for hand washing was observed								Number of households with place for hand washing observed
			Soap and water[1]	Water and cleansing agent[2] other than soap only	Water only	Soap but no water[3]	Cleansing agent other than soap only[2]	No water, no soap, no other cleansing agent	Missing	Total	
Residence											
Urban	92.8	4,305	46.3	3.5	48.7	0.1	0.1	1.2	0.1	100.0	3,997
Rural	83.7	12,836	17.0	6.9	73.1	0.0	0.1	2.9	0.1	100.0	10,738
Division											
Barisal	74.9	1,014	13.6	5.1	77.5	0.0	0.2	3.4	0.2	100.0	760
Chittagong	82.8	2,939	24.3	3.2	68.3	0.0	0.0	4.0	0.1	100.0	2,433
Dhaka	87.5	5,599	28.2	5.6	64.5	0.1	0.0	1.5	0.0	100.0	4,900
Khulna	84.7	2,024	20.3	5.5	72.9	0.0	0.2	0.9	0.2	100.0	1,714
Rajshahi	85.5	2,572	24.2	6.1	65.4	0.0	0.0	4.2	0.1	100.0	2,200
Rangpur	95.8	2,079	26.6	12.0	60.6	0.0	0.0	0.7	0.2	100.0	1,991
Sylhet	80.7	914	25.1	2.9	65.7	0.0	0.2	5.7	0.4	100.0	737
Wealth quintile											
Lowest	76.2	3,756	3.8	6.8	84.9	0.0	0.2	4.2	0.1	100.0	2,861
Second	81.5	3,481	8.5	7.9	79.3	0.0	0.0	4.2	0.1	100.0	2,835
Middle	85.3	3,325	12.7	6.9	77.7	0.0	0.0	2.5	0.2	100.0	2,835
Fourth	90.8	3,283	27.5	6.5	64.6	0.0	0.0	1.3	0.2	100.0	2,980
Highest	97.8	3,296	66.5	2.2	30.7	0.1	0.1	0.3	0.1	100.0	3,224
Total	86.0	17,141	24.9	6.0	66.5	0.0	0.1	2.4	0.1	100.0	14,736

[1] Soap includes soap or detergent in bar, liquid, powder or paste form. This column includes households with soap and water only as well as those that had soap and water and another cleansing agent.
[2] Cleansing agents other than soap include locally available materials such as ash, mud or sand.
[3] Includes households with soap only as well as those with soap and another cleansing agent

2.1.2 Housing Characteristics

Housing characteristics and household assets can be used to measure the socioeconomic status of household members. Cooking practices and cooking fuels also have an impact on health and the environment. Table 2.4 presents information on the availability of electricity, type of flooring material, number of rooms for sleeping, type of fuel used for cooking, and place where cooking is done. The table shows that 60 percent of households in Bangladesh have access to electricity. This is a marked

improvement from 2007, when only 47 percent of households had access to electricity. The increase in access to electricity is seen in rural and urban areas. In rural areas access to electricity increased from 37 percent in 2007 to 49 percent in 2011, and in urban areas access increased from 82 percent in 2007 to 90 percent in 2011 (NIPORT, Mitra and Associates and Macro International, 2009). However, access to electricity varies widely between urban (90 percent) and rural areas (49 percent).

Earth and sand are the most common flooring materials used in Bangladesh (74 percent). These materials are predominantly used in rural areas (88 percent), while in urban areas the most common flooring material is cement (62 percent).

The number of rooms used for sleeping indicates the extent of crowding in households. Overcrowding increases the risk of contracting infectious diseases, such as acute respiratory infections and skin diseases, which particularly affect children and the elderly. The proportion of households using one room for sleeping has decreased from 40 percent in 2007 to 35 percent in 2011. There are small differences in the number of rooms used for sleeping by urban-rural residence.

Indoor pollution has important implications for the health of household members. The type of fuel used for cooking, the place where cooking is done, and the type of stove used are all related to indoor air quality and the degree to which household members are exposed to the risk of respiratory infections and other diseases. In Bangladesh, the risk of indoor pollution from cooking fuel is limited because only 12 percent of households cook in the house; 64 percent of households cook in a separate building, and 23 percent cook outdoors. Urban households are much more likely than rural households to cook in the house (23 and 9 percent, respectively).

Half of households in urban areas (51 percent) use solid fuel for cooking while virtually all rural households (99 percent) use solid fuel, including wood, agricultural crops, animal dung, straw, shrubs, grass, and charcoal. The proportion of urban households that rely on wood for fuel has decreased from 44 percent in 2007 to 35 percent in 2011. On the other hand, the use

Table 2.4 Household characteristics

Percent distribution of households by housing characteristics and percentage using solid fuel for cooking; and percent distribution by frequency of smoking in the home, according to residence, Bangladesh 2011

Housing characteristic	Residence		Total
	Urban	Rural	
Electricity			
Yes	90.2	49.3	59.6
No	9.8	50.7	40.4
Total	100.0	100.0	100.0
Flooring material			
Earth, sand	32.1	88.3	74.1
Wood/planks	0.2	0.1	0.2
Palm/bamboo	0.0	0.0	0.0
Parquet or polished wood	0.0	0.0	0.0
Ceramic tiles	5.3	0.2	1.5
Cement	62.1	11.3	24.1
Carpet	0.2	0.0	0.1
Total	100.0	100.0	100.0
Rooms used for sleeping			
One	38.5	34.4	35.4
Two	34.7	37.5	36.8
Three or more	26.7	27.9	27.6
Missing	0.2	0.2	0.2
Total	100.0	100.0	100.0
Place for cooking			
In the house	22.8	8.8	12.3
In a separate building	63.0	64.7	64.3
Outdoors	13.9	26.4	23.3
Other	0.2	0.1	0.1
Total	100.0	100.0	100.0
Cooking fuel			
Electricity	0.5	0.0	0.1
LPG/natural gas/biogas	48.4	1.3	13.1
Kerosene	0.6	0.0	0.2
Coal/lignite	0.0	0.0	0.0
Charcoal	0.3	0.1	0.2
Wood	35.0	47.7	44.6
Straw/shrubs/grass	1.8	1.0	1.2
Agricultural crop	9.5	39.1	31.7
Animal dung	3.8	10.4	8.7
Other	0.1	0.3	0.2
Total	99.9	100.0	100.0
Percentage using solid fuel for cooking[1]	50.4	98.4	86.3
Frequency of smoking in the home			
Daily	40.2	46.8	45.1
Weekly	3.2	2.5	2.7
Monthly	0.9	1.2	1.1
Less than monthly	3.1	2.6	2.7
Never	52.5	46.7	48.2
Missing	0.2	0.1	0.1
Total	100.0	100.0	100.0
Number	4,305	12,836	17,141

LPG = Liquid petroleum gas
[1] Includes coal/lignite, charcoal, wood/straw/shrubs/grass, agricultural crops, and animal dung

of wood for fuel has increased in rural areas, from 44 percent in 2007 to 48 percent in 2011. As expected, use of liquid petroleum gas (LPG), natural gas, and biogas is limited to urban areas (48 percent).

Reducing the proportion of the population that relies on solid fuels is one of the Millennium Development Goals. The 2011 BDHS shows that Bangladesh is slowly making some progress toward this goal; the proportion of the population that uses solid fuels in Bangladesh has declined from 91 percent in 2007 to 86 percent in 2011.

Information on smoking was collected in the 2011 BDHS to assess the percentage of household members who are exposed to secondhand smoke (SHS), which is a risk factor for those who do not smoke. Pregnant women who are exposed to SHS have a higher risk of giving birth to a low birth weight baby (Windham et al., 1999). Also, children who are exposed to SHS are at a higher risk of respiratory and ear infections and poor lung development (U.S. Department of Health and Human Services, 2006). Table 2.4 provides information on the frequency of smoking in the home, which is used as a proxy for level of SHS exposure. Overall, 45 percent of households are exposed daily to SHS; rural households are more likely than urban households to be exposed to SHS (47 percent and 40 percent, respectively).

2.1.3 Household Possessions

Possession of durable consumer goods is another useful indicator of household socioeconomic status. The possession and use of household durable goods have multiple effects and implications. For instance, access to a radio or television exposes household members to updated daily events, information, and educational materials. Similarly, a refrigerator prolongs food storage and keeps food fresh and hygienic. Ownership of transportation allows greater access to services away from the local area and enhances social and economic activities. Table 2.5 shows the percentages of urban and rural households that possess various durable commodities, means of transportation, and agricultural land and farm animals. Table 2.5 shows that televisions and mobile telephones are common information and communication devices possessed by most households. Possession of mobile phones has increased sharply, from 32 percent in 2007 to 78 percent in 2011 (NIPORT, Mitra and Associates and Macro International, 2009). About nine in 10 households in urban areas and more than seven in 10 households in rural areas possess mobile phones. Four out of ten households have a television. Urban households are more likely to possess a television (70 percent) than rural households (30 percent). Possession of a radio has decreased from 24 percent to 8 percent in the last four years, while ownership of a television has increased from 30 percent to 40 percent. A refrigerator is available in 14 percent of households, with urban households six times as likely (36 percent) as rural households (6 percent) to own one. More than 7 out of 10 households possess a table and a chair. More than half of all households possess an electric fan, with a higher percentage in urban areas than rural areas (86 percent and 41 percent, respectively). Twelve percent of households own a DVD/VCD player: 24 percent in urban areas and 8 percent in rural areas.

Table 2.5 Household possessions

Percentage of households possessing various household effects, means of transportation, agricultural land, and livestock/farm animals by residence, Bangladesh 2011

	Residence		
Possession	Urban	Rural	Total
Household effects			
Radio	6.9	8.7	8.2
Television	70.2	29.8	39.9
Mobile telephone	89.2	74.8	78.4
Non-mobile telephone	7.6	0.3	2.1
Refrigerator	35.6	6.2	13.5
Cupboard	54.3	28.7	35.2
Table	74.6	72.1	72.7
Chair	75.7	74.5	74.8
Electric fan	85.9	41.2	52.4
DVD/VCD player	23.8	8.1	12.1
Water pump	10.8	4.2	5.8
Means of transport			
Bicycle	16.6	28.4	25.4
Autobike	0.6	0.4	0.4
Motorcycle/scooter	7.1	4.9	5.4
Rickshaw/van	4.5	6.7	6.1
Ownership of agricultural land			
Homestead	90.4	95.8	94.4
Other land	38.6	49.4	46.6
Neither	8.7	3.9	5.1
Ownership of farm animals			
Bulls/Buffaloes	0.1	0.5	0.4
Cows	12.0	45.7	37.2
Goats/sheep	7.8	28.9	23.6
Chicken/ducks	24.7	70.3	58.9
Number	4,305	12,836	17,141

Bicycling is the most common means of transportation in Bangladesh; 25 percent of households own a bicycle, and ownership is much more common in rural areas (28 percent) than in urban areas (17 percent). Only 6 percent of households own a rickshaw or van (person-driven three wheeler), with little difference between rural and urban households. Ownership of a motorcycle is slightly higher in urban areas (7 percent) than in rural areas (5 percent).

Ninety-four percent of households own a homestead, while 47 percent own land other than a homestead. Ownership of a homestead or other land is less common in urban than in rural areas. Ownership of land other than a homestead has declined slightly since 2004, from 52 to 47 percent, especially in rural areas, while ownership of a homestead has remained unchanged.

Chicken or ducks, the most commonly owned type of livestock, are owned by 59 percent of households. Almost four out of ten households own cows, and one-quarter of households own goats or sheep. As expected, rural households are more likely than urban households to own each type of livestock.

2.2 SOCIOECONOMIC STATUS INDEX

The wealth index used in this survey is a measure that has been used in many DHS and other country-level surveys to measure inequalities: in household characteristics, in the use of health and other services, and in health outcomes (Rutstein et al., 2000). It serves as an indicator of household level wealth that is consistent with expenditure and income measures (Rutstein, 1999). The index is constructed using household asset data via principal components analysis.

In its current form, which takes better account of urban-rural differences in scores and indicators of wealth, the wealth index is created in three steps. In the first step, a subset of indicators common to urban and rural areas is used to create wealth scores for households in both areas. Categorical variables are transformed into separate dichotomous (0-1) indicators. These indicators and those that are continuous are then examined using a principal components analysis to produce a common factor score for each household. In the second step, separate factor scores are produced for households in urban and rural areas using area-specific indicators. The third step combines the separate area-specific factor scores to produce a nationally-applicable combined wealth index by adjusting area-specific scores through a regression on the common factor scores. This three-step procedure permits greater adaptability of the wealth index in both urban and rural areas. The resulting combined wealth index has a mean of zero and a standard deviation of one. Once the index is computed, national-level wealth quintiles (from lowest to highest) are obtained by assigning the household score to each de jure household member, ranking each person in the population by his or her score, and then dividing the ranking into five equal categories, each comprising 20 percent of the population.

Table 2.6 presents the wealth quintiles by urban-rural residence and administrative division. More than half of the population (55 percent) residing in urban areas is in the highest wealth quintile, compared with 9 percent in rural areas. Among the administrative divisions, people living in Dhaka are more likely to fall in the highest wealth quintile than people living in other divisions. In contrast, Rangpur and Sylhet divisions have the highest proportion of the population in the lowest wealth quintile (30 and 24 percent, respectively).

Table 2.6 Wealth quintiles

Percent distribution of the de jure population by wealth quintiles, and the Gini Coefficient, according to residence and region, Bangladesh 2011

Residence/ region	Wealth quintile					Total	Number of persons	Gini coefficient
	Lowest	Second	Middle	Fourth	Highest			
Residence								
Urban	5.8	5.9	9.2	24.0	55.1	100.0	19,158	24.4
Rural	24.5	24.5	23.5	18.7	8.8	100.0	59,752	30.3
Division								
Barisal	20.7	28.4	24.7	17.7	8.5	100.0	4,603	30.7
Chittagong	15.3	19.6	21.0	24.5	19.7	100.0	15,386	33.1
Dhaka	19.1	16.2	17.1	18.3	29.3	100.0	25,126	40.6
Khulna	16.4	18.6	22.7	22.6	19.8	100.0	8,742	31.5
Rajshahi	21.3	21.9	23.2	21.1	12.5	100.0	11,001	30.4
Rangpur	30.0	27.4	18.2	15.4	8.9	100.0	8,916	29.1
Sylhet	24.0	17.4	19.0	18.1	21.5	100.0	5,135	34.3
Total	20.0	20.0	20.0	20.0	20.0	100.0	78,909	32.7

Table 2.6 also includes information on the Gini coefficient, which indicates the level of concentration of wealth (0 being an equal distribution and 1 being a totally unequal distribution). This ratio is expressed as a proportion between 0 and 1. Wealth inequality, as measured by the Gini coefficient, is higher in rural than in urban areas (30 percent vs. 24 percent. Inequality in wealth is highest in Dhaka (41 percent).

2.3 HOUSEHOLD POPULATION BY AGE AND SEX

Table 2.7 shows the distribution of the de facto household population by age, sex, and residence. The 2011 BDHS enumerated a total of 77,514 persons (37,381 males and 40,133 females). The sex ratio is 93 males per 100 females. This is similar to the sex ratio of 95 males per 100 females obtained in the 2007 BDHS, but it is lower than the ratio of 100.3 males per 100 females obtained in the 2011 Census (BBS, 2011). The marked difference in the sex ratio between the 2011 Census and the BDHS surveys could be because the census' sex ratio is based on the de jure population, while the sex ratio obtained from the BDHS surveys is based on the de facto household population. The sex composition of the population does not vary markedly by urban-rural residence.

Table 2.7 Household population by age, sex, and residence

Percent distribution of the de facto household population by five-year age groups, according to sex and residence, Bangladesh 2011

Age	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
<5	10.4	9.4	9.9	12.2	11.0	11.6	11.7	10.6	11.2
5-9	11.3	10.1	10.7	13.4	12.0	12.7	12.9	11.6	12.2
10-14	11.4	10.8	11.1	12.7	11.7	12.2	12.4	11.5	11.9
15-19	8.8	11.9	10.4	8.8	10.6	9.8	8.8	10.9	9.9
20-24	8.5	11.7	10.1	7.0	9.9	8.5	7.3	10.3	8.9
25-29	8.8	9.8	9.3	6.5	8.6	7.6	7.1	8.9	8.0
30-34	7.6	7.5	7.5	6.1	6.5	6.3	6.4	6.8	6.6
35-39	6.8	6.3	6.6	5.6	5.5	5.5	5.9	5.7	5.8
40-44	6.0	5.9	6.0	5.1	5.4	5.2	5.3	5.5	5.4
45-49	5.4	5.1	5.3	4.9	4.5	4.7	5.0	4.7	4.8
50-54	4.3	2.8	3.5	4.6	3.4	4.0	4.5	3.3	3.9
55-59	3.7	2.8	3.3	3.0	3.1	3.0	3.2	3.0	3.1
60-64	2.3	2.1	2.2	3.1	2.6	2.8	2.9	2.5	2.7
65-69	1.8	1.0	1.4	2.3	1.6	2.0	2.2	1.5	1.8
70-74	1.4	1.1	1.3	2.0	1.5	1.7	1.9	1.4	1.6
75-79	0.5	0.5	0.5	1.0	0.6	0.8	0.9	0.6	0.7
80+	0.8	1.0	0.9	1.7	1.5	1.6	1.5	1.3	1.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	9,318	9,749	19,067	28,063	30,384	58,447	37,381	40,133	77,514

More than one-third of the de facto household population (37 percent) is under age 15, and 11 percent is under age 5. People age 65 and older account for just 6 percent of the total population. The proportion of the population under age 15 is somewhat lower in urban than rural areas, as is the proportion of the population older than age 65.

The age-sex structure of the population is shown by the population pyramid in Figure 2.1. The pyramid is wider at the base than the top and narrows slightly at the youngest age group. This pattern is typical of a historically high-fertility regime that has recently started to stabilize or decline. Figure 2.2 shows the distribution of the male and female household populations by single years of age. The figure shows noticeable heaping at ages ending with 0 and 5, and heaping is more prominent among males than females. Ages ending with 1 and 9 are underreported.

Figure 2.1 **Population pyramid**

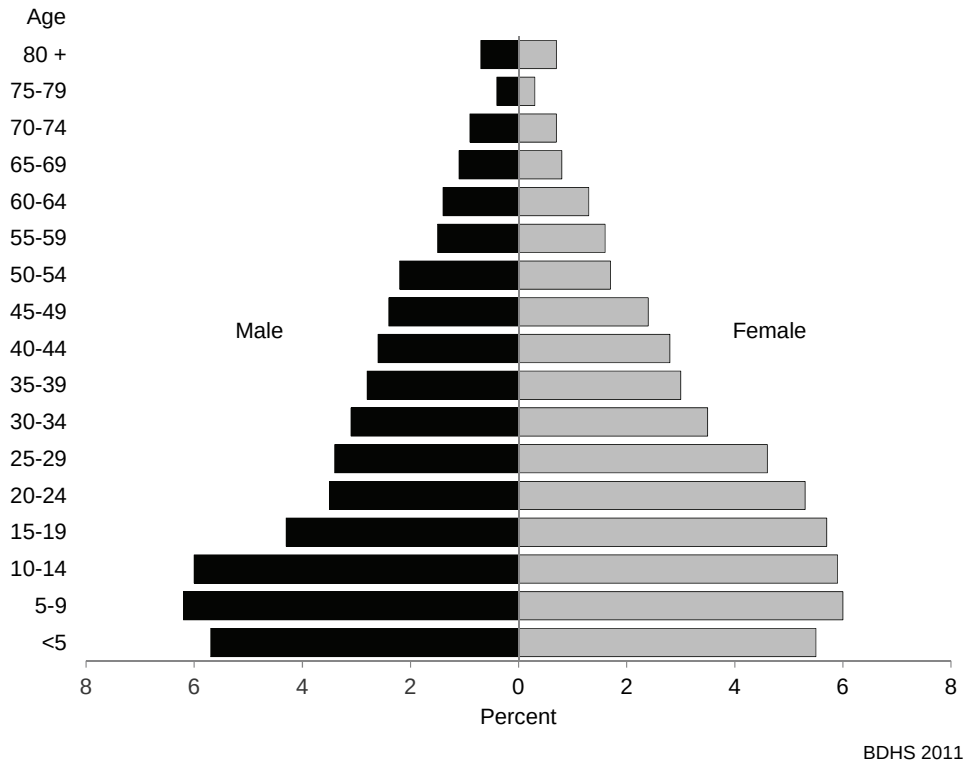
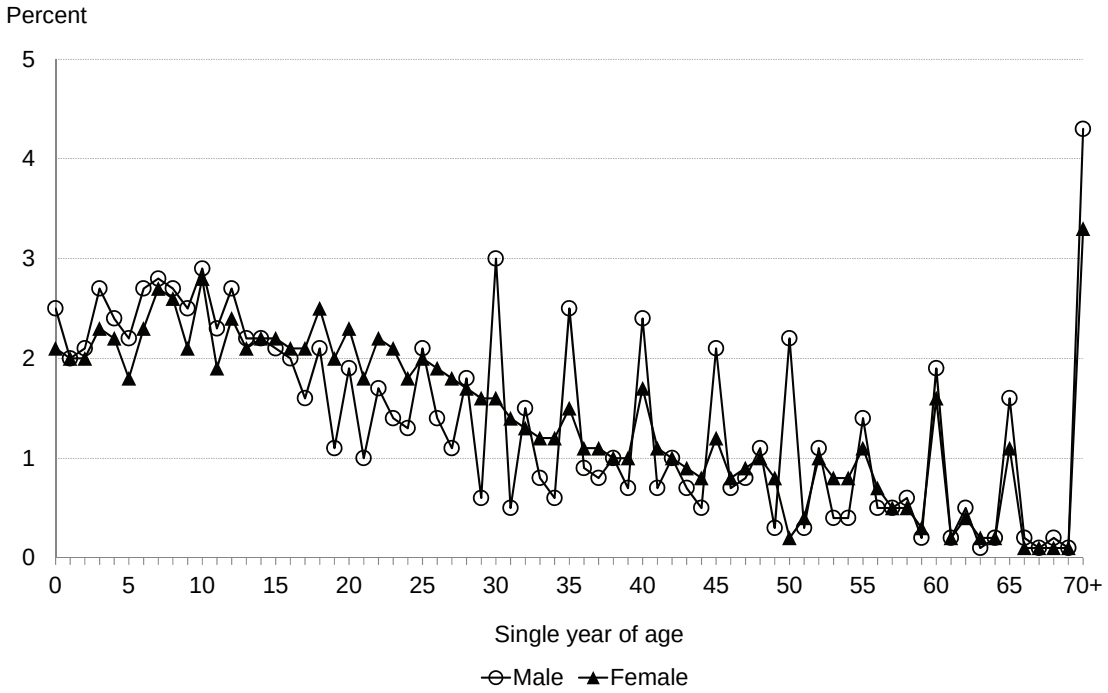


Figure 2.2 **Distribution of the de facto household population by single year of age and sex**



BDHS 2011

Table 2.8 presents changes in the broad age structure of the population since 1989. The proportion of the population under age 15 has declined from 43 percent in 1989 to 35 percent in 2011. In contrast, the proportion of the population age 15-59 has increased over time, as has the proportion age 60 and over.

Table 2.8 Trends in population by age

Percent distribution of the de facto population by age group, selected sources, Bangladesh 1989-2011

Age group	1989 BFS	1989 CPS	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS	2011 BDHS
<15	43.2	43.2	42.7	42.6	41.0	39.2	38.2	36.3	35.3
15-59	50.9	50.9	51.2	51.2	53.1	54.4	55.1	56.6	56.5
60+	5.9	5.9	6.0	6.2	5.9	6.4	6.6	7.1	8.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

BFS = Bangladesh Fertility Survey; CPS = Contraceptive Prevalence Survey; BDHS = Bangladesh Demographic and Health Survey
Sources: Huq and Cleland, 1990:38; Mitra et al.,1994:14; Mitra et al., 1997:9; NIPORT et al., 2001:11; NIPORT et al., 2005:13; NIPORT et al.,2009:12

2.4 HOUSEHOLD COMPOSITION

Information on household composition is critical to an understanding of family size and household headship, which can be used to plan meaningful population-based policies and programs. Household composition is also a determinant of general health status and well-being.

Table 2.9 presents information on household composition. The majority (89 percent) of households are headed by men. Only 11 percent of households are headed by women. The proportion of female-headed households has dropped from 13 percent in 2007 to 11 percent in 2011, with the drop more marked in rural than urban areas. More than half of the households in Bangladesh are composed of two to four members. The average household size is 4.6 persons, as compared with 4.7 in 2007; household sizes are larger in rural (4.7) than in urban (4.4) areas.

Table 2.9 Household composition

Percent distribution of households by sex of head of household and by household size; and mean size of household, according to residence, Bangladesh 2011

Characteristic	Residence		Total
	Urban	Rural	
Household headship			
Male	88.8	89.0	89.0
Female	11.2	11.0	11.0
Total	100.0	100.0	100.0
Number of usual members			
1	1.3	1.9	1.7
2	9.5	8.6	8.8
3	20.2	17.7	18.3
4	27.7	24.8	25.5
5	19.5	20.2	20.0
6	11.1	12.7	12.3
7	5.0	6.4	6.0
8	2.7	3.3	3.1
9+	3.1	4.5	4.1
Total	100.0	100.0	100.0
Mean size of households	4.4	4.7	4.6
Number of households	4,305	12,836	17,141

Note: Table is based on de jure household members, i.e., usual residents.

2.5 BIRTH REGISTRATION

UNICEF supported the government's program for birth registration in Bangladesh from 2001-2006 in 28 districts and 4 city corporations. According to the amended Birth and Death Registration Act of 2004, which came into force in 2006, children born in Bangladesh must be registered and have a birth certificate. The government of Bangladesh set the target of universal registration for the end of 2008. This deadline was extended for children under age 18 to the end of June 2010. After this date a fee for registration was instituted. However, the registration of babies under age 2 remains free of charge.

Birth certificates were made mandatory for 16 services, including school enrollment, passports, voter registration, and marriage registration. The local governmental and nongovernmental organizations (NGOs) are participating in birth registration for populations where they work. In 2009 a computerized birth registration system was introduced in Bangladesh on a pilot basis. Upon completion of the pilot, the system will be expanded to the entire country (UNICEF, nd).

In the 2011 BDHS, information on birth registration was solicited for children under age 5. Table 2.10 presents the percentage of the de jure population under age 5 whose births are registered with the civil authorities, according to background characteristics. More than three in ten children (31 percent) have their births registered, and 22 percent of children under age 5 have a birth certificate.

Although the vital registration system of the government requires that a newborn be registered within the shortest possible time, Table 2.10 indicates that children under age 2 are much less likely to be registered than children age 2-4 (13 and 41 percent, respectively). The registration of older children is primarily driven by the practice of asking parents to produce a child's birth certificate for school admission.

Table 2.10 Birth registration of children under age five

Percentage of de jure children under five years of age whose births are registered with the civil authorities, according to background characteristics, Bangladesh 2011

Background characteristic	Children whose births are registered			
	Percentage who had a birth certificate	Percentage who did not have birth certificate	Percentage registered	Number of children
Age				
<2	9.4	3.9	13.3	3,187
2-4	30.3	10.6	40.9	5,300
Sex				
Male	22.2	8.3	30.5	4,304
Female	22.7	7.8	30.5	4,183
Residence				
Urban	26.5	8.6	35.0	1,880
Rural	21.3	8.0	29.2	6,606
Division				
Barisal	24.4	9.2	33.6	476
Chittagong	24.5	6.7	31.2	1,956
Dhaka	19.2	7.6	26.9	2,646
Khulna	25.7	6.2	31.9	761
Rajshahi	17.5	8.5	26.0	1,077
Rangpur	22.8	10.2	33.1	924
Sylhet	31.7	11.7	43.5	646
Wealth quintile				
Lowest	17.2	6.3	23.5	2,066
Second	19.4	8.5	27.9	1,719
Middle	23.0	8.1	31.1	1,594
Fourth	24.8	7.3	32.1	1,613
Highest	30.0	11.0	41.0	1,494
Total	22.4	8.1	30.5	8,487

Table 2.10 shows that birth registration is higher in urban (35 percent) than in rural (29 percent) areas. There is no difference regarding the extent of birth registration among male and female children. Among the administrative divisions, 44 percent of children from Sylhet, and around one-third of children from Barisal, Chittagong, Khulna, and Rangpur divisions are registered. Only one-quarter of the children from Dhaka and Rajshahi are registered. Children from the highest wealth quintile are more likely to have their births registered (41 percent) than children from the lowest wealth quintile (24 percent).

2.6 SCHOOL ATTENDANCE

In the 2011 BDHS, information was collected about school attendance of household members age 6 to 24. Table 2.11 shows that the proportion of the population that attends school declines with age. Whereas 88 percent of children age 6-10 are in school, the percentage decreases to 79 percent for children age 11-15, and to 34 percent for children age 16-20. School attendance is higher among girls than among boys age 6-15, but boys age 16-20 and age 21-24 are more likely to be in school than girls. These data may reflect the impact of recent efforts to promote universal education, which had a special focus on female education.

School attendance rates for children under age 16 are slightly higher in rural areas than in urban areas. In contrast, urban men and women age 16-24 are more likely to be in school than their rural counterparts.

School attendance among age groups has increased from that in the 2007 BDHS. For example, the proportion of children age 6-15 who are attending school has increased from 80 percent in 2007 (NIPORT, Mitra and Associates and Macro International, 2009) to 84 percent in 2011.

Table 2.11 School attendance

Percentage of the de facto household population age 6-24 attending school, by age, sex, and residence, Bangladesh 2011

Background characteristic	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
6-15	81.7	82.3	82.2	82.9	85.8	85.2	82.3	84.1	83.7
6-10	86.3	86.9	86.7	87.7	88.8	88.6	87.0	87.9	87.7
11-15	76.7	76.9	76.8	77.8	82.3	81.2	77.2	79.6	79.0
16-20	44.6	40.1	41.3	35.1	27.0	29.2	38.9	32.6	34.3
21-24	24.5	17.5	19.6	14.5	6.9	9.0	18.5	10.9	13.1

2.7 EDUCATION OF HOUSEHOLD POPULATION

Studies have shown that education is one of the major socioeconomic factors that influences a person's behaviors and attitudes. In general, the greater a person's educational attainment, the more knowledgeable he or she is about the use of health services, family planning methods, and the health care of children. The government of Bangladesh enacted a mandatory Primary Education Law in 1990 to achieve universal primary enrolment by 2005, which is in line with the UN Child Rights Convention. The country is responsible for providing free and equal primary education of quality for all children (GOB, 1990).

To meet the demand for education, the government of Bangladesh has increased investment in the educational sector. Education is divided into two broad categories, primary and secondary. In addition, the government has recently initiated an opening up of non-grade-level schools, which offer pre-primary education. Government also is implementing nonformal education for adults to increase the literacy rate. To promote job-oriented education, skill development institutes that have a vocational and technical focus have increased over the years in various parts of the country. The National Education Policy of Bangladesh (MOE, 2010) explicitly stipulated that education would be free up to the secondary level in the public sector and provided subsidies to create demand for education of the poor and of girls in an effort to meet MDG targets.

2.7.1 Educational Attainment of the Household Population

For all household members age 6 or older, data were collected on the level of education last attended and the highest class completed at that level. Tables 2.12.1 and 2.12.2 show the distribution of the male and female household populations age 6 and older by the highest level of education completed and the median number of years of education completed, according to background characteristics.

The majority of Bangladeshis who are age 6 and older have attended school. Only one in four men and about one in three women have never attended school. There is no gender difference in primary education. However, men are more likely to have completed secondary school or have attained a higher education compared with women (15 percent versus 10 percent). There has been an increase in the proportions of men and women who have completed secondary or higher education since 2007. For men, the proportion has increased from 12 percent to 15 percent, and for women it has increased from 7 percent to 10 percent in 2011.

Table 2.12.1 Educational attainment of the male household population

Percent distribution of the de facto male household populations age six and over by highest level of schooling attended or completed and median years completed, according to background characteristics, Bangladesh 2011

Background characteristic	No education	Primary incomplete	Completed primary[1]	Secondary incomplete	Completed secondary or higher[2]	Don't know/ missing	Total	Number	Median years completed
Age									
6-9	28.5	71.4	0.0	0.1	0.0	0.0	100.0	4,002	0.0
10-14	5.8	60.9	3.6	29.5	0.2	0.0	100.0	4,624	3.0
15-19	7.4	17.7	11.5	43.3	20.2	0.0	100.0	3,302	6.4
20-24	12.6	16.8	13.5	29.9	27.2	0.0	100.0	2,738	6.1
25-29	17.1	15.8	14.5	29.5	23.0	0.0	100.0	2,651	5.2
30-34	24.3	17.8	11.6	23.2	23.1	0.0	100.0	2,410	4.6
35-39	31.1	16.9	10.2	19.5	22.3	0.0	100.0	2,197	4.2
40-44	33.6	15.1	9.3	18.5	23.5	0.0	100.0	1,983	4.1
45-49	37.1	17.9	8.4	17.5	19.0	0.0	100.0	1,881	3.1
50-54	42.0	16.7	10.2	16.0	15.1	0.0	100.0	1,689	1.9
55-59	38.4	12.1	8.1	16.9	24.6	0.0	100.0	1,194	3.9
60-64	44.9	15.0	13.4	11.1	15.6	0.0	100.0	1,085	1.4
65+	50.4	15.1	10.5	14.1	10.0	0.0	100.0	2,419	0.0
Residence									
Urban	16.9	24.3	8.4	24.2	26.3	0.0	100.0	8,170	4.8
Rural	27.4	31.4	8.9	21.0	11.3	0.0	100.0	24,008	2.7
Division									
Barisal	17.9	34.1	9.1	24.2	14.7	0.0	100.0	1,821	3.7
Chittagong	22.2	33.0	8.7	22.7	13.5	0.0	100.0	5,809	3.3
Dhaka	26.6	27.5	8.5	20.4	17.1	0.0	100.0	10,374	3.3
Khulna	22.0	28.2	8.0	25.1	16.7	0.0	100.0	3,707	4.0
Rajshahi	26.5	27.9	8.3	21.6	15.8	0.0	100.0	4,623	3.3
Rangpur	27.6	29.0	9.3	21.4	12.7	0.0	100.0	3,764	3.1
Sylhet	24.4	34.5	11.3	19.9	9.9	0.0	100.0	2,080	2.7
Wealth quintile									
Lowest	45.0	37.1	7.6	9.3	1.0	0.0	100.0	6,143	0.0
Second	31.0	35.3	10.0	18.6	5.1	0.0	100.0	6,426	1.7
Middle	23.1	31.0	10.2	24.5	11.2	0.0	100.0	6,501	3.5
Fourth	16.9	26.0	9.4	28.6	19.0	0.0	100.0	6,386	4.6
Highest	9.2	19.4	6.7	27.2	37.5	0.0	100.0	6,721	7.6
Total	24.7	29.6	8.8	21.8	15.1	0.0	100.0	32,177	3.4

Note: Total includes one man with missing information on age.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Changes in educational attainment by successive age groups indicate the long-term trend in a country's educational achievement. The data show marked improvement in the educational attainment of both men and women over the years. The proportion of men with no education is notably higher (37 percent) among those age 45-49 than among boys age 10-14 (6 percent). Similarly, 54 percent of women age 45-49 have no education compared with only 4 percent of girls age 10-14.

Overall, levels of educational attainment are higher in urban than in rural areas (Tables 2.12.1 and 2.12.2). The proportions of men and women with no education are lower in urban areas (17 percent of men and 22 percent of women) than in rural areas (27 percent of men and 32 percent of women), while the proportions who have completed secondary or higher schooling are greater in urban areas (26 percent of men and 19 percent of women) than in rural areas (11 percent of men and 7 percent of women). On average, men and women living in urban areas have completed almost two more years of school than those living in rural areas. There are also regional variations in educational attainment. Barisal division has the highest proportion of men and women with some education (82 percent of men and 79 percent of women) and Rangpur has the lowest (72 percent of men and 67 percent of women).

Table 2.12.2 Educational attainment of the female household population

Percent distribution of the de facto female household populations age six and over by highest level of schooling attended or completed and median years completed, according to background characteristics, Bangladesh 2011

Background characteristic	No education	Primary incomplete	Completed primary[1]	Secondary incomplete	Completed secondary or higher[2]	Don't know/ missing	Total	Number	Median years completed
Age									
6-9	24.1	75.8	0.0	0.1	0.0	0.0	100.0	3,923	0.0
10-14	4.1	55.6	4.4	35.8	0.1	0.0	100.0	4,597	3.5
15-19	5.8	12.5	9.6	52.8	19.3	0.0	100.0	4,383	6.9
20-24	9.8	14.4	12.5	44.9	18.3	0.0	100.0	4,135	6.5
25-29	18.7	18.8	11.8	33.5	17.2	0.0	100.0	3,564	4.9
30-34	30.9	20.8	10.6	21.8	15.8	0.0	100.0	2,717	3.8
35-39	41.3	18.7	10.0	17.8	12.3	0.0	100.0	2,297	1.9
40-44	49.0	18.7	10.4	13.4	8.5	0.0	100.0	2,206	0.0
45-49	54.4	18.9	10.0	10.9	5.8	0.0	100.0	1,878	0.0
50-54	62.2	16.7	9.3	8.1	3.7	0.0	100.0	1,305	0.0
55-59	67.9	12.2	8.9	7.6	3.3	0.0	100.0	1,208	0.0
60-64	73.9	13.7	6.7	4.4	1.2	0.0	100.0	1,001	0.0
65+	81.3	9.7	5.2	3.1	0.6	0.0	100.0	1,925	0.0
Residence									
Urban	22.0	24.0	8.0	27.3	18.7	0.0	100.0	8,676	4.4
Rural	31.7	29.2	8.3	24.4	6.5	0.0	100.0	26,465	2.3
Division									
Barisal	20.6	32.2	11.3	26.6	9.4	0.0	100.0	2,087	3.7
Chittagong	27.1	28.1	8.0	27.9	8.8	0.0	100.0	6,819	3.2
Dhaka	30.3	27.1	8.1	23.3	11.2	0.0	100.0	11,248	2.8
Khulna	26.7	27.6	6.7	29.3	9.6	0.0	100.0	4,022	3.4
Rajshahi	31.4	27.2	8.6	24.0	8.8	0.0	100.0	4,872	2.6
Rangpur	33.5	28.1	6.9	23.2	8.3	0.0	100.0	3,847	2.0
Sylhet	31.6	28.9	10.9	22.1	6.5	0.0	100.0	2,246	2.3
Wealth quintile									
Lowest	46.8	34.7	6.5	11.5	0.4	0.0	100.0	6,573	0.0
Second	34.7	32.1	8.7	21.9	2.7	0.0	100.0	6,915	1.6
Middle	28.2	27.9	9.6	28.7	5.7	0.0	100.0	7,153	3.2
Fourth	22.9	25.7	9.3	31.2	10.9	0.0	100.0	7,226	4.1
Highest	15.8	19.9	7.0	30.8	26.6	0.0	100.0	7,275	6.1
Total	29.3	27.9	8.2	25.1	9.5	0.0	100.0	35,141	2.9

Note: Total includes three women with missing information on age.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Wealth exerts a positive influence on educational attainment. Women from the highest wealth quintile are more likely to be educated than other women. Men and women in the lowest wealth quintiles are less likely to have attended school. Among men, 45 percent of those in the lowest quintile have never attended school compared with 9 percent in the highest quintile. Differences by wealth are equally large among women; 47 percent of women from the lowest quintile have no schooling compared with 16 percent from the highest wealth quintile.

A comparison of the 2007 and 2011 BDHS surveys shows a marked rise in completed median years of schooling. Over this four-year period, the completed median years of schooling among men have increased from 2.9 to 3.4 years. Similarly, the completed median years of schooling have increased from 2.1 to 2.9 among women.

2.7.2 School Attendance Ratios

The net attendance ratio (NAR) indicates participation in primary schooling for the population age 6-10 and participation in secondary schooling for the population age 11-17. The gross attendance ratio (GAR) measures participation at each level of schooling among those of any age. The GAR is almost always higher than the NAR for the same level because the GAR includes participation by those who may be older or younger than the official age range for that level. A NAR of 100 percent would indicate that all of those in the official age range for that level are attending at that level. The GAR can exceed 100 percent if there is significant over-age or under-age participation at a given level of schooling. Table 2.13 provides

data on net attendance ratios and gross attendance ratios by sex and level of schooling. The NAR at the primary level is 75 percent (73 percent for males and 77 percent for females). The NAR at the secondary level is 38 percent (36 percent for males and 40 percent for females).

Table 2.13 School attendance ratios

Net attendance ratios (NAR) and gross attendance ratios (GAR) for the de facto household population by sex and level of schooling; and the Gender Parity Index (GPI), according to background characteristics, Bangladesh 2011

Background characteristic	Net attendance ratio[1]				Gross attendance ratio[2]			
	Male	Female	Total	Gender Parity Index[3]	Male	Female	Total	Gender Parity Index[3]
PRIMARY SCHOOL								
Residence								
Urban	72.1	73.6	72.8	1.02	108.6	106.1	107.4	0.98
Rural	73.3	77.4	75.4	1.06	114.3	116.7	115.5	1.02
Division								
Barisal	78.3	84.9	81.6	1.08	118.7	127.6	123.1	1.07
Chittagong	71.8	73.4	72.6	1.02	113.2	114.4	113.8	1.01
Dhaka	69.7	74.5	72.1	1.07	107.1	108.7	107.9	1.01
Khulna	78.8	83.3	81.0	1.06	117.8	118.4	118.1	1.00
Rajshahi	72.1	74.2	73.1	1.03	115.9	118.9	117.4	1.03
Rangpur	74.8	80.0	77.3	1.07	113.2	113.5	113.3	1.00
Sylhet	78.0	78.4	78.2	1.01	122.9	117.9	120.4	0.96
Wealth quintile								
Lowest	65.7	69.8	67.7	1.06	102.7	109.8	106.1	1.07
Second	74.5	78.0	76.2	1.05	124.0	124.4	124.2	1.00
Middle	73.3	82.0	77.7	1.12	119.9	119.6	119.7	1.00
Fourth	78.8	77.8	78.3	0.99	110.9	113.3	112.1	1.02
Highest	76.3	77.1	76.7	1.01	110.5	104.5	107.4	0.95
Total	73.0	76.6	74.8	1.05	113.1	114.4	113.7	1.01
SECONDARY SCHOOL								
Residence								
Urban	39.0	40.8	40.0	1.05	43.3	43.9	43.6	1.01
Rural	35.3	39.3	37.4	1.11	40.1	42.8	41.5	1.07
Division								
Barisal	42.8	43.0	42.9	1.00	46.8	46.5	46.6	0.99
Chittagong	34.5	39.5	37.1	1.15	39.2	44.3	41.9	1.13
Dhaka	35.0	36.9	36.0	1.05	39.1	39.6	39.4	1.01
Khulna	40.7	46.5	43.7	1.14	45.6	49.4	47.5	1.09
Rajshahi	36.2	38.6	37.4	1.07	42.3	41.7	42.0	0.99
Rangpur	37.9	43.8	40.9	1.16	41.9	46.5	44.2	1.11
Sylhet	31.4	35.6	33.5	1.14	36.5	39.5	38.0	1.08
Wealth quintile								
Lowest	15.8	22.4	19.0	1.42	18.0	24.0	20.9	1.33
Second	30.4	35.2	32.9	1.16	35.2	39.0	37.1	1.11
Middle	37.8	44.8	41.5	1.19	43.8	49.0	46.5	1.12
Fourth	47.1	45.9	46.4	0.98	53.0	50.0	51.4	0.94
Highest	51.9	49.1	50.5	0.95	56.0	52.1	54.0	0.93
Total	36.2	39.7	38.0	1.10	40.8	43.1	42.0	1.05

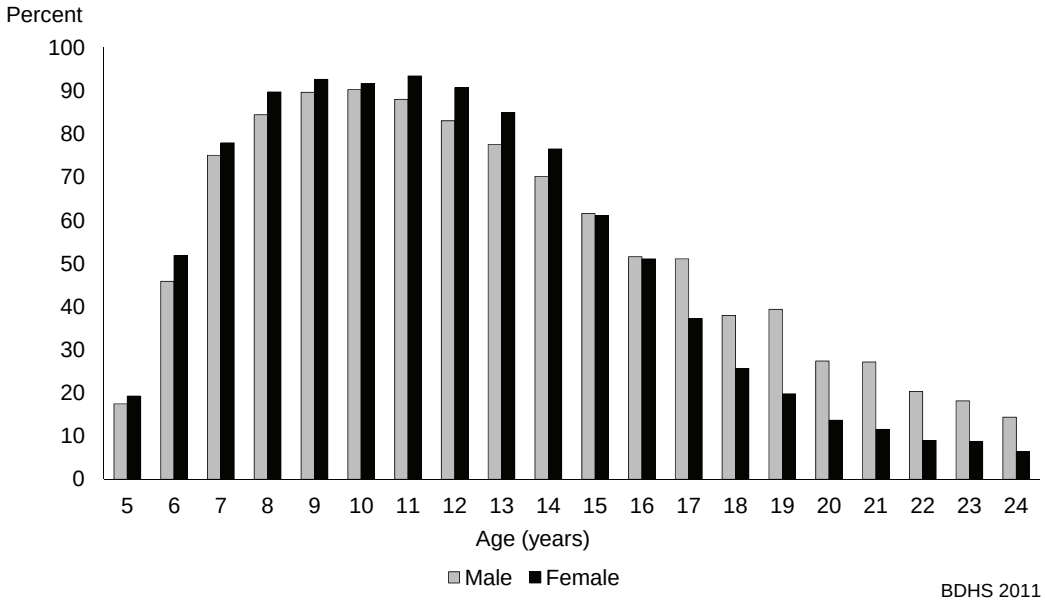
[1] The NAR for primary school is the percentage of the primary-school age (age 6-10) population that is attending primary school. The NAR for secondary school is the percentage of the secondary-school age (age 11-17) population that is attending secondary school. By definition the NAR cannot exceed 100 percent.
[2] The GAR for primary school is the total number of primary school students, expressed as a percentage of the official primary-school-age population. The GAR for secondary school is the total number of secondary school students, expressed as a percentage of the official secondary-school-age population. If there are significant numbers of over-age and under-age students at a given level of schooling, the GAR can exceed 100 percent.
[3] The Gender Parity Index for primary school is the ratio of the primary-school NAR(GAR) for females to the NAR(GAR) for males. The Gender Parity Index for secondary school is the ratio of the secondary-school NAR(GAR) for females to the NAR(GAR) for males.

The differences in NAR at the primary- and secondary-school levels between urban and rural areas are small. Among the administrative divisions, Dhaka has the lowest NAR and GAR at the primary level, and Sylhet has one of the highest NARs and GARs at the primary level, but the lowest NAR and GAR at the secondary level. At the primary level, the NAR and GAR show no clear pattern by wealth quintile. However, at the secondary level, children in the highest wealth quintile have the highest NAR and GAR and children in the lowest wealth quintile have the lowest NAR and GAR (Table 2.13).

Table 2.13 also shows the Gender Parity Index (GPI), which represents the ratio of the NAR and GAR for females to the NAR and GAR for males. It is a more precise indicator of gender differences in the schooling system. A GPI greater than 1.00, indicates that a higher proportion of females than males attend school. The indexes for NAR and GAR at the primary level are slightly higher than 1.00 (1.05 versus 1.01), indicating that the gender gap is very narrow.

Figure 2.3 shows that, for ages 5-14, girls have a higher level of school attendance than boys. The pattern reverses at age 15 and older. Attendance is highest at age 10 for boys and at age 11 for girls.

Figure 2.3 **Age-specific attendance rates of the de facto population age 5-24**



2.8 EMPLOYMENT

The 2011 BDHS collected information regarding the working status of each person age 8 and older at the time of the survey. Table 2.14 shows that men are much more likely than women to be employed (64 percent and 11 percent, respectively). The proportion of people who are employed has decreased since 2007. For men, the proportion has decreased from 68 percent to 64 percent and for women, from 23 percent to 11 percent. The urban population is much more likely to be employed than the rural population. For men, the proportion is 67 percent urban versus 63 percent rural, and for women, the proportion is 18 percent urban and 8 percent rural, respectively.

Table 2.14 Employment status

Percentage of male and female de facto household population age eight and over who are working at the time of the survey, by age, sex, and residence, Bangladesh 2011

	Male			Female		
Age	Urban	Rural	Total	Urban	Rural	Total
8-9	1.4	1.0	1.1	2.2	0.5	0.8
10-14	10.4	8.9	9.3	9.6	1.6	3.4
15-19	44.4	42.8	43.2	15.9	5.0	7.9
20-24	69.5	75.4	73.7	20.8	11.6	14.1
25-29	91.2	92.9	92.4	29.2	12.9	17.2
30-34	97.3	96.5	96.8	27.2	12.9	16.8
35-39	98.0	98.4	98.3	25.3	14.0	17.0
40-44	97.3	97.7	97.6	20.4	13.0	14.9
45-49	97.7	97.6	97.6	22.2	12.6	15.2
50-54	94.8	96.4	96.0	14.1	10.9	11.6
55-59	89.6	88.8	89.0	11.1	6.1	7.2
60-64	70.2	81.5	79.3	5.2	5.1	5.1
65+	43.8	49.7	48.6	2.6	2.2	2.3
Total	66.9	63.2	64.1	18.0	8.2	10.6
Number	7,721	22,409	30,130	8,245	24,885	33,130

CHARACTERISTICS OF RESPONDENTS 3

Key Findings:

- Twenty-eight percent of ever-married women and 26 percent of ever-married men age 15-49 have no education. The percentage of women and men with no education has decreased since 2007. However, the percentage of women and men with secondary or higher education has remained stable over the same period.
- Forty-nine percent of women and 22 percent of men are not regularly exposed to any media source.
- Fifteen percent of women were employed in the 12 months preceding the survey, with the highest percentages employed in factory or blue collar (25 percent) and semi-skilled services (22 percent).
- The majority of working men consider their earnings moderately sufficient (62 percent) or sufficient (10 percent) to provide for their family's basic needs.

This chapter presents the demographic and socioeconomic profile of the Bangladesh respondents in 2011. The profile information helps one to interpret findings and understand results presented in the report. The chapter begins by describing basic background characteristics, including age, marital status, residence, education, and wealth status. Information is also presented on exposure to mass media and employment status. The 2011 BDHS includes results from completed interviews with 17,749 ever-married women age 15-49[1] and 3,997 ever-married men age 15-54.

3.1 CHARACTERISTICS OF SURVEY RESPONDENTS

Basic background characteristics of the 17,749 ever-married women and 3,997 ever-married men, age 15-49, are presented in Table 3.1. Half of the women (50 percent) and 26 percent of the men are under age 30.

The majority of women (94 percent) and nearly all men (99 percent) are currently married. The majority of respondents (74 percent of women and 72 percent of men) reside in the rural areas. The respondents are not evenly distributed across geographic divisions. Almost one-third of respondents live in Dhaka. The distribution of sampled women by division is similar to that in the 2007 BDHS, except in Rajshahi division, which was divided into two administrative divisions, Rajshahi and Rangpur, between the two BDHS surveys; 15 percent of women resided in Rajshahi and 12 percent in Rangpur in the current survey.

Twenty-eight percent of women and 26 percent of men age 15-49 have no education, while 12 percent of women and 18 percent of men have completed secondary- or higher-level education. The vast majority of the respondents (90 percent) are Muslims. Most of the remaining women and men are Hindus. Very few of the respondents are Buddhists or Christians.

Because the male respondents in the 2011 BDHS come from the same households as the female respondents, it is possible to match married men to their spouses. Figure 3.1 shows the age differentials

[1] The survey interviewed ever-married women age 12-49. However, less than 1 percent of ever-married women were age 12-14. These women have been removed from the data set, and the weights have been recalculated for the 15-49 age group.

between spouses for matched couples in the current and the three previous BDHS surveys. Not surprisingly, the husband is older than the wife for almost all couples. Since 2004, the percentage of couples for which the husband is less than 5 years older than the wife has increased, while the percentage of couples for which the husband is 15 years or more older than the wife has declined.

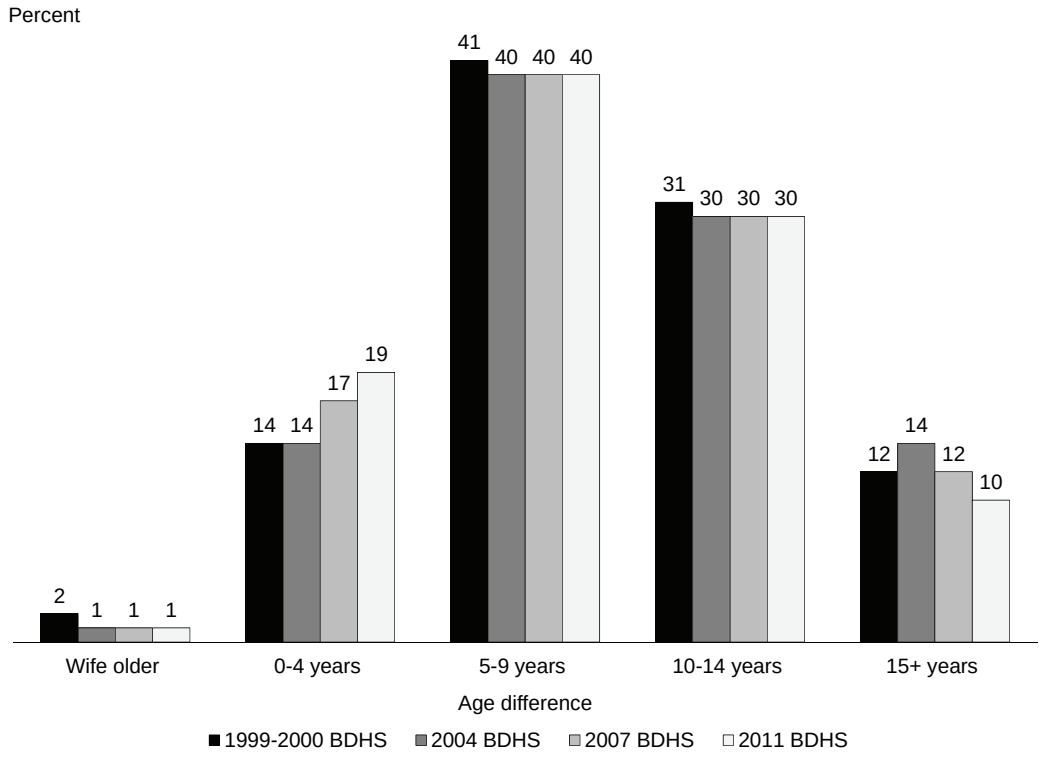
Table 3.1 Background characteristics of respondents

Percent distribution of ever-married women and men age 15-49 by selected background characteristics, Bangladesh 2011

Background characteristic	Women			Men		
	Weighted percent	Weighted number	Unweighted number	Weighted percent	Weighted number	Unweighted number
Age						
15-19	11.1	1,970	1,911	0.6	21	18
20-24	19.8	3,514	3,456	7.3	249	222
25-29	19.1	3,394	3,387	18.3	621	629
30-34	15.0	2,654	2,690	18.4	625	618
35-39	12.7	2,246	2,300	19.5	660	673
40-44	12.1	2,152	2,157	18.5	629	636
45-49	10.3	1,820	1,848	17.3	586	586
Marital status						
Currently married	93.7	16,635	16,616	99.1	3,360	3,355
Divorced/separated/ widowed	6.3	1,114	1,133	0.9	31	27
Residence						
Urban	26.0	4,619	6,179	28.0	949	1,224
Rural	74.0	13,130	11,570	72.0	2,442	2,158
Division						
Barisal	5.6	1,002	2,050	5.1	174	341
Chittagong	18.2	3,222	2,864	15.3	519	478
Dhaka	32.3	5,736	3,062	32.3	1,095	586
Khulna	12.0	2,139	2,640	12.7	430	530
Rajshahi	14.9	2,646	2,590	16.4	556	529
Rangpur	11.5	2,039	2,457	13.0	442	534
Sylhet	5.4	967	2,086	5.2	175	384
Educational attainment						
No education	27.7	4,912	4,629	26.2	890	823
Primary incomplete	18.4	3,264	3,199	24.3	823	830
Primary complete[1]	11.6	2,062	2,097	9.0	305	306
Secondary incomplete	30.3	5,383	5,458	22.4	758	753
Secondary complete or higher[2]	12.0	2,127	2,366	18.1	615	670
Religion						
Islam	90.0	15,980	15,758	89.6	3,038	2,971
Hinduism	9.5	1,689	1,907	9.9	337	394
Buddhism	0.2	44	36	0.2	6	5
Christianity	0.2	37	48	0.3	10	12
Wealth quintile						
Lowest	18.3	3,250	3,077	19.3	654	602
Second	19.6	3,487	3,315	19.6	666	636
Middle	20.1	3,567	3,403	19.1	647	644
Fourth	20.6	3,664	3,762	21.4	726	714
Highest	21.3	3,781	4,192	20.6	699	786
Total 15-49	100.0	17,749	17,749	100.0	3,392	3,382
50-54	na	na	na	na	605	615
Total 15-54	na	na	na	na	3,997	3,997

Note: Education categories refer to the highest level of education attended, whether or not that level was completed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.
na = Not applicable

Figure 3.1 **Trends in age differential between spouses, 1999-2011 BDHS**



3.2 EDUCATIONAL ATTAINMENT

Education is one of the most influential determinants of an individual's knowledge, attitudes, and behaviors. The educational attainment of a population is an important indicator of the society's stock of human capital and level of socioeconomic development. Education enhances the ability of individuals to achieve desired demographic and health goals. Tables 3.2.1 and 3.2.2 present differentials in the educational attainment of women and men by selected background characteristics.

Table 3.2.1 shows that 28 percent of ever-married women age 15-49 have never been to school, 18 percent have completed some primary education, 12 percent have completed all primary education, 30 percent have completed some secondary education, and 12 percent have completed all secondary education or continued on to higher education. Older women, women in rural areas, and those in the lowest wealth quintile are most likely to have no education. Urban-rural differences in education are pronounced at the secondary and higher levels. For example, urban women are almost three times more likely than rural women to have completed secondary or higher education (23 percent and 8 percent, respectively).

Between 10 and 14 percent of women in all geographic divisions have completed secondary or higher-level education except in Sylhet, where only 7 percent of women have completed secondary or higher-level education. Sylhet also has the highest proportion of women with no education (35 percent).

Women in the highest wealth quintile are most likely to complete secondary or higher-level education; 35 percent of women in the highest wealth quintile achieved this level.

In Bangladesh, women age 15-49 have completed a median of 4.3 years of schooling. The differentials across subgroups of women are reflected in the medians. For example, the median number of years of schooling for women in the highest wealth quintile is eight years compared with no years of schooling for women in the lowest quintile.

Table 3.2.1 Educational attainment: Women

Percent distribution of ever-married women age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Bangladesh 2011

Background characteristic	Highest level of schooling					Total	Median years completed	Number of women
	No education	Primary incomplete	Completed primary[1]	Secondary incomplete	Secondary complete or higher[2]			
Age								
15-19	8.1	14.9	12.3	54.9	9.9	100.0	6.1	1,970
20-24	10.2	16.0	13.6	47.6	12.6	100.0	6.0	3,514
25-29	18.5	19.4	12.3	34.1	15.7	100.0	4.9	3,394
30-34	30.7	21.2	10.9	21.9	15.2	100.0	3.7	2,654
35-39	40.8	19.0	10.3	17.7	12.2	100.0	2.0	2,246
40-44	48.7	19.0	10.5	13.5	8.3	100.0	0.0	2,152
45-49	54.3	19.4	9.8	11.1	5.4	100.0	0.0	1,820
Residence								
Urban	19.5	15.9	9.7	32.0	23.0	100.0	5.6	4,619
Rural	30.6	19.3	12.3	29.7	8.1	100.0	4.0	13,130
Division								
Barisal	16.3	21.7	16.0	33.8	12.3	100.0	4.6	1,002
Chittagong	24.8	16.4	11.1	35.0	12.7	100.0	4.7	3,222
Dhaka	28.1	18.7	11.5	27.8	14.0	100.0	4.2	5,736
Khulna	23.5	19.7	9.8	35.9	11.2	100.0	4.6	2,139
Rajshahi	30.4	18.8	11.8	29.0	10.0	100.0	4.1	2,646
Rangpur	34.1	18.1	10.0	27.1	10.7	100.0	3.6	2,039
Sylhet	34.8	16.9	16.6	24.4	7.3	100.0	3.7	967
Wealth quintile								
Lowest	51.3	25.1	10.0	13.2	0.3	100.0	0.0	3,250
Second	36.3	22.5	13.9	24.8	2.4	100.0	2.8	3,487
Middle	25.7	19.5	13.5	35.0	6.2	100.0	4.3	3,567
Fourth	17.9	16.8	12.8	38.9	13.7	100.0	5.2	3,664
Highest	10.8	9.3	7.9	37.4	34.6	100.0	8.0	3,781
Total	27.7	18.4	11.6	30.3	12.0	100.0	4.3	17,749

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Differentials in educational attainment across groups of ever-married men are similar to those of women. Younger men, those in urban areas, and those in the higher wealth quintiles are more likely to be educated than other men.

The percentage of men with no education is lower than that of women (26 and 28 percent, respectively), and the percentage of men who have secondary or higher education is higher than that of women (18 and 12 percent, respectively) (Table 3.2.2).

There have been improvements in educational attainment in Bangladesh over the past four years. The percentage of ever-married women and men with no education has declined. For women, the percentage has declined from 34 percent in 2007 to 28 percent in 2011, and for men it has declined from 31 percent in 2007 to 26 percent in 2011. However, the proportion of women and men who have completed secondary school or higher remained unchanged between 2007 and 2011.

Another indicator of progress in education is the median length of schooling. For women, it increased from 3.2 years in 2007 to 4.3 years in 2011, and for men it increased from 2.7 years to 3.9 years.

Table 3.2.2 Educational attainment: Men

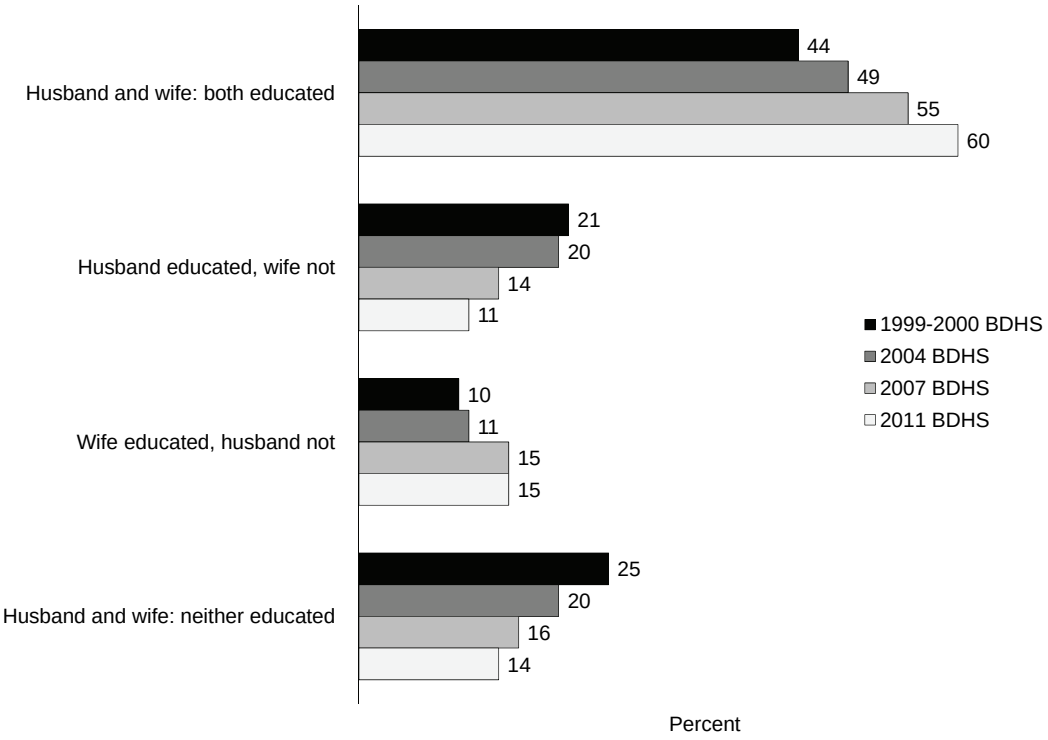
Percent distribution of ever-married men age 15-49 by highest level of schooling attended or completed, and median years completed, according to background characteristics, Bangladesh 2011

Background characteristic	Highest level of schooling					Total	Median years completed	Number of men
	No education	Primary incomplete	Completed primary[1]	Secondary incomplete	Secondary complete or higher[2]			
Age								
15-19	*	*	*	*	*	*	*	21
20-24	16.6	32.0	10.5	30.4	10.6	100.0	4.1	249
25-29	17.3	24.3	13.8	31.2	13.3	100.0	4.6	621
30-34	26.0	24.4	9.3	20.9	19.5	100.0	3.9	625
35-39	26.9	25.0	6.7	20.0	21.4	100.0	3.7	660
40-44	31.0	20.5	6.7	18.6	23.2	100.0	3.7	629
45-49	34.8	23.8	7.3	18.0	16.0	100.0	2.3	586
Residence								
Urban	15.8	21.1	8.7	23.4	31.0	100.0	6.6	949
Rural	30.3	25.5	9.1	21.9	13.1	100.0	3.1	2,442
Division								
Barisal	14.9	34.9	11.9	21.0	17.4	100.0	4.0	174
Chittagong	25.6	28.2	9.2	19.8	17.2	100.0	3.5	519
Dhaka	26.0	21.7	8.4	22.6	21.3	100.0	4.3	1,095
Khulna	21.5	25.1	9.0	26.1	18.3	100.0	4.4	430
Rajshahi	29.7	22.5	9.6	22.5	15.7	100.0	3.6	556
Rangpur	29.7	23.2	8.4	21.4	17.4	100.0	3.4	442
Sylhet	33.1	24.4	8.7	22.7	11.2	100.0	3.1	175
Wealth quintile								
Lowest	53.6	29.9	7.0	8.7	0.9	100.0	0.0	654
Second	35.1	30.5	10.0	19.8	4.5	100.0	1.8	666
Middle	24.9	28.1	11.7	24.0	11.2	100.0	3.6	647
Fourth	14.7	22.3	10.2	29.5	23.4	100.0	6.0	726
Highest	5.5	11.5	6.2	28.7	48.2	100.0	8.9	699
Total 15-49	26.2	24.3	9.0	22.4	18.1	100.0	3.9	3,392
50-54	36.3	25.7	7.3	15.6	15.1	100.0	1.7	605
Total 15-54	27.8	24.5	8.7	21.3	17.7	100.0	3.7	3,997

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Figure 3.2 shows the educational differences between spouses in matched couples. The proportion of couples who have some education continues to increase, growing from 44 percent in 1999-2000 to 60 percent in 2011, and the percentage in which neither spouse is educated continues to decline, dropping from 25 to 14 percent. For more than one-fourth of couples, only one partner is educated. The probability that the husband is the only educated partner has decreased, while the probability that the wife is the only educated partner remained unchanged between 2007 and 2011.

Figure 3.2 **Trends in education of couples, 1999-2011 BDHS**



3.3 LITERACY

Literacy is widely acknowledged as benefiting both the individual and society. Particularly among women, literacy is associated with many positive outcomes, including intergenerational health and nutrition benefits. The ability to read and write empowers both women and men. Knowledge of the level of literacy that a population may attain is important for policymakers and program managers who design information materials.

The 2011 BDHS defined literacy based on the respondent's ability to read all or part of a sentence. To test respondents' reading ability, interviewers carried a set of cards with simple sentences printed in Bangla. Respondents who had attended at least some secondary school were assumed to be literate. Respondents who had never been to school and those who had not attended school at the secondary level were asked to read the cards during the interview. Tables 3.3.1 and 3.3.2 present the findings.

Tables 3.3.1 and 3.3.2 indicate that 63 percent each of ever-married women and men age 15-49 are literate. The level of literacy decreases as age increases; 84 percent of women age 15-19 are literate compared with 36 percent of women age 45-49. Literacy varies by urban-rural residence; 72 percent of urban women are literate compared with 60 percent of rural women (Table 3.3.1).

Divisional differences in literacy are notable. The proportion of women who are literate ranges from 56 percent in Rangpur to 73 percent in Barisal. There is also a marked difference in literacy level by household wealth, ranging from 36 percent among women in the lowest wealth quintile to 85 percent among women in the highest wealth quintile.

Table 3.3.1 Literacy: Women

Percent distribution of ever-married women age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Bangladesh 2011

Background characteristic	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	Total	Percentage literate[1]	Number of women
Age							
15-19	64.8	8.7	10.2	16.2	100.0	83.6	1,970
20-24	60.2	11.4	9.5	18.9	100.0	81.0	3,514
25-29	49.9	10.9	11.2	28.0	100.0	72.0	3,394
30-34	37.1	10.2	12.2	40.4	100.0	59.6	2,654
35-39	29.9	10.2	9.1	50.8	100.0	49.2	2,246
40-44	21.8	9.7	10.0	58.3	100.0	41.5	2,152
45-49	16.5	9.4	10.2	63.7	100.0	36.1	1,820
Residence							
Urban	55.0	8.8	8.4	27.6	100.0	72.3	4,619
Rural	37.8	10.8	11.1	40.3	100.0	59.7	13,130
Division							
Barisal	46.1	15.2	11.3	27.3	100.0	72.5	1,002
Chittagong	47.7	9.9	9.7	32.6	100.0	67.3	3,222
Dhaka	41.8	10.0	10.7	37.5	100.0	62.4	5,736
Khulna	47.1	9.3	10.6	32.9	100.0	66.9	2,139
Rajshahi	39.0	10.8	9.6	40.5	100.0	59.4	2,646
Rangpur	37.8	7.4	10.7	44.1	100.0	55.8	2,039
Sylhet	31.7	14.5	11.1	42.6	100.0	57.3	967
Wealth quintile							
Lowest	13.6	10.5	11.6	64.3	100.0	35.7	3,250
Second	27.3	11.3	13.0	48.3	100.0	51.6	3,487
Middle	41.3	11.2	11.5	36.0	100.0	63.9	3,567
Fourth	52.5	11.3	10.3	25.8	100.0	74.1	3,664
Highest	72.0	7.1	5.9	14.8	100.0	85.1	3,781
Total	42.3	10.2	10.4	37.0	100.0	62.9	17,749

Note: Total includes a small number of women who had no card with the required language, are blind or visually impaired, or with missing information.

[1] Refers to women who attended secondary school or higher and women who can read a whole sentence or part of a sentence

Differentials in literacy rate by the selected background characteristics among men are similar to those among women (Table 3.3.2).

Table 3.3.2 Literacy: Men

Percent distribution of ever-married men age 15-49 by level of schooling attended and level of literacy, and percentage literate, according to background characteristics, Bangladesh 2011

Background characteristic	Secondary school or higher	No schooling or primary school: Can read a whole sentence	No schooling or primary school: Can read part of a sentence	No schooling or primary school: Cannot read at all	Missing	Total	Percentage literate[1]	Number of men
Age								
15-19	*	*	*	*	*	*	*	21
20-24	41.0	11.5	16.4	31.1	0.0	100.0	68.9	249
25-29	44.5	11.5	14.7	28.9	0.4	100.0	70.7	621
30-34	40.3	7.5	15.7	36.4	0.0	100.0	63.6	625
35-39	41.5	8.1	12.9	37.2	0.3	100.0	62.5	660
40-44	41.8	8.3	11.0	38.6	0.0	100.0	61.2	629
45-49	34.1	7.6	10.5	47.8	0.0	100.0	52.2	586
Residence								
Urban	54.4	9.5	10.8	24.8	0.5	100.0	74.7	949
Rural	35.1	8.5	14.3	42.0	0.0	100.0	57.9	2,442
Division								
Barisal	38.4	11.8	19.9	29.6	0.0	100.0	70.1	174
Chittagong	37.1	11.4	13.1	38.4	0.0	100.0	61.6	519
Dhaka	43.9	8.7	10.6	36.5	0.4	100.0	63.1	1,095
Khulna	44.4	8.6	15.7	31.2	0.0	100.0	68.6	430
Rajshahi	38.1	6.5	15.4	39.7	0.2	100.0	60.1	556
Rangpur	38.8	6.3	12.6	42.2	0.1	100.0	57.7	442
Sylhet	33.9	12.5	14.4	39.2	0.0	100.0	60.8	175
Wealth quintile								
Lowest	9.5	8.4	12.3	69.6	0.0	100.0	30.3	654
Second	24.3	10.2	15.4	49.8	0.2	100.0	49.9	666
Middle	35.2	10.0	18.7	36.1	0.0	100.0	63.9	647
Fourth	52.8	9.5	14.0	23.3	0.3	100.0	76.4	726
Highest	76.9	5.7	6.8	10.3	0.3	100.0	89.4	699
Total 15-49	40.5	8.8	13.3	37.2	0.2	100.0	62.6	3,392
50-54	30.7	8.2	10.7	50.3	0.2	100.0	49.5	605
Total 15-54	39.0	8.7	12.9	39.2	0.2	100.0	60.6	3,997

Note: Total includes a small number of men who had no card with the required language, are blind or visually impaired, or with missing information. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Includes men who attended secondary school or higher and men who can read a whole sentence or part of a sentence

3.4 ACCESS TO MASS MEDIA

Access to information through the media is essential to increase people's knowledge and awareness of what takes place around them. The 2011 BDHS assessed exposure to media by asking respondents if they listened to the radio, watched television, or read newspapers or magazines at least once a week. To plan effective programs to disseminate information about health and family planning, it is important to know which subgroups of population are most likely to be reached by specific media.

Table 3.4.1 shows that 48 percent of ever-married women age 15-49 watch television at least once a week, 6 percent read a newspaper at least once a week, and 5 percent listen to the radio at least once a week. Less than 1 percent of women are exposed to all three media sources each week. Close to half (49 percent) of women have no exposure to any of the mass media on a weekly basis. The proportion of women listening to the radio every week has decreased markedly over the years, dropping from 33 percent in 2004, to 19 percent in 2007, and to 5 percent in 2011. Television reached the most women throughout the period (46 percent in 2004, to 47 percent in 2007, and 48 percent in 2011).

Younger women are more likely to watch television or listen to the radio than older women. There is a wide gap in media exposure by urban-rural residence. For example, the proportion of urban women who read a newspaper once a week is 15 percent compared with 3 percent of rural women. Media exposure is positively related to the respondent's educational level and economic status. Regular exposure to mass media is highest among women with secondary or higher education and women in the highest wealth quintile.

Table 3.4.1 Exposure to mass media: Women

Percentage of ever-married women age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Bangladesh 2011

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Accesses all three media at least once a week	Accesses none of the three media at least once a week	Number of women
Age						
15-19	4.1	53.6	6.8	0.9	43.0	1,970
20-24	6.1	52.9	5.1	0.6	44.2	3,514
25-29	6.4	51.6	4.8	0.7	45.4	3,394
30-34	6.7	48.8	4.4	0.5	48.9	2,654
35-39	8.6	43.8	5.1	0.5	52.6	2,246
40-44	6.7	43.0	3.3	0.2	54.9	2,152
45-49	4.6	39.5	3.6	0.2	58.0	1,820
Residence						
Urban	15.4	77.9	3.4	1.1	20.9	4,619
Rural	3.1	38.0	5.2	0.4	58.6	13,130
Division						
Barisal	3.9	32.8	7.9	0.3	61.1	1,002
Chittagong	5.9	48.8	5.1	0.7	49.0	3,222
Dhaka	9.3	58.1	3.8	0.8	40.3	5,736
Khulna	5.0	48.7	5.3	0.3	47.4	2,139
Rajshahi	4.0	46.7	5.4	0.3	49.3	2,646
Rangpur	4.3	33.5	4.3	0.5	63.1	2,039
Sylhet	4.9	41.1	4.0	0.5	57.1	967
Educational attainment						
No education	0.0	27.8	2.7	0.0	70.5	4,912
Primary incomplete	0.5	39.5	3.8	0.1	57.9	3,264
Primary complete[1]	1.5	46.1	4.9	0.2	50.8	2,062
Secondary incomplete	5.7	61.0	6.0	0.5	36.0	5,383
Secondary complete or higher[2]	35.6	79.9	7.4	2.9	15.0	2,127
Wealth quintile						
Lowest	0.5	12.9	2.9	0.1	85.1	3,250
Second	1.2	21.0	5.0	0.3	74.9	3,487
Middle	2.4	42.9	6.1	0.4	52.8	3,567
Fourth	4.4	69.8	5.3	0.5	27.7	3,664
Highest	21.4	88.6	4.2	1.5	10.2	3,781
Total	6.3	48.4	4.7	0.5	48.8	17,749

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Men are more likely to be exposed to each type of mass media than women. For instance, 29 percent of men age 15-49 read a newspaper at least once a week compared with 6 percent of women (Table 3.4.2). Three percent of men are exposed to all three media sources each week compared with less than 1 percent of women.

Similar to the trend observed with women, the proportion of men who regularly listen to the radio has decreased over the last seven years from 52 percent in 2004 to 38 percent in 2007 and to 10 percent in 2011. This may account for the decrease in the proportion of men exposed to all three types of media: dropping from 10 percent in 2007 to 3 percent in 2011.

Table 3.4.2 Exposure to mass media: Men

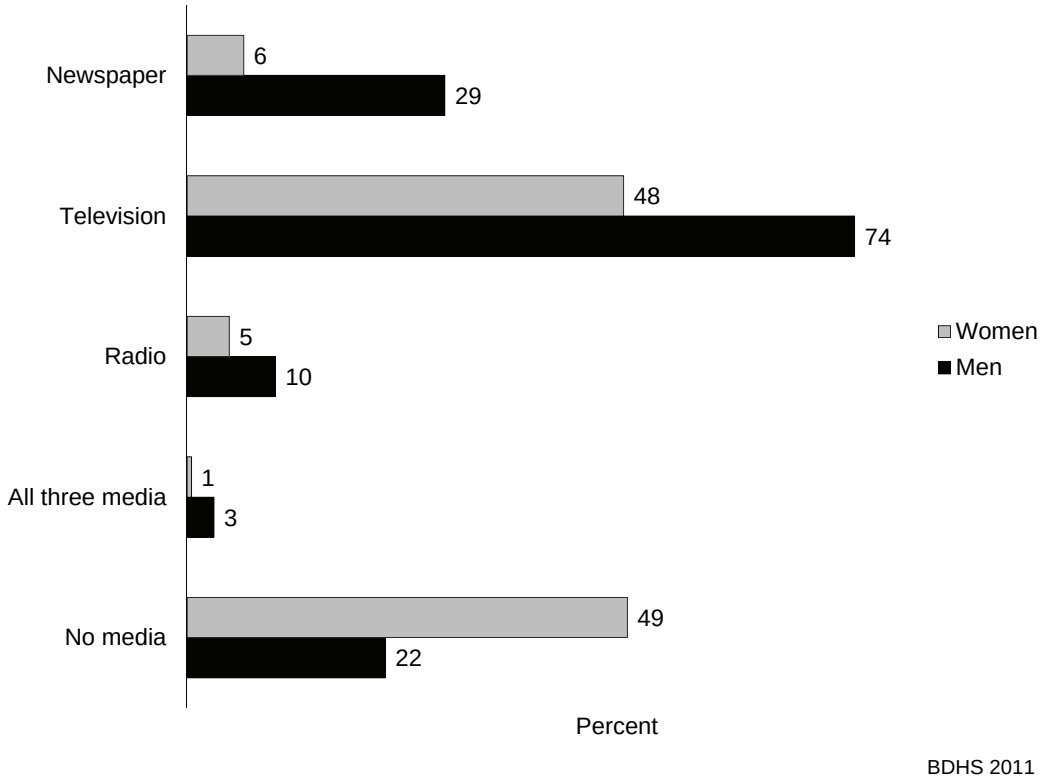
Percentage of ever-married men age 15-49 who are exposed to specific media on a weekly basis, by background characteristics, Bangladesh 2011

Background characteristic	Reads a newspaper at least once a week	Watches television at least once a week	Listens to the radio at least once a week	Accesses all three media at least once a week	Accesses none of the three media at least once a week	Number of men
Age						
15-19	*	*	*	*	*	21
20-24	25.1	75.9	12.1	2.9	21.2	249
25-29	30.1	78.4	10.9	3.2	16.8	621
30-34	31.2	73.3	9.7	3.7	23.3	625
35-39	28.4	75.4	9.0	2.5	22.2	660
40-44	32.4	71.2	9.3	3.1	24.0	629
45-49	26.9	72.8	10.1	2.0	23.9	586
Residence						
Urban	48.5	86.7	6.3	3.6	10.8	949
Rural	22.0	69.7	11.5	2.6	26.1	2,442
Division						
Barisal	25.7	69.4	14.8	2.8	24.0	174
Chittagong	25.3	70.8	9.8	2.2	25.2	519
Dhaka	34.9	78.2	9.2	3.6	19.1	1,095
Khulna	30.6	73.1	10.4	2.8	23.5	430
Rajshahi	25.5	73.4	12.1	3.0	21.6	556
Rangpur	26.9	77.2	6.9	1.6	19.7	442
Sylhet	26.2	66.2	11.2	3.5	28.9	175
Educational attainment						
No education	0.2	58.7	7.7	0.0	39.1	890
Primary incomplete	8.7	72.5	11.7	1.2	25.1	823
Primary complete[1]	23.1	78.1	9.3	2.2	18.4	305
Secondary incomplete	45.9	82.1	11.8	5.8	12.7	758
Secondary complete or higher[2]	82.1	88.7	9.3	6.0	5.3	615
Wealth quintile						
Lowest	4.1	54.3	8.3	0.3	42.6	654
Second	12.0	64.0	11.5	2.1	31.3	666
Middle	22.8	75.2	13.4	2.1	20.1	647
Fourth	37.9	84.0	10.2	4.8	12.2	726
Highest	66.9	92.6	7.0	4.8	4.9	699
Total 15-49	29.4	74.4	10.0	2.9	21.8	3,392
50-54	24.0	59.8	8.4	3.4	35.6	605
Total 15-54	28.6	72.2	9.8	3.0	23.9	3,997

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Figure 3.3 confirms that men are much more likely to be exposed to each type of mass media than women. For both men and women, exposure to television is more common than exposure to other media types.

Figure 3.3 **Percentage of ever-married women and men age 15 49 exposed to various media at least once a week**



3.5 EMPLOYMENT

The 2011 BDHS asked respondents a number of questions regarding their employment status, including whether they had worked in the 12 months before the survey. The results for women and men are presented in Tables 3.5.1 and 3.5.2.

At the time of the survey, 13 percent of ever-married women age 15-49 were currently employed. Two percent were not working although they had been employed in the 12 months prior to the survey, while the remaining 85 percent said that they had not been employed in the previous 12 months (Table 3.5.1). The proportion currently employed is lowest among women age 15-19 (6 percent) and peaks at 16 percent in the 30-34 age group. Women who are divorced, separated, or widowed are much more likely to be employed than currently married women. Women who have 0-2 children are around twice as likely as those with five or more children to be employed.

Urban women are more likely than rural women to be employed (21 percent compared with 10 percent). Small variations are found across geographic divisions. The proportion of women who are employed ranges from 16 percent in Dhaka to 9 percent in Barisal.

The proportion of women who are currently employed decreases with education, except for women with secondary or higher education. For example, 16 percent of women with no education are employed compared with 10 percent of women who attended but have not the completed secondary level. Women in the lowest and highest wealth quintiles are most likely to be currently employed (15 percent and 16 percent, respectively).

Table 3.5.1 Employment status: Women

Percent distribution of ever-married women age 15-49 by employment status, according to background characteristics, Bangladesh 2011

Background characteristic	Employed in the 12 months preceding the survey		Not employed in the 12 months preceding the survey	Total	Number of women
	Currently employed[1]	Not currently employed			
Age					
15-19	6.2	2.0	91.8	100.0	1,970
20-24	12.1	1.6	86.3	100.0	3,514
25-29	14.8	2.0	83.2	100.0	3,394
30-34	15.6	1.9	82.6	100.0	2,654
35-39	14.4	2.3	83.4	100.0	2,246
40-44	13.6	1.8	84.6	100.0	2,152
45-49	14.2	1.2	84.6	100.0	1,820
Marital status					
Currently married	11.6	1.7	86.7	100.0	16,635
Divorced/separated/ widowed	36.6	3.7	59.7	100.0	1,114
Number of living children					
0	14.7	3.0	82.2	100.0	1,867
1-2	15.0	1.7	83.2	100.0	8,889
3-4	11.0	1.7	87.3	100.0	5,359
5+	8.2	1.3	90.5	100.0	1,635
Residence					
Urban	21.2	1.5	77.2	100.0	4,619
Rural	10.3	1.9	87.8	100.0	13,130
Division					
Barisal	9.3	2.5	88.2	100.0	1,002
Chittagong	10.9	1.4	87.7	100.0	3,222
Dhaka	15.7	1.8	82.5	100.0	5,736
Khulna	12.8	1.8	85.5	100.0	2,139
Rajshahi	13.3	2.3	84.4	100.0	2,646
Rangpur	12.8	2.1	85.1	100.0	2,039
Sylhet	10.5	1.0	88.6	100.0	967
Educational attainment					
No education	15.5	2.3	82.2	100.0	4,912
Primary incomplete	12.7	2.4	84.9	100.0	3,264
Primary complete[2]	10.4	1.6	88.0	100.0	2,062
Secondary incomplete	9.6	1.2	89.2	100.0	5,383
Secondary complete or higher[3]	20.2	1.6	78.3	100.0	2,127
Wealth quintile					
Lowest	14.9	3.3	81.9	100.0	3,250
Second	11.0	1.8	87.3	100.0	3,487
Middle	10.5	1.6	87.8	100.0	3,567
Fourth	13.8	1.6	84.6	100.0	3,664
Highest	15.6	1.0	83.4	100.0	3,781
Total	13.2	1.8	85.0	100.0	17,749

[1] "Currently employed" is defined as having done work in the past seven days. Includes persons who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Practically all men were employed in the 12 months preceding the survey (Table 3.5.2). There are small variations in the employment status of men by background characteristics.

Table 3.5.2 Employment status: Men

Percent distribution of ever-married men age 15-49 by employment status, according to background characteristics, Bangladesh 2011

Background characteristic	Employed in the 12 months preceding the survey: Currently employed[1]	Employed in the 12 months preceding the survey: Not currently employed	Not employed in the 12 months preceding the survey	Total	Number of men
Age					
15-19	*	*	*	*	21
20-24	98.3	0.8	0.9	100.0	249
25-29	98.6	1.2	0.2	100.0	621
30-34	99.0	0.8	0.3	100.0	625
35-39	98.4	0.8	0.8	100.0	660
40-44	99.5	0.3	0.2	100.0	629
45-49	98.5	0.6	0.8	100.0	586
Marital status					
Married or living together	98.8	0.7	0.5	100.0	3,360
Divorced/separated/ widowed	(92.0)	(8.0)	(0.0)	(100.0)	31
Residence					
Urban	98.5	0.8	0.7	100.0	949
Rural	98.8	0.8	0.5	100.0	2,442
Division					
Barisal	98.8	1.2	0.0	100.0	174
Chittagong	97.9	0.9	1.2	100.0	519
Dhaka	98.5	0.8	0.7	100.0	1,095
Khulna	99.4	0.2	0.5	100.0	430
Rajshahi	98.9	0.9	0.2	100.0	556
Rangpur	99.4	0.6	0.0	100.0	442
Sylhet	98.3	1.1	0.6	100.0	175
Educational attainment					
No education	98.7	0.8	0.5	100.0	890
Primary incomplete	99.4	0.1	0.5	100.0	823
Primary complete[1]	97.6	1.4	1.0	100.0	305
Secondary incomplete	98.9	0.7	0.4	100.0	758
Secondary complete or higher[2]	98.0	1.3	0.7	100.0	615
Wealth quintile					
Lowest	98.7	1.0	0.4	100.0	654
Second	99.4	0.3	0.3	100.0	666
Middle	98.6	0.8	0.5	100.0	647
Fourth	98.7	0.9	0.4	100.0	726
Highest	98.1	0.9	1.0	100.0	699
Total 15-49	98.7	0.8	0.5	100.0	3,392
50-54	96.3	1.3	2.4	100.0	605
Total 15-54	98.3	0.9	0.8	100.0	3,997

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] "Currently employed" is defined as having done work in the past seven days. Includes persons who did not work in the past seven days but who are regularly employed and were absent from work for leave, illness, vacation, or any other such reason.

3.6 OCCUPATION

Respondents who had worked in the 12 months preceding the survey were asked about their occupation. The results are presented in Tables 3.6.1 and 3.6.2, which show the distributions of employed women and men by occupation, according to background characteristics.

One in four working women are engaged in factory or blue collar services, 22 percent work as semi-skilled labor, and 13 percent each perform professional or technical services and home-based manufacturing work (Table 3.6.1). The relationship between women's occupation and age is mixed; younger women are more likely than older women to be engaged in factory work, blue collar services, semi-skilled labor services, and home-based manufacturing activities. In contrast, older women are more likely than younger women to work in business, in agriculture, or as domestic servants.

Table 3.6.1 Occupation: Women

Percent distribution of ever-married women age 15-49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Bangladesh 2011

Background characteristic	Profes-sional/ technical	Business	Factory worker, blue collar service	Semi-skilled labor/ service	Unskilled labor	Farmer/ agri-cultural worker	Poultry, cattle raising	Home based manu-facturing	Domestic servant	Other	Missing	Total	Number of women
Age													
15-19	6.6	3.7	32.5	27.7	0.4	0.9	0.0	19.6	6.6	0.0	2.0	100.0	162
20-24	9.9	3.6	29.8	29.1	1.1	2.9	0.8	15.1	6.3	0.5	0.9	100.0	480
25-29	14.5	4.5	22.1	27.3	0.9	6.7	0.6	12.9	9.8	0.4	0.3	100.0	570
30-34	16.9	4.9	23.0	20.6	0.9	7.5	0.7	12.6	10.8	1.1	1.0	100.0	462
35-39	14.1	7.2	22.9	17.9	1.2	7.9	0.2	11.3	14.2	2.7	0.3	100.0	374
40-44	11.4	5.3	24.9	17.0	1.7	8.0	1.2	10.8	18.8	0.8	0.0	100.0	331
45-49	10.0	8.9	24.7	12.4	1.2	11.0	0.0	6.7	22.7	1.9	0.5	100.0	280
Marital status													
Married or living together	14.5	5.1	23.9	24.6	1.1	6.1	0.6	13.5	9.4	0.8	0.6	100.0	2,210
Divorced/separated/ widowed	3.6	6.4	30.8	11.0	1.1	8.9	0.6	7.7	26.4	2.6	0.9	100.0	449
Number of living children													
0	16.4	3.9	31.1	25.5	0.6	1.9	0.0	8.8	7.6	1.6	2.6	100.0	331
1-2	16.6	5.2	23.4	25.0	1.0	5.3	0.5	12.2	9.5	1.1	0.4	100.0	1,489
3-4	5.0	5.6	25.1	18.1	1.4	10.1	0.9	14.1	18.9	0.5	0.3	100.0	683
5+	0.5	8.4	27.2	8.7	1.5	13.3	1.6	16.9	19.5	2.4	0.0	100.0	156
Residence													
Urban	15.1	4.9	35.1	21.6	0.4	0.4	0.0	6.2	15.1	0.4	0.7	100.0	1,051
Rural	11.1	5.6	18.4	22.8	1.5	10.6	1.0	16.6	10.4	1.5	0.6	100.0	1,608
Division													
Barisal	9.1	9.9	17.8	28.2	1.2	9.1	0.0	12.8	10.0	1.8	0.3	100.0	118
Chittagong	13.7	4.1	24.7	18.8	1.3	4.6	0.6	21.5	10.2	0.2	0.3	100.0	396
Dhaka	14.8	5.4	31.6	21.7	0.0	1.8	1.0	7.3	13.9	1.4	1.0	100.0	1,005
Khulna	10.2	4.7	26.6	23.7	1.7	3.6	0.6	16.4	11.5	1.0	0.0	100.0	311
Rajshahi	10.8	6.1	16.0	30.1	2.5	5.6	0.3	16.2	10.8	1.4	0.3	100.0	414
Rangpur	10.2	4.1	18.7	17.0	1.5	26.6	0.0	10.1	11.0	0.3	0.7	100.0	304
Sylhet	13.9	5.9	21.2	16.2	1.8	11.6	0.0	9.2	17.4	2.0	0.9	100.0	111
Educational attainment													
No education	0.1	7.5	30.5	8.0	1.9	12.1	0.6	11.4	25.9	1.4	0.5	100.0	874
Primary incomplete	1.0	5.1	32.9	18.2	1.8	9.4	0.9	17.9	11.6	0.3	0.9	100.0	492
Primary complete[1]	1.0	4.4	38.4	27.9	0.9	4.3	1.3	13.1	7.3	0.2	1.3	100.0	247
Secondary incomplete	6.1	4.7	21.2	42.1	0.2	2.1	0.3	17.1	4.1	1.7	0.4	100.0	584
Secondary complete or higher[2]	63.5	2.7	3.8	25.8	0.0	0.0	0.2	2.8	0.0	0.9	0.4	100.0	462
Wealth quintile													
Lowest	1.1	4.2	27.3	9.7	2.6	15.9	0.2	15.0	22.4	1.6	0.0	100.0	589
Second	4.8	4.3	23.2	19.2	1.8	10.8	1.0	21.8	11.1	1.1	1.1	100.0	444
Middle	9.2	6.8	18.4	31.5	0.7	5.9	0.4	17.3	8.2	0.9	0.6	100.0	434
Fourth	15.0	7.7	31.6	25.2	0.4	0.6	0.7	8.0	9.1	0.9	0.9	100.0	565
Highest	29.5	4.0	22.8	27.5	0.0	0.7	0.7	4.3	9.2	0.8	0.6	100.0	626
Total	12.7	5.3	25.0	22.3	1.1	6.6	0.6	12.5	12.2	1.1	0.6	100.0	2,659

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Urban-rural residence has a marked effect on occupation. As expected, rural women are more likely than urban women to be engaged in agricultural and home-based manufacturing work. In contrast, women in urban areas are more likely to be engaged in professional or technical services, factory work or blue collar services, and as domestic servants.

Two in three women (64 percent) with secondary or higher levels of education are employed in professional or technical jobs, and one in four works in semi-skilled services. In contrast, women with little or no education are more likely than those with more education to be engaged in factory or blue collar services and as domestic servants. The majority of women in the lowest wealth quintile work in factory or blue collar services (27 percent) and as domestic servants (22 percent).

Thirty-four percent of employed men age 15-49 are engaged in farming and agricultural activities, and 25 percent are engaged in business services (Table 3.6.2). Younger men are more likely than older men to be engaged in factory work or blue collar services and semi-skilled labor services, while older men are more likely than younger men to work in professional or technical jobs and work in agriculture.

Table 3.6.2 Occupation: Men

Percent distribution of ever-married men age 15-49 employed in the 12 months preceding the survey by occupation, according to background characteristics, Bangladesh 2011

Background characteristic	Profes-sional/ technical	Business	Factory worker, blue collar service	Semi-skilled labor/ service	Unskilled labor	Farmer/ agri-cultural worker	Poultry, cattle raising	Home based manu-facturing	Domestic servant	Other	Missing	Total	Number of men
Age													
15-19	*	*	*	*	*	*	*	*	*	*	*	*	19
20-24	3.1	17.9	18.6	23.8	7.9	27.9	0.0	0.0	0.0	0.0	0.8	100.0	247
25-29	3.2	20.3	13.7	19.5	9.2	32.0	0.0	0.0	0.1	0.8	1.3	100.0	620
30-34	5.4	28.0	12.8	15.0	8.3	27.9	0.4	0.2	0.0	0.7	1.2	100.0	623
35-39	7.4	27.9	8.7	16.2	7.6	30.9	0.0	0.0	0.0	0.1	1.2	100.0	655
40-44	6.4	27.7	7.1	12.9	5.7	37.8	0.2	0.3	0.0	1.5	0.3	100.0	628
45-49	5.9	22.1	8.3	13.7	5.5	42.6	0.0	0.3	0.0	1.0	0.6	100.0	581
Marital status													
Married or living together	5.5	24.7	10.7	16.1	7.3	33.7	0.1	0.1	0.0	0.8	0.9	100.0	3,342
Divorced/separated/ widowed	(0.0)	(13.1)	(18.6)	(3.6)	(7.1)	(49.7)	(0.0)	(0.0)	(0.0)	(0.0)	(8.0)	(100.0)	31
Residence													
Urban	9.8	32.4	17.5	23.8	7.0	7.5	0.0	0.1	0.0	1.0	1.0	100.0	943
Rural	3.8	21.6	8.1	13.0	7.5	44.1	0.2	0.1	0.0	0.7	0.9	100.0	2,431
Division													
Barisal	7.2	24.3	8.9	12.6	9.4	35.2	0.0	0.5	0.0	0.7	1.2	100.0	174
Chittagong	3.9	24.7	13.5	18.5	9.8	26.8	0.0	0.4	0.0	0.9	1.4	100.0	513
Dhaka	6.3	27.0	15.1	19.7	5.9	23.9	0.0	0.0	0.0	1.1	1.0	100.0	1,087
Khulna	4.9	27.7	6.6	15.5	4.5	40.7	0.0	0.0	0.0	0.0	0.2	100.0	428
Rajshahi	5.0	21.7	5.0	12.8	7.6	45.1	0.7	0.2	0.0	0.8	1.1	100.0	555
Rangpur	6.0	19.9	8.1	10.9	9.4	44.9	0.0	0.0	0.0	0.2	0.6	100.0	442
Sylhet	4.6	24.1	12.9	13.6	7.9	33.8	0.0	0.0	0.3	1.5	1.2	100.0	174
Educational attainment													
No education	0.2	13.4	12.8	10.9	13.4	48.0	0.0	0.3	0.1	0.2	0.8	100.0	886
Primary incomplete	0.2	21.0	12.2	14.7	10.4	41.1	0.0	0.1	0.0	0.3	0.1	100.0	819
Primary complete[1]	0.0	27.8	12.7	20.9	6.0	30.8	0.0	0.0	0.0	0.3	1.4	100.0	302
Secondary incomplete	1.3	33.6	11.5	20.3	3.1	27.6	0.2	0.2	0.0	1.6	0.7	100.0	755
Secondary complete or higher[2]	28.1	33.1	4.0	17.7	0.3	12.8	0.4	0.0	0.0	1.3	2.2	100.0	611
Wealth quintile													
Lowest	0.1	8.9	11.0	9.9	15.5	52.7	0.0	0.3	0.0	0.8	1.0	100.0	651
Second	1.0	15.6	10.5	11.8	11.8	48.7	0.0	0.0	0.1	0.3	0.3	100.0	664
Middle	3.8	23.2	8.6	15.6	4.9	40.9	0.2	0.2	0.0	1.3	1.2	100.0	643
Fourth	7.4	30.1	13.7	20.5	3.8	22.8	0.2	0.2	0.0	0.5	0.9	100.0	723
Highest	14.4	43.8	9.7	21.6	1.3	6.8	0.2	0.0	0.0	0.9	1.3	100.0	692
Total 15-49	5.5	24.6	10.8	16.0	7.3	33.8	0.1	0.1	0.0	0.8	0.9	100.0	3,374
50-54	5.2	21.3	8.0	8.7	4.1	50.1	0.0	0.1	0.0	0.9	1.6	100.0	591
Total 15-54	5.4	24.1	10.3	14.9	6.8	36.3	0.1	0.1	0.0	0.8	1.0	100.0	3,965

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

As in the case of women, men from the wealthiest households are most likely to be engaged in professional or technical jobs, business, and semi-skilled labor services, while men from the poorest households are most likely to work as farmers or unskilled labor.

3.7 EARNINGS, EMPLOYERS, AND CONTINUITY OF EMPLOYMENT

Table 3.7 shows the percent distribution of ever-married women employed in the 12 months prior to the survey by type of earnings and continuity of employment. This table also presents data on whether respondents work in the agricultural or nonagricultural sector. Overall, nine in ten women who were employed work for cash only and 6 percent receive cash and in-kind payment. There are only small variations between women who work in agriculture and those who do not work in agriculture.

Table 3.7 Type of employment: Women

Percent distribution of ever-married women age 15-49 employed in the 12 months preceding the survey by type of earnings, type of employer, and continuity of employment, according to type of (agricultural or non-agricultural) employment, Bangladesh 2011

Employment characteristic	Agricultural work	Nonagricultural work	Total
Type of earnings			
Cash only	88.9	90.5	90.1
Cash and in-kind	7.7	5.5	5.9
In-kind only	2.1	2.1	2.1
Not paid	1.2	1.2	1.2
Missing	0.0	0.7	0.7
Total	100.0	100.0	100.0
Type of employer			
Employed by family member	17.1	13.8	14.4
Employed by nonfamily member	68.0	73.2	72.2
Self-employed	14.9	12.2	12.7
Missing	0.0	0.7	0.7
Total	100.0	100.0	100.0
Continuity of employment			
All year	51.6	79.3	73.7
Seasonal	25.5	7.5	11.0
Occasional	22.9	12.5	14.6
Missing	0.0	0.7	0.7
Total	100.0	100.0	100.0
Number of women employed during the last 12 months	523	2,120	2,659

Note: Total includes women with information missing on type of employment who are not shown separately.

The proportion of women in agricultural work who receive cash payment has increased from 75 percent in 2007 to 90 percent in 2011. At the same time, the proportion of women who were paid entirely in kind has also declined from 4 percent in 2007 to 2 percent in 2011.

Seven in ten women (72 percent) are employed by a nonfamily member, 14 percent are employed by family members, and 13 percent are self-employed. Women who work in agriculture are more likely than women who work in the nonagricultural sector to be employed by a family member (17 and 14 percent, respectively), while women who work in the nonagricultural sector are more often employed by a nonfamily member (73 and 68 percent, respectively).

Seventy-four percent of employed women work all year round, and 26 percent work either seasonally (11 percent) or occasionally (15 percent). Continuity of employment varies by sector. Fifty-two percent of women who work in the agricultural sector work year round, compared with 79 percent of women engaged in nonagricultural work. Forty-eight percent of women who are employed in the agricultural sector work are seasonal or occasional workers.

In contrast with women (74 percent), 95 percent of men work year round, while 5 percent work either seasonally or part of the year (Table 3.8). Small variations are observed in the employment patterns by background characteristics. As expected, men who completed secondary or higher education and men in the highest wealth quintile are more likely to work throughout the year than men in other groups.

Table 3.8 Continuity of employment: Men

Percent distribution of ever-married men age 15-49 currently working by continuity of employment, according to background characteristics, Bangladesh 2011

Background characteristic	Worked throughout the year	Seasonally/ part of the year	Once in a while	Number of men
Age				
15-19	*	*	*	19
20-24	93.2	6.1	0.7	245
25-29	93.5	5.0	1.4	613
30-34	96.7	2.5	0.9	618
35-39	94.6	4.9	0.3	650
40-44	93.2	6.0	0.9	626
45-49	97.0	2.8	0.2	577
Marital status				
Married or living together	94.8	4.4	0.8	3,319
Divorced/separated/widowed	(98.1)	(1.9)	(0.0)	29
Residence				
Urban	97.1	2.4	0.5	935
Rural	94.0	5.1	0.9	2,412
Division				
Barisal	94.7	4.9	0.4	172
Chittagong	91.3	7.5	1.2	508
Dhaka	96.8	2.6	0.5	1,078
Khulna	95.5	4.3	0.1	428
Rajshahi	93.5	5.5	1.0	550
Rangpur	96.5	1.9	1.3	439
Sylhet	91.1	8.1	0.8	172
Educational attainment				
No education	93.1	6.4	0.3	879
Primary incomplete	93.9	5.2	0.9	818
Primary complete[1]	96.2	3.3	0.5	298
Secondary incomplete	95.2	3.2	1.6	750
Secondary complete or higher[2]	97.4	2.3	0.3	602
Wealth quintile				
Lowest	90.7	8.7	0.4	645
Second	93.4	5.8	0.9	662
Middle	93.5	4.8	1.7	638
Fourth	97.6	2.0	0.5	716
Highest	98.5	1.0	0.4	686
Total	94.8	4.4	0.8	3,347

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

3.8 SUFFICIENCY OF EARNING

The 2011 BDHS asked male respondents who usually work throughout the year whether their earnings from work were sufficient to provide for their family's basic needs. The results are presented in Table 3.9. The majority of men (62 percent) say that their earnings are moderately sufficient, 10 percent say that they are sufficient, and 28 percent report earnings less than sufficient. There is no noticeable variation in earnings by age and rural-urban residence.

Men in Rajshahi are more likely than men in other divisions to say that their earnings are sufficient. As expected, sufficiency of earnings increases with the men's education and wealth status. For example, 21 percent of men with secondary or higher-level schooling had sufficient earnings compared with 6 percent of men with no education. Similar patterns are observed in earnings by wealth quintile; 19 percent of men in the highest wealth quintile have sufficient earnings compared with 2 percent in the lowest wealth quintile.

Table 3.9 Sufficiency of earnings: Men

Percent distribution of ever-married men age 15-49 currently working by sufficiency of earnings, according to background characteristics, Bangladesh 2011

Background characteristic	Sufficient	Moderately sufficient	Not sufficient	Missing	Total	Number of men
Age						
15-19	*	*	*	*	*	19
20-24	8.8	74.0	17.2	0.0	100.0	245
25-29	12.0	61.0	27.0	0.0	100.0	613
30-34	8.3	66.0	25.8	0.0	100.0	618
35-39	10.6	63.5	25.9	0.1	100.0	650
40-44	11.2	58.7	30.0	0.0	100.0	626
45-49	10.8	54.6	34.7	0.0	100.0	577
Marital status						
Married or living together	10.4	61.9	27.6	0.0	100.0	3,319
Divorced/separated/widowed	(5.6)	(60.8)	(33.7)	(0.0)	(100.0)	29
Residence						
Urban	12.8	62.5	24.7	0.0	100.0	935
Rural	9.5	61.7	28.8	0.0	100.0	2,412
Division						
Barisal	9.5	71.0	19.5	0.0	100.0	172
Chittagong	7.5	57.8	34.6	0.0	100.0	508
Dhaka	10.5	66.5	23.0	0.0	100.0	1,078
Khulna	8.7	65.3	26.0	0.0	100.0	428
Rajshahi	16.3	57.0	26.7	0.0	100.0	550
Rangpur	9.1	60.2	30.7	0.0	100.0	439
Sylhet	7.6	47.8	44.3	0.3	100.0	172
Educational attainment						
No education	6.0	53.7	40.2	0.1	100.0	879
Primary incomplete	6.9	64.3	28.9	0.0	100.0	818
Primary complete[1]	10.9	68.3	20.8	0.0	100.0	298
Secondary incomplete	10.6	66.1	23.3	0.0	100.0	750
Secondary complete or higher[2]	21.1	62.2	16.7	0.0	100.0	602
Wealth quintile						
Lowest	2.2	55.3	42.5	0.0	100.0	645
Second	7.4	61.4	31.1	0.1	100.0	662
Middle	9.2	64.5	26.3	0.0	100.0	638
Fourth	13.5	65.7	20.8	0.0	100.0	716
Highest	18.8	62.3	18.9	0.0	100.0	686
Total	10.4	61.9	27.7	0.0	100.0	3,347

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

MARRIAGE AND SEXUAL ACTIVITY 4

Key Findings

- There is evidence of a continuing rise in age at first marriage among women, while age of men at first marriage has not been changing rapidly.
- The percentage of women age 25-49 who were married by age 15 has decreased from 52 percent among women age 45-49 to 17 percent among women age 15-19.
- Bangladeshi men marry more than eight years later than women. The median age at first marriage among women age 25-49 is 15.5 years compared with 24.2 years for men the same age.
- Seventy-seven percent of ever-married women were sexually active within the past four weeks and 12 percent were active within the past 1 to 12 months.
- Twelve percent of currently married women reported that their husbands live elsewhere (due to migration). Forty-three percent of these women were not visited by their husbands in the last 12 months.

4.1 INTRODUCTION

This chapter focuses on the key factors other than contraception that affect women's chances of becoming pregnant. These key factors include marriage, polygyny, and sexual activity. Marriage indicates the onset of exposure to the risk of pregnancy for most women, and thus it is an important fertility indicator. This chapter includes information on several direct measures of the beginning of exposure to pregnancy and level of exposure: for example, age at first marriage, age at first sexual intercourse, and recent sexual activity.

Only women who had been married or were married were interviewed with the 2011 BDHS Woman's Questionnaire. However, a number of the tables presented in this chapter are based on all women, both ever-married and never-married. For these tables, the number of ever-married women interviewed in the survey is multiplied by an inflation factor that is equal to the ratio of all women to ever-married women, as reported in the Household Questionnaire. This procedure expands the denominators in those tables, so that they represent all women. The inflation factors are calculated by single years of age. When the results are presented by background characteristics, single-year inflation factors are calculated separately for each category of the characteristic. A similar procedure is used for the sample of ever-married men.

The definition of marriage is not universal for all countries and religions. In Bangladesh, it is common for a woman to wait several months or even years after formal marriage before starting to live with her husband. Since the 2011 BDHS is interested in marriage mainly as it affects exposure to the risk of pregnancy, interviewers were instructed to ask questions about marriage in terms of cohabitation rather than formal marriage.

4.2 CURRENT MARITAL STATUS

Table 4.1 shows the current marital status of women and men age 15-49 by age. In Bangladesh, a substantially greater proportion of men than women age 15-49 have never married: 36 percent of men

compared with 15 percent of women. The proportion who have never married falls sharply with age among both women and men. Among women, the decline is from 54 percent in the age group 15-19 to less than 1 percent among women age 35 or older. Among men, it falls from 98 percent in the age group 15-19 to less than 1 percent among men age 40 or older. The low proportion of women age 25-29 who have never been married (3 percent) indicates that marriage is universal in Bangladesh and that more than nine in ten women marry before age 30. Similarly, only 2 percent of men age 35-39 have never been married, indicating that more than nine in ten men marry before age 35.

Eight in ten women (80 percent) and more than six in ten men (63 percent) are currently married or cohabiting. Three percent of women and less than 1 percent of men age 15-49 are widowed. The proportion of women who are widowed increases sharply with age and is mostly limited to older age groups: 7 percent of women age 40-44 and 13 percent of women age 45-49 are widowed.

Divorce and separation are uncommon in Bangladesh, with the proportion among women being slightly higher than among men. Two percent of women age 15-49 are either divorced or separated compared with less than 1 percent of men of the same age. The proportion divorced or separated does not vary markedly by age group among either women or men.

Table 4.1 Current marital status

Percent distribution of women and men age 15-49 by current marital status, according to age, Bangladesh 2011

Age	Marital status					Total	Percentage of respondents currently in union	Number of women and men
	Never married	Married	Divorced	Separated	Widowed			
				WOMEN				
15-19	54.3	44.7	0.6	0.4	0.0	100.0	44.7	4,306
20-24	13.4	83.7	1.3	1.2	0.4	100.0	83.7	4,058
25-29	3.0	93.2	1.0	1.4	1.3	100.0	93.2	3,501
30-34	1.2	94.3	1.0	1.7	1.8	100.0	94.3	2,686
35-39	0.8	91.9	1.4	1.3	4.6	100.0	91.9	2,264
40-44	0.3	89.8	0.8	1.9	7.2	100.0	89.8	2,158
45-49	0.2	82.3	1.5	2.7	13.3	100.0	82.3	1,824
Total	14.7	80.0	1.0	1.4	3.0	100.0	80.0	20,797
				MEN				
15-19	97.9	2.1	0.0	0.0	0.0	100.0	2.1	1,017
20-24	70.2	29.6	0.1	0.1	0.0	100.0	29.6	835
25-29	29.2	69.4	0.8	0.6	0.0	100.0	69.4	877
30-34	11.2	88.4	0.0	0.4	0.0	100.0	88.4	704
35-39	2.0	97.5	0.2	0.1	0.1	100.0	97.5	674
40-44	0.6	98.4	0.1	0.2	0.7	100.0	98.4	633
45-49	0.9	98.2	0.0	0.4	0.5	100.0	98.2	591
Total 15-49	36.4	63.0	0.2	0.3	0.2	100.0	63.0	5,331
50-54	0.3	99.2	0.0	0.4	0.1	100.0	99.2	607
Total 15-54	32.7	66.7	0.2	0.3	0.1	100.0	66.7	5,938

Table 4.2 shows trends in Bangladesh by age in the percentage of women who have never married, for the 1975-2011 period. The proportion of women who have never married affects fertility levels in a society like Bangladesh, where childbearing outside marriage is uncommon. The proportion of never-married women age 15-19 has increased from 30 percent in 1975 to 54 percent in 2011. Similarly, the proportion of never-married women age 20-24 first increased from 5 percent in 1975 to 19 percent in 1999-2000; then it declined steadily to 13 percent in 2011.

Table 4.2 Trends in proportion never married

Percentage of women who have never married, by age group, as reported in various surveys, Bangladesh 1975-2011

Age	1975 BFS	1983 CPS	1985 CPS	1989 BFS	1989 CPS	1991 CPS	1993-1994 BDHS	1996-1997 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS	2011 BDHS
10-14	91.2	98.0	98.7	96.2	96.4	98.5	95.2	95.2	92.7	88.6	u	u
15-19	29.8	34.2	47.5	49.0	45.8	46.7	50.5	49.8	51.9	52.1	52.8	54.3
20-24	4.6	4.0	7.1	12.0	9.3	12.3	12.4	17.2	18.5	15.2	14.3	13.4
25-29	1.0	0.7	1.0	2.3	1.6	2.8	2.2	3.4	4.2	4.2	4.3	3.0
30-34	0.2	0.4	0.1	0.3	0.5	0.5	0.3	0.5	0.1	1.2	0.6	1.2
35-39	0.4	-	-	0.1	0.5	0.1	0.3	0.0	0.2	0.4	0.6	0.8
40-44	0.1	0.1	-	0.2	0.2	0.3	0.7	0.0	0.0	0.3	0.2	0.3
45-49	0.0	0.1	-	0.1	0.1	-	0.2	0.0	0.0	0.0	0.8	0.2

- = Less than 0.1 percent
u = Unknown/not available
Sources: 1975 Bangladesh Fertility Survey (BFS) (MHPC, 1978:49); 1983, 1985, 1989, and 1991 Contraceptive Prevalence Surveys (CPSs) (Mitra et al., 1993:24); 1989 BFS (Huq and Cleland, 1990:43); 1993-1994 Bangladesh Demographic and Health Survey (BDHS) (Mitra et al, 1994:72); 1996-1997 BDHS (Mitra et al., 1997:82); 1999-2000 BDHS (NIPORT et al., 2001:78); 2004 BDHS (NIPORT et al., 2005: 93); 2007 BDHS (NIPORT et al., 2009:77)

4.3 POLYGYNY

There are predominantly two types of marital unions; monogamous and polygynous. The distinction between the two types has social significance and probable fertility implications, although the association between union type and fertility is complex and not well understood. Polygyny, the practice of having more than one wife, influences the frequency of sexual intercourse and thus may have an effect on fertility. The extent of polygyny was measured in the 2011 BDHS by asking all currently married female respondents whether their husband or partner had other wives (co-wives) and, if so, how many. Currently married men were also asked whether they had one or more wives or partners with whom they were living.

Table 4.3 shows the proportion of currently married men who are in polygynous unions, by background characteristics. Overall, less than 1 percent of married men in Bangladesh are in a polygynous union, i.e., they have two or more wives. Polygyny is found among men age 30 years and over. There is no variation in the extent of polygyny by other background characteristics.

Table 4.3 Number of men's wives

Percent distribution of currently married men age 15-49 by number of wives, according to background characteristics, Bangladesh 2011

Background characteristic	Number of wives		Total	Number of men
	1	2+		
Age				
15-19	*	*	100.0	21
20-24	100.0	0.0	100.0	247
25-29	100.0	0.0	100.0	609
30-34	99.8	0.2	100.0	622
35-39	98.8	1.2	100.0	657
40-44	98.8	1.2	100.0	623
45-49	98.8	1.2	100.0	580
Residence				
Urban	99.2	0.8	100.0	941
Rural	99.3	0.7	100.0	2,420
Division				
Barisal	100.0	0.0	100.0	172
Chittagong	99.4	0.6	100.0	515
Dhaka	98.8	1.2	100.0	1,078
Khulna	99.6	0.4	100.0	425
Rajshahi	99.8	0.2	100.0	555
Rangpur	99.3	0.7	100.0	442
Sylhet	99.1	0.9	100.0	173
Educational attainment				
No education	98.7	1.3	100.0	885
Primary incomplete	99.0	1.0	100.0	812
Primary complete[1]	100.0	0.0	100.0	301
Secondary incomplete	99.5	0.5	100.0	751
Secondary complete or higher[2]	99.9	0.1	100.0	612
Wealth quintile				
Lowest	98.9	1.1	100.0	647
Second	99.3	0.7	100.0	658
Middle	99.2	0.8	100.0	640
Fourth	99.5	0.5	100.0	719
Highest	99.5	0.5	100.0	696
Total 15-49	99.3	0.7	100.0	3,360
50-54	98.6	1.4	100.0	602
Total 15-54	99.2	0.8	100.0	3,963

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases and has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

4.4 AGE AT FIRST MARRIAGE

Marriage is the leading social and demographic indicator of the exposure of women to the risk of pregnancy. Marriage in Bangladesh marks the point in a woman's life when childbearing becomes socially acceptable. Age at first marriage has a major effect on childbearing because the risk of pregnancy depends primarily on the age at which women first marry. Women who marry early, on average, are more likely to have their first child at a young age and give birth to more children overall, contributing to higher fertility.

Because never-married men and women were not interviewed in the BDHS, tables on age at marriage were generated using expansion factors. The expansion factors are based on the assumption that the reporting of age and marital status in the household questionnaire is correct. This means that there was no bias in the reporting of age of ever-married men and women and that there were no errors in the reporting of marital status, especially of young women and men.

Table 4.4 shows, by current ages, the percentages of women and men who have married, the percentages who have never married, and the median age at first marriage. Marriage occurs early for women in Bangladesh. Among women age 20-49, 74 percent married by age 18, and 86 percent married by age 20. Men in Bangladesh tend to marry later in life than women. Among men age 20-49, only 6 percent

married by age 18, and 18 percent married by age 20. Overall, only 19 percent of men age 25-54 married at or before age 20, and more than half (56 percent) married at or before age 25.

Within each age cohort, the proportion of women marrying by specific ages is substantially larger when compared with men. For example, in the 25-29 age cohort, almost three-quarters (73 percent) of women married by age 18 and 95 percent by age 25. In contrast, only 5 percent of men in the same age cohort are married by age 18 and 59 percent married by age 25.

The proportion of women marrying in their early teens continues to decline. Across age cohorts, the proportion of women marrying by age 15 has declined by two-thirds over time, from 52 percent among women age 45-49 to 17 percent among women age 15-19. Similarly, the proportion of women marrying by age 18 and age 20 decreases substantially from the oldest cohort to the youngest cohort. Changes in the proportion of men marrying by specific ages over time are much smaller and do not follow a clear pattern.

When looking at age cohorts, Table 4.4 shows a slow but steady increase over the past 25 years in the age at which Bangladeshi women first marry, from a median age of 14.9 years for women in their mid- to late forties to 16.6 years for those in their early twenties. The pattern differs for men. The median age at marriage among men decreases, but only slightly, from 24.5 years for men age 45-49 to 23.8 years for men age 25-29. Overall, men marry more than eight years later than women. The median age at first marriage among men age 25-49 is 24.2 years, and the median age at first marriage among women in the same age group is 15.5 years, indicating large differences in age between husbands and wives.

Table 4.4 Age at first marriage

Percentage of women and men age 15-49 who were first married, by specific exact ages and median age at first marriage, according to current age, Bangladesh 2011

	Percentage first married by exact age:							
Current age	15	18	20	22	25	Percentage never married	Number of respondents	Median age at first marriage
				WOMEN				
15-19	17.2	na	na	na	na	54.3	4,306	a
20-24	29.1	64.9	79.8	na	na	13.4	4,058	16.6
25-29	35.2	72.8	86.1	91.2	95.3	3.0	3,501	16.0
30-34	39.3	74.4	87.4	92.7	95.8	1.2	2,686	15.8
35-39	42.4	77.6	88.1	92.7	96.4	0.8	2,264	15.5
40-44	48.8	81.4	90.8	95.8	97.3	0.3	2,158	15.1
45-49	51.9	82.4	92.8	96.6	98.5	0.2	1,824	14.9
20-49	39.0	74.0	86.4	na	na	4.3	16,491	15.8
25-49	42.2	76.9	88.6	93.4	96.4	1.4	12,434	15.5
				MEN				
15-19	0.0	na	na	na	na	97.9	1,017	a
20-24	0.0	4.4	12.2	na	na	70.2	835	a
25-29	0.0	5.3	18.8	36.5	58.7	29.2	877	23.8
30-34	0.0	8.0	20.2	36.9	57.8	11.2	704	24.0
35-39	0.0	7.0	20.3	33.4	53.7	2.0	674	24.5
40-44	0.0	4.3	17.7	31.7	54.6	0.6	633	24.4
45-49	0.0	6.8	18.5	32.9	52.8	0.9	591	24.5
20-49	0.0	5.9	17.8	na	na	21.9	4,314	a
25-49	0.0	6.3	19.1	34.5	55.8	10.3	3,479	24.2
20-54	0.0	6.2	18.2	na	na	19.2	4,922	a
25-54	0.0	6.6	19.4	34.5	55.5	8.8	4,087	24.2

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.
na = Not applicable due to censoring
a = Omitted because less than 50 percent of the women or men began living with their spouse or partner for the first time before reaching the beginning of the age group

A comparison of the 2011 BDHS survey results with findings from prior surveys confirms that the median age at first marriage for women in Bangladesh continues to increase. The median age at marriage among women age 20-49 has increased by one and a half years over the past decade, from 14.2 years in

1996-1997 (Mitra et al., 1997) to the current figure of 15.8 years. On the other hand, comparing the results for men across surveys indicates that the median age at marriage among men has remained relatively stable since 2004 when the median age at marriage for men age 25-59 was 24.2 years (NIPORT et al., 2005).

The legal age of marriage in Bangladesh for women is 18 years, but a large proportion of marriages still take place before the legal age. The 2011 BDHS found that 65 percent of women age 20-24 were married before age 18 (Figure 4.1). Over the past two decades, the proportion of women marrying before the legal age has decreased from 73 percent in 1989 to 65 percent in 2011.

Figure 4.1 **Trends in proportion of women age 20-24 who were first married by age 18**

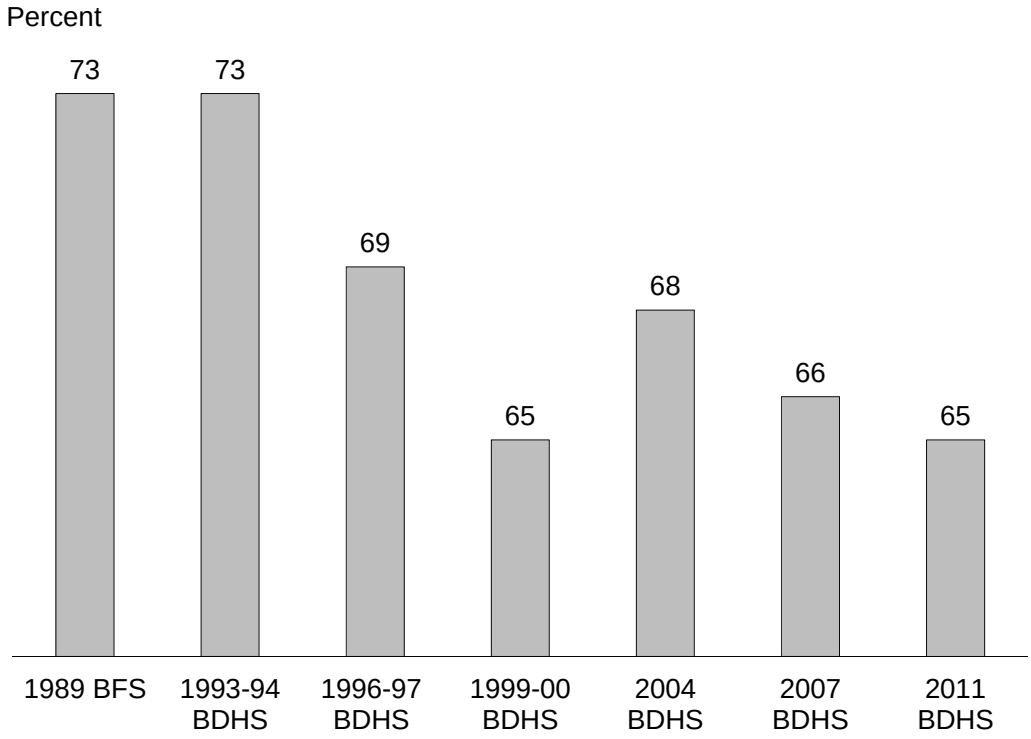


Table 4.5 examines the median age at first marriage for women age 20-49 and 25-49, and for men age 25-54, according to background characteristics. Urban women age 25-49 marry one year later than their rural counterparts (16.2 years versus 15.3 years). The median age at marriage shows a greater variation among administrative divisions; for women age 25-49, it ranges from 17.2 years in Sylhet to 14.7 years in Rangpur.

Women's education shows a strong positive association with age at marriage. For example, women who have completed secondary or higher education marry five years later than those with no education. Similarly, the median age at marriage increases with household wealth. Women from the highest wealth quintile marry two years later than those from the lowest wealth quintile.

The median age at first marriage for men displays similar patterns and associations by educational attainment and household wealth to those observed for women. By administrative division, the highest median age at first marriage for men age 25-54 is observed in Dhaka (24.7 years), while the lowest is observed in Rajshahi (22.4 years). Men with no education get married almost two years earlier than men with some secondary education (20.7 years versus 23.2 years). The median age at marriage for men also increases with the wealth quintile.

Table 4.5 Median age at first marriage by background characteristics

Median age at first marriage among women age 20-49 and age 25-49, and median age at first marriage among men age 25-54, according to background characteristics, Bangladesh 2011

Background characteristic	Women age 20-49	Women age 25-49	Men age 25-54
Residence			
Urban	16.5	16.2	a
Rural	15.6	15.3	23.6
Division			
Barisal	15.7	15.4	24.4
Chittagong	16.6	16.3	a
Dhaka	15.8	15.6	24.7
Khulna	15.3	15.1	23.9
Rajshahi	15.2	15.1	22.4
Rangpur	15.0	14.7	22.7
Sylhet	17.5	17.2	a
Educational attainment			
No education	14.8	14.7	20.7
Primary incomplete	14.9	14.8	21.6
Primary complete[1]	15.4	15.4	22.6
Secondary incomplete	16.3	16.2	23.2
Secondary complete or higher[2]	19.9	19.6	a
Wealth quintile			
Lowest	15.1	15.0	22.3
Second	15.3	15.0	22.7
Middle	15.5	15.2	23.8
Fourth	16.0	15.6	24.8
Highest	17.4	17.0	a
Total	15.8	15.5	24.2

Note: The age at first marriage is defined as the age at which the respondent began living with her/his first spouse/partner.
a = Omitted because less than 50 percent of the respondents began living with their spouses/partners for the first time before reaching the beginning of the age group
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

4.5 AGE AT FIRST SEXUAL INTERCOURSE

Age at first marriage is often used as a proxy for first exposure to intercourse and risk of pregnancy. But these two events may not occur at the same time because some people may engage in sexual activity before marriage. To obtain insight into onset of sexual activity, the 2011 BDHS asked ever-married respondents how old they were when they first had sexual intercourse. It was recognized that the answers to this questions might be biased since respondents, especially female respondents, might be uncomfortable providing information on premarital sex. In fact, the BDHS results show that virtually no ever-married women reported initiating sexual activity before they first married. However, the information for men show some Bangladeshi males are engaging in premarital sexual activity and are willing to report the activity.

Table 4.6 shows the percentage of men age 15-49 who had first sexual intercourse by specific ages, the percentage who never had sexual intercourse, and the median age of first sexual intercourse. The table was generated using the information on the age at first sex from the ever-married men interviewed in the BDHS and assuming that never-married men have not had intercourse. Given the conservative nature of the Bangladeshi society, that assumption is likely correct for many never-married men; however, it is clearly a source of potential for bias in the age at first intercourse results since at least some of the never-married population is likely to have initiated sexual activity. It also must be recognized that not all ever-married men who engaged in premarital sexual activity are likely to have reported that behavior in the BDHS, adding to the bias in the results in Table 4.6. Nevertheless, the results in Table 4.6 are useful since they document the information the BDHS was able to obtain on premarital sexual activity in Bangladeshi society.

Table 4.6 shows that the median age at first sexual intercourse among men age 25-54 (23.7 years) is earlier than the median age at first marriage (24.2 years). The median age at first sexual intercourse is somewhat lower among men age 25-34 than among older men.

Looking at specific ages, only 1 percent of men age 25-54 had sexual intercourse by age 15, which compares with 23 percent by age 20, 39 percent by age 22, and 58 percent by age 25. Men in younger age cohorts initiate sex later than their older counterparts. For example, 61 percent of men of age 25-29 had their first sexual intercourse by age 25 compared with 56 percent of men age 45-49.

Table 4.6 Age at first sexual intercourse

Percentage of women and men age 15-49 who had first sexual intercourse by specific exact ages, percentage who never had sexual intercourse, and median age at first sexual intercourse, according to current age, Bangladesh 2011

	Percentage who had first sexual intercourse by exact age:					Percentage who never had		Median age at first
Current age	15	18	20	22	25	intercourse	Number	intercourse
15-19	0.1	na	na	na	na	97.9	1,017	a
20-24	0.6	6.1	13.1	na	na	70.2	835	a
25-29	1.2	8.1	22.8	40.2	60.5	29.4	877	23.3
30-34	1.2	11.0	25.3	42.1	61.4	11.2	704	23.0
35-39	1.0	10.6	24.9	38.2	57.1	2.0	674	24.0
40-44	0.8	7.5	21.2	36.2	56.9	0.6	633	24.0
45-49	1.0	9.5	21.8	36.4	55.5	0.9	591	23.9
20-49	1.0	8.7	21.3	a	a	21.9	4,314	a
25-49	1.1	9.3	23.3	38.8	58.5	10.3	3,479	23.6
15-24	0.3	na	na	na	na	85.4	1,852	a
20-54	1.0	8.9	21.5	a	a	19.2	4,922	a
25-54	1.1	9.5	23.2	38.6	58.1	8.8	4,087	23.7

na = Not applicable due to censoring
a = Omitted because less than 50 percent of the respondents had intercourse for the first time before reaching the beginning of the age group

Table 4.7 examines the median age at first sexual intercourse by background characteristics. Because the median age at first marriage and the median age at first sexual intercourse for women are the same, the variation by background characteristics in age at first sexual intercourse is the same as that for age at first marriage (Table 4.5).

For men age 25-54, the highest median age at first sexual intercourse is observed in Chittagong (25.0 years), while the lowest is observed in Rajshahi (22.2 years). Men with no education have their first sexual encounter more than two years earlier than men with secondary incomplete education (20.4 years versus 22.7 years). Median age at first sexual intercourse also increases with wealth quintile, from 21.9 years among the poorest men to 24.3 years among men in the highest wealth quintile.

Table 4.7 Median age at first sexual intercourse by background characteristics

Median age at first sexual intercourse among women age 20-49 and age 25-49, and median age at first sexual intercourse among men age 25-54, according to background characteristics, Bangladesh 2011

Background characteristic	Women age 20-49	Women age 25-49	Men age 25-54
Residence			
Urban	16.6	16.4	a
Rural	15.6	15.4	23.0
Division			
Barisal	15.7	15.4	23.6
Chittagong	16.6	16.4	25.0
Dhaka	15.9	15.7	24.3
Khulna	15.4	15.2	23.4
Rajshahi	15.3	15.1	22.2
Rangpur	15.0	14.8	22.3
Sylhet	17.6	17.3	a
Educational attainment			
No education	14.8	14.7	20.4
Primary incomplete	14.9	14.9	21.0
Primary complete[1]	15.5	15.4	21.8
Secondary incomplete	16.3	16.2	22.7
Secondary complete or higher[2]	a	19.7	a
Wealth quintile			
Lowest	15.2	15.1	21.9
Second	15.3	15.1	22.3
Middle	15.5	15.3	23.3
Fourth	16.0	15.7	24.3
Highest	17.5	17.2	a
Total	15.8	15.6	23.7

a = Omitted because less than 50 percent of the respondents had intercourse for the first time before reaching the beginning of the age group
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

4.6 RECENT SEXUAL ACTIVITY

In the absence of contraception, the possibility of pregnancy is positively related to the frequency of sexual intercourse. Thus, information on intercourse is important for refining measurement of exposure to pregnancy. All ever-married women and men were asked how long ago their last sexual contact occurred. As the length of time since their last sexual contact increased, the chance of becoming pregnant decreased. Table 4.8 shows the percent distribution of ever-married women age 15-49 by timing of their last sexual intercourse, according to background characteristics.

The data show that 77 percent of ever-married women age 15-49 were sexually active during the four weeks preceding the survey. An additional 12 percent had been sexually active in the 12 months preceding the survey, and 11 percent had their last sexual intercourse one or more years prior to the survey.

There is no noticeable variation in recent sexual activity by marital duration or urban-rural residence. The oldest women, age 45-49, are the least likely to have had their last sexual intercourse in the past four weeks (61 percent) when compared with the youngest women. More than eight in ten married or cohabiting women (82 percent) had their last sexual encounter in the past four weeks preceding the survey whereas less than 1 percent of those previously married had an encounter within the past four weeks. There are large variations by administrative divisions in the timing of last sexual intercourse. The proportion of women who were sexually active in the past four weeks ranges from 83 to 85 percent in Rajshahi and Rangpur to 69 percent in Chittagong. The relationship between a woman's education and sexual activity shows no clear pattern; however, women with no education are the least likely to have been sexually active in the past four weeks (74 percent). In contrast, women in the lowest wealth quintile are the most likely to have had their last sexual intercourse in the past four weeks (80 percent) when compared with women in the other quintiles.

Table 4.8 Recent sexual activity

Percent distribution of ever-married women age 15-49 by timing of last sexual intercourse, according to background characteristics, Bangladesh 2011

Background characteristic	Timing of last sexual intercourse: Within the past 4 weeks	Within 1 year[1]	One or more years	Missing	Never had sexual intercourse	Total	Number of women
Age							
15-19	81.7	13.3	4.1	0.0	0.8	100.0	1,970
20-24	78.7	12.5	8.5	0.1	0.1	100.0	3,514
25-29	80.0	10.0	9.9	0.1	0.0	100.0	3,394
30-34	81.2	9.4	9.2	0.1	0.0	100.0	2,654
35-39	78.5	10.2	11.0	0.1	0.1	100.0	2,246
40-44	73.7	11.9	14.1	0.2	0.0	100.0	2,152
45-49	61.1	16.6	22.2	0.1	0.0	100.0	1,820
Marital status							
Married or living together	82.4	11.8	5.6	0.1	0.1	100.0	16,635
Divorced/separated/ widowed	0.3	10.2	88.8	0.0	0.7	100.0	1,114
Marital duration[2]							
0-4 years	80.3	14.9	4.1	0.1	0.6	100.0	3,088
5-9 years	83.2	10.5	6.3	0.0	0.0	100.0	3,011
10-14 years	83.5	9.5	6.8	0.2	0.0	100.0	2,823
15-19 years	86.0	8.9	5.0	0.1	0.0	100.0	2,269
20-24 years	84.6	10.6	4.6	0.2	0.0	100.0	1,830
25+ years	78.1	15.3	6.6	0.1	0.0	100.0	2,896
Married more than once	84.0	11.7	4.3	0.0	0.0	100.0	719
Residence							
Urban	78.3	10.5	11.0	0.0	0.2	100.0	4,619
Rural	76.9	12.2	10.7	0.1	0.1	100.0	13,130
Division							
Barisal	75.3	16.4	8.1	0.1	0.1	100.0	1,002
Chittagong	68.7	15.0	15.8	0.2	0.2	100.0	3,222
Dhaka	77.9	10.4	11.4	0.1	0.1	100.0	5,736
Khulna	78.8	11.1	9.7	0.1	0.3	100.0	2,139
Rajshahi	82.5	10.8	6.7	0.0	0.0	100.0	2,646
Rangpur	84.6	9.3	5.8	0.0	0.2	100.0	2,039
Sylhet	70.1	12.8	16.8	0.2	0.0	100.0	967
Educational attainment							
No education	74.0	11.6	14.3	0.0	0.0	100.0	4,912
Primary incomplete	80.2	10.2	9.5	0.1	0.0	100.0	3,264
Primary complete[3]	79.3	11.4	9.2	0.1	0.1	100.0	2,062
Secondary incomplete	76.9	12.8	10.0	0.1	0.2	100.0	5,383
Secondary complete or higher[4]	78.9	12.0	8.4	0.2	0.5	100.0	2,127
Wealth quintile							
Lowest	80.0	10.1	9.6	0.1	0.2	100.0	3,250
Second	79.5	11.5	8.7	0.1	0.2	100.0	3,487
Middle	76.5	12.6	10.7	0.1	0.1	100.0	3,567
Fourth	75.0	12.1	12.6	0.1	0.2	100.0	3,664
Highest	75.6	12.1	12.1	0.1	0.2	100.0	3,781
Total	77.2	11.7	10.8	0.1	0.1	100.0	17,749

[1] Excludes women who had sexual intercourse within the last 4 weeks
[2] Excludes women who are not currently married
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

4.7 SPOUSAL SEPARATION

Repeated seasonal migration has the potential to lower birth rates. The effect of spousal separation in reducing fertility varies with the length of separation. It is expected that the cumulative impact of spousal separation is greatest in areas of relatively high fertility and low modern contraceptive prevalence. However, this has been difficult to ascertain as there have not been many studies to illustrate the effect of spouse separation on fertility.

Table 4.9 shows the percentage of currently married women age 15-49 whose husband lives elsewhere and the frequency of the husband's visits in the last 12 months. Overall, 12 percent of currently married women have a husband who lives elsewhere. Younger women, age 15-19 (18 percent), women who have been married for less than 5 years (20 percent), and rural women (13 percent) are most likely to have husbands who live elsewhere. Almost one in four women in Chittagong (23 percent) have husbands who live elsewhere compared with only 5 percent of women in Rangpur. The proportion of women with a husband who lives elsewhere increases with the woman's education and wealth status. Only 6 percent of women with no education live apart from their husbands compared with 19 percent of those with secondary or higher education. Similarly, 6 percent of women in the lowest wealth quintile live separately from their husbands compared with 16 percent of women in the highest quintiles.

Table 4.9 Husband's visits

Percentage of currently married women age 15-49 whose husband lives elsewhere, and among currently married women whose husband lives elsewhere, percent distribution by frequency of husband's visits to the household in the last 12 months, according to background characteristic, Bangladesh 2011

Background characteristic	Percentage of women whose husband lives elsewhere	Number of currently married women	Among currently married women whose husband lives elsewhere, frequency of husband's visits to the household in the past 12 months					Total	Number of women
			0	1-5	6-11	12+	Missing		
Age									
15-19	18.1	1,925	23.7	41.2	17.8	15.8	1.5	100.0	348
20-24	15.6	3,396	44.8	31.5	11.1	10.4	2.2	100.0	530
25-29	14.3	3,262	51.5	25.2	8.2	12.6	2.4	100.0	468
30-34	11.7	2,532	45.6	30.7	7.7	12.6	3.3	100.0	295
35-39	8.4	2,081	46.9	35.5	9.3	7.2	1.1	100.0	175
40-44	6.3	1,937	42.3	32.2	10.2	14.0	1.4	100.0	122
45-49	5.7	1,501	36.5	34.9	7.8	19.0	1.8	100.0	86
Marital duration[1]									
0-4 years	19.5	3,088	28.5	36.7	16.0	17.0	1.8	100.0	602
5-9 years	14.9	3,011	46.7	31.7	10.0	9.9	1.7	100.0	450
10-14 years	12.9	2,823	56.6	24.5	7.5	7.9	3.5	100.0	364
15-19 years	10.7	2,269	47.6	34.6	4.9	9.4	3.6	100.0	242
20-24 years	7.7	1,830	48.7	29.4	11.1	9.9	0.9	100.0	140
25+ years	5.8	2,896	41.9	32.4	9.1	15.4	1.3	100.0	168
Married more than once	8.1	719	32.8	32.2	11.5	23.4	0.0	100.0	58
Residence									
Urban	10.1	4,292	42.3	35.9	7.5	13.1	1.1	100.0	435
Rural	12.9	12,343	42.6	31.1	11.6	12.3	2.4	100.0	1,590
Division									
Barisal	16.8	952	22.4	45.4	21.1	9.6	1.5	100.0	160
Chittagong	23.0	3,015	53.2	30.2	5.5	7.7	3.3	100.0	693
Dhaka	11.4	5,334	41.2	28.7	13.1	15.1	1.9	100.0	610
Khulna	7.8	1,996	38.5	34.6	14.7	10.8	1.3	100.0	156
Rajshahi	7.0	2,526	31.9	32.7	11.5	22.9	1.0	100.0	177
Rangpur	5.1	1,927	9.7	49.3	15.2	24.4	1.4	100.0	98
Sylhet	14.8	884	60.0	25.4	6.0	7.8	0.9	100.0	131
Educational attainment									
No education	6.1	4,379	45.6	28.3	6.9	16.2	2.9	100.0	268
Primary incomplete	8.5	3,056	45.0	29.8	12.6	10.8	1.8	100.0	260
Primary complete[1]	11.4	1,963	39.1	37.9	9.8	11.8	1.4	100.0	223
Secondary incomplete	17.2	5,176	44.6	31.3	12.5	9.3	2.4	100.0	889
Secondary complete or higher[2]	18.6	2,061	35.9	35.1	8.8	18.6	1.7	100.0	384
Wealth quintile									
Lowest	5.6	2,975	25.7	41.7	12.2	17.6	2.8	100.0	166
Second	9.2	3,267	33.0	28.0	17.8	18.6	2.6	100.0	302
Middle	13.1	3,372	40.4	33.7	13.0	10.7	2.2	100.0	443
Fourth	16.2	3,457	50.3	26.4	10.9	11.1	1.4	100.0	560
Highest	15.5	3,564	46.6	36.2	4.5	10.4	2.3	100.0	553
Total 15-49	12.2	16,635	42.5	32.2	10.8	12.5	2.1	100.0	2,024

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Women whose husbands live elsewhere were asked how often their husband came to visit in the past 12 months. Forty-three percent of women say that their husband did not come home in the past 12 months, 32 percent reported that their husband visited 1 to 5 times, 11 percent visited 6 to 11 times, and 13 percent visited 12 or more times. Women age 25-29 (52 percent) and those married 10 to 14 years (57 percent) are more likely than other women to report that their husbands did not come home in the past 12 months. There is no substantial variation by urban-rural residence or educational attainment. Number of visits varied widely by administrative division: only 10 percent of women in Rangpur were not visited by their husbands in the past 12 months compared with 60 percent of women in Sylhet. The percentage of women whose husbands did not visit in the past year has a negative association with wealth quintiles. Husbands of women in the two highest quintiles visit less often compared to those in the lower quintiles, possibly because they are more likely to be employed overseas rather than locally.

FERTILITY 5

Key Findings

- The total fertility rate for the three years preceding the survey is 2.3 births per woman.
- The rural-urban difference in fertility has narrowed over the past decade, from 1.1 births measured in the 1999-2000 BDHS to 0.5 births in the 2011 BDHS.
- Khulna (with 1.9 births per woman) has already reached the HPNSDP target of 2.0 births per woman by 2016, and Rajshahi and Rangpur are very close behind.
- After a decade-long plateau in fertility (1993-1994 to 2000) at around 3.3 children per woman, there has been a steady and encouraging decline in each subsequent BDHS. Between the 2007 and 2011 BDHS there has been almost a 15 percent decline in the total fertility rate, from 2.7 to 2.3 births per woman.
- Childbearing begins early in Bangladesh, with almost half of women giving birth by age 18 and nearly 70 percent giving birth by age 20.

A major objective of the 2011 BDHS was to examine fertility levels, trends, and differentials in Bangladesh. Bangladesh aims to reduce the total fertility rate (TFR) to 2.0 births per woman by 2016 through improved access to health and nutrition services for the poor and geographically marginalized population (MOHFW, 2011). Fertility is one of the three principal components of population dynamics that determine the size, structure, and composition of the population in any country. This chapter describes current and past fertility, cumulative fertility, birth intervals, age at first birth, and the reproductive behavior of adolescents.

For the most part, fertility measures are based on the birth history data collected during interviews with ever-married women age 15-49. Each woman was asked a series of questions that could be used to construct a retrospective history of all of her births. To encourage complete reporting, the interviewer asked the respondent about the number of sons and daughters living with her, the number living elsewhere, and the number who had died. She then asked for a history of all births, including month and year, name, sex, and survival status of each birth. Interviewers were given extensive training in probing techniques designed to help respondents report this information accurately.

The following measures of current fertility are derived from the birth history data:

- Age-specific fertility rates[1] (ASFRs) are expressed as the number of births per 1,000 women in a certain age group. They are a valuable measure to assess the current age pattern of childbearing. ASFRs are defined as the number of live births during a specific period to

[1] Numerators for age-specific fertility rates are calculated by summing the number of live births that occurred in the period 1-36 months preceding the survey (determined by the date of interview and the date of birth of the child) and classifying them by the age of the mother (in five-year groups) at the time of birth (determined by the mother's date of birth). The denominators for the rates are the number of woman-years lived in each of the specified five-year age groups during the period 1 to 36 months preceding the survey. Because only women who had ever married were interviewed in the BDHS, the number of women in the denominator of the rates was inflated by factors calculated from information in the Household Questionnaire on the proportions ever married to produce a count of all women. Never-married women are presumed not to have given birth.

women in a particular age group, divided by the number of woman-years lived in that age group during the specified period.

- The total fertility rate (TFR) is defined as the total number of births a woman would have by the end of her childbearing period if she were to pass through those years bearing children at currently observed ASFRs. The TFR is obtained by summing the ASFRs and multiplying by five.

The various measures of current fertility are calculated for the three-year period preceding the survey, which roughly corresponds to the calendar years 2009-2011. A three-year period was chosen because it reflects the current situation without unduly increasing sampling error.

Despite efforts to improve data quality, data from the BDHS are subject to the same types of errors that are inherent in all retrospective sample surveys: the possibility of omitting some births (especially births of children who died at a very young age) and the difficulty of accurately determining each child's date of birth. These errors can bias estimates of fertility trends, which therefore have to be interpreted within the context of data quality and sample sizes. A summary of the quality of the BDHS data appears in the tables in Appendix C.

5.1 CURRENT FERTILITY

The total fertility rate for the three-year period before the survey is 2.3 children per woman (Table 5.1). According to current fertility rates, on average, women will have 25 percent of their births before reaching age 20, 56 percent during their twenties, and 17 percent during their thirties. As expected, the TFR for rural women is higher than for urban women (2.5 compared with 2.0 births per woman).

Bangladeshi women have a pattern of early childbearing (Figure 5.1). The rural-urban difference in fertility is greater in the age groups 15-19 and 20-24.

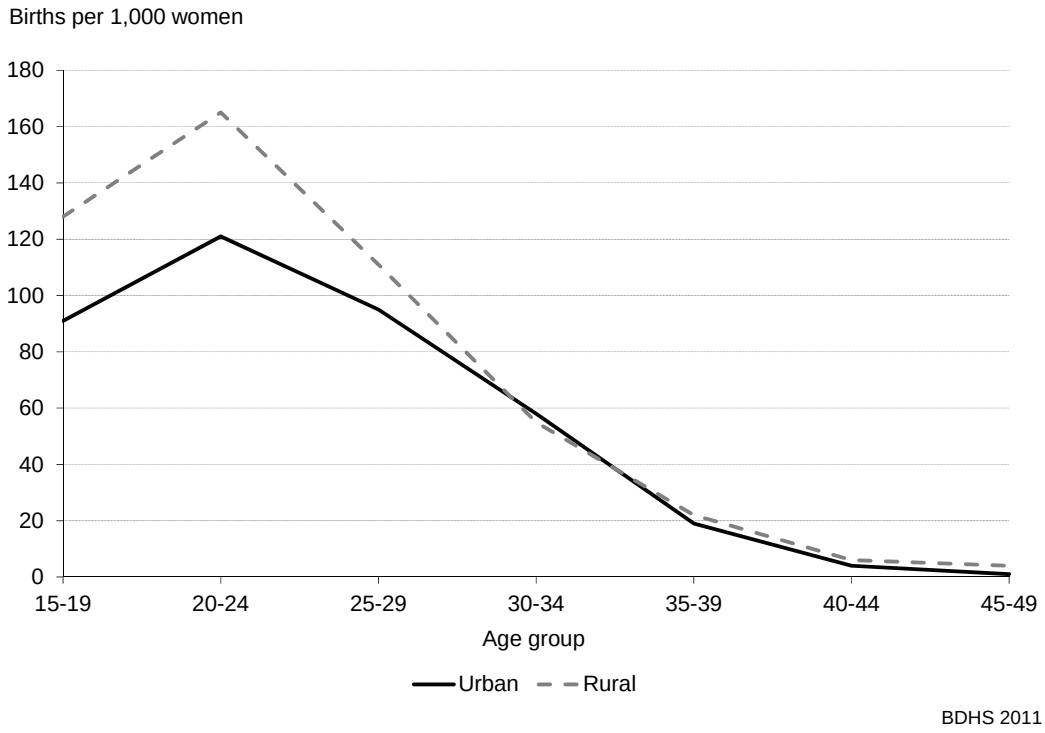
Table 5.1 Current fertility

Age-specific and total fertility rate, the general fertility rate, and the crude birth rate for the three years preceding the survey, by residence, Bangladesh 2011

	Residence		
Age group	Urban	Rural	Total
15-19	91	128	118
20-24	121	165	153
25-29	95	111	107
30-34	58	55	56
35-39	19	22	21
40-44	4	6	6
45-49	1	4	3
TFR(15-49)	2.0	2.5	2.3
GFR	76	97	91
CBR	20.6	23.3	22.6

Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.
TFR: Total fertility rate expressed per woman
GFR: General fertility rate expressed per 1,000 women age 15-44
CBR: Crude birth rate expressed per 1,000 population

Figure 5.1 **Age-specific fertility rates by urban-rural residence**



BDHS 2011

5.2 FERTILITY DIFFERENTIALS

Fertility varies widely by administrative divisions (Table 5.2). Fertility is lowest in Khulna division (1.9 births per woman), followed by Rajshahi and Rangpur at 2.1 births per woman, and highest in Sylhet (3.1 births per woman) and Chittagong (2.8 births per women). Bangladesh's current Health, Population, and Nutrition Sector Development Program (HPNSDP) aims to reduce fertility to 2.0 births per woman by 2016. Khulna has reached that level already, and Rajshahi and Rangpur are very close.

Table 5.2 Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristics, Bangladesh 2011

Background characteristic	Total fertility rate	Percentage women age 15-49 currently pregnant	Mean number of children ever born to women age 40-49
Residence			
Urban	2.0	4.2	3.6
Rural	2.5	5.5	4.4
Division			
Barisal	2.3	5.3	4.5
Chittagong	2.8	5.4	4.9
Dhaka	2.2	5.3	4.1
Khulna	1.9	3.8	3.6
Rajshahi	2.1	4.8	3.7
Rangpur	2.1	5.0	4.0
Sylhet	3.1	7.3	4.9
Educational attainment			
No education	2.9	3.2	4.5
Primary incomplete	2.6	4.7	4.5
Primary complete[1]	2.3	6.7	4.1
Secondary incomplete	2.2	6.5	3.4
Secondary complete or higher[2]	1.9	4.7	2.5
Wealth quintile			
Lowest	3.1	6.0	4.4
Second	2.5	6.0	4.7
Middle	2.2	5.4	4.4
Fourth	2.1	4.4	4.1
Highest	1.9	4.2	3.4
Total	2.3	5.1	4.2

Note: Total fertility rates are for the period 1 to 36 months prior to interview.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Women's education is strongly associated with fertility. The TFR decreases from 2.9 births for women with no education to 1.9 births for women who have completed secondary or higher education. Fertility is also negatively associated with wealth; the difference in fertility between women in the lowest and highest wealth quintiles amounts to more than one child per woman.

The percentage of women who reported being pregnant at the time of the survey is also presented in Table 5.2. This percentage may be underreported because some women may not be aware of a pregnancy, especially at the early stages, and some women who are early in their pregnancy may not want to reveal that they are pregnant. At the time of the survey, 5 percent of women age 15-49 reportedly were pregnant. Rural women are slightly more likely to be currently pregnant than urban women (6 percent and 4 percent, respectively).

Among the divisions, the proportion of women who are currently pregnant is highest in Sylhet (7 percent). In five of the seven divisions, the percentage of currently pregnant women is 5 percent. The relationship between the percentage currently pregnant and education is an inverted U-shape, rising from a low of 3 percent among women with no education to a high of 7 percent among women with primary complete and some secondary education, and then dipping again to 5 percent among women who have completed secondary or higher education. Women in the lowest two wealth quintiles are somewhat more likely to be currently pregnant (6 percent) than women in the highest two quintiles (4 percent).

Besides information on the TFR, Table 5.2 also presents the mean number of children ever born to women age 40-49, which allows for a crude assessment of trends in fertility. The former is a measure of current fertility, while the latter is a measure of past or completed fertility. Although comparing completed fertility among women age 40-49 with the TFR can provide an indication of fertility change, this change is subject to bias resulting from an understatement of parity by older women. Changes in age at marriage and

contraceptive use also influence fertility trends. Unless there is evidence of increased age at marriage and/or an appreciable use of contraception, it is unlikely that fertility would decline. However, the comparison of past and present fertility indicators, together with corresponding increases in contraceptive use and women's age at marriage, suggests a decline of almost two children per woman, from 4.2 to 2.3 children. There has been a decline in fertility in both urban and rural areas, in all regions, at all educational levels, and for all wealth quintiles. The difference between current and completed fertility is highest in Barisal (2.2 births), in rural areas (1.9 births), and among women in the second and middle wealth quintiles (2.2 births).

5.3 FERTILITY TRENDS

In addition to the comparison of current and completed fertility, trends in fertility can be assessed in two other ways. First, fertility trends can be investigated using retrospective data from birth histories collected in the 2011 BDHS. Second, the TFR from the 2011 BDHS can be compared with estimates obtained in earlier surveys.

Trends in fertility over time can be examined by comparing age-specific fertility rates from the 2011 BDHS for successive five-year periods preceding the survey, as presented in Table 5.3.1. The rates for older age groups become progressively more truncated for periods more distant from the survey date, because women age 50 and older were not interviewed in the survey. For example, rates cannot be calculated for women age 35-39 for the period 15-19 years before the survey because these women would have been over age 50 at the time of the survey and therefore not eligible to be interviewed. Nonetheless, the results in Table 5.3.1 show that fertility has dropped substantially among all age groups over the past two decades. The decline is steepest among the cohort age 30-34, with a 45 percent decline between the period 10 to 14 years before the survey and the period 0 to 4 years before the survey.

Table 5.3.1 Trends in age-specific fertility rates

Age-specific fertility rates for five-year periods preceding the survey, by mother's age at the time of the birth, Bangladesh 2011

Mother's age at birth	Number of years preceding survey			
	0-4	5-9	10-14	15-19
15-19	128	164	185	190
20-24	161	194	217	218
25-29	115	141	168	184
30-34	65	93	118	[140]
35-39	27	50	[72]	-
40-44	7	[22]	-	-
45-49	[3]	-	-	-

Note: Age-specific fertility rates are per 1,000 women. Estimates in brackets are truncated. Rates exclude the month of interview.

Since 1993, Bangladesh has undertaken demographic and health surveys regularly, in addition to other surveys, all of which have endowed the country with a wealth of data for examining fertility trends. Accordingly, changes in fertility levels over time can be tracked by examining fertility estimates from these surveys. Such data have been used to track fertility trends spanning the last three decades as summarized in Table 5.3.2 and Figure 5.2. The data indicate that fertility in Bangladesh has been declining since the 1970s. The TFR declined sharply from 6.3 births per woman in 1971-1975 to 5.1 births per woman in 1984-1988, followed by another rapid decline in the next decade of 1.8 births per woman to reach 3.3 births per woman in 1994-1996. Following a decade-long plateau in fertility during the 1990s, at around 3.3 births per woman, the TFR declined further by one child per woman during the current decade to reach 2.3 births per woman in 2009-2011.

Table 5.3.2 Trends in current fertility rates

Age-specific and total fertility rates (TFR) among women age 15-49, various sources, Bangladesh, 1975 to 2011

	Survey and approximate time period								
Age group	1975 BFS (1971-1975)	1989 BFS (1984-1988)	1991 CPS (1989-1991)	1993-1994 BDHS (1991-1993)	1996-1997 BDHS (1994-1996)	1999-2000 BDHS (1997-1999)	2004 BDHS (2001-2003)	2007 BDHS (2004-2006)	2011 BDHS (2009-2011)
15-19	109	182	179	140	147	144	135	126	118
20-24	289	260	230	196	192	188	192	173	153
25-29	291	225	188	158	150	165	135	127	107
30-34	250	169	129	105	96	99	83	70	56
35-39	185	114	78	56	44	44	41	34	21
40-44	107	56	36	19	18	18	16	10	6
45-49	35	18	13	14	6	3	3	1	3
TFR 15-49	6.3	5.1	4.3	3.4	3.3	3.3	3.0	2.7	2.3

Note: For the 1975 and 1989 BFS surveys, the rates refer to the 5-year period preceding the survey; for the other surveys, the rates refer to the 3-year period preceding the survey.
The BFS and BDHS surveys utilized full birth histories, while the 1991 CPS used an 8-year truncated birth history.
Source: 1975 BFS (MOHPC, 1978:73); 1989 BFS (Huq and Cleland, 1990:103); 1991 CPS (Mitra et al., 1993:34); 1993-94 BDHS (Mitra et al., 1994:24); 1996-97 BDHS (Mitra et al., 1997:30); 1999-2000 BDHS (NIPORT et al., 2001:32); 2004 BDHS (NIPORT et al., 2005:50) ; 2007 BDHS (NIPORT et al., 2009:50)

Figure 5.2 Trends in total fertility rates, 1975-2011

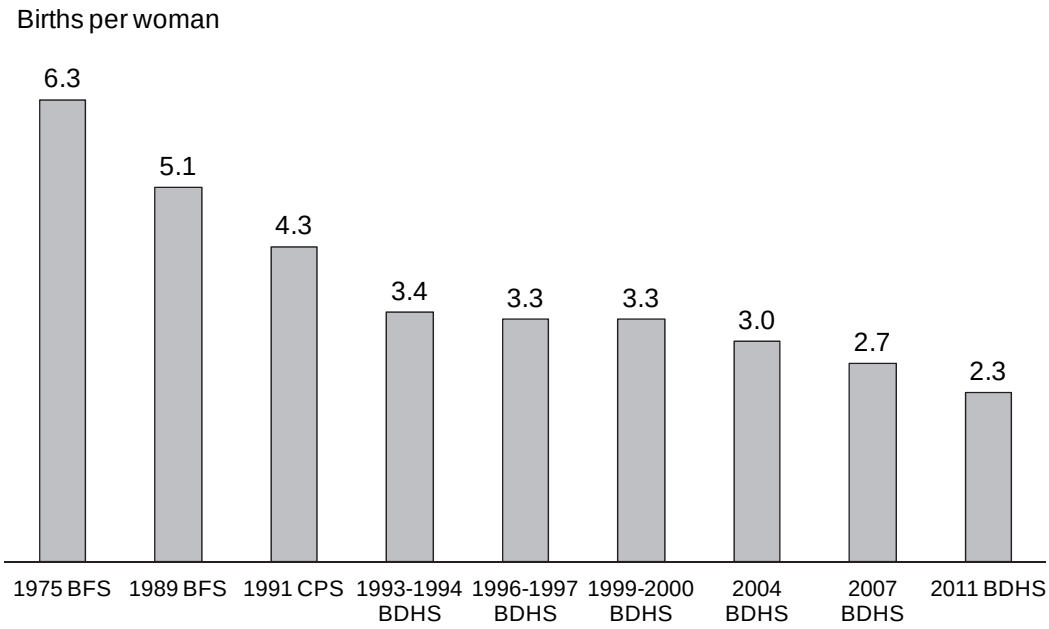
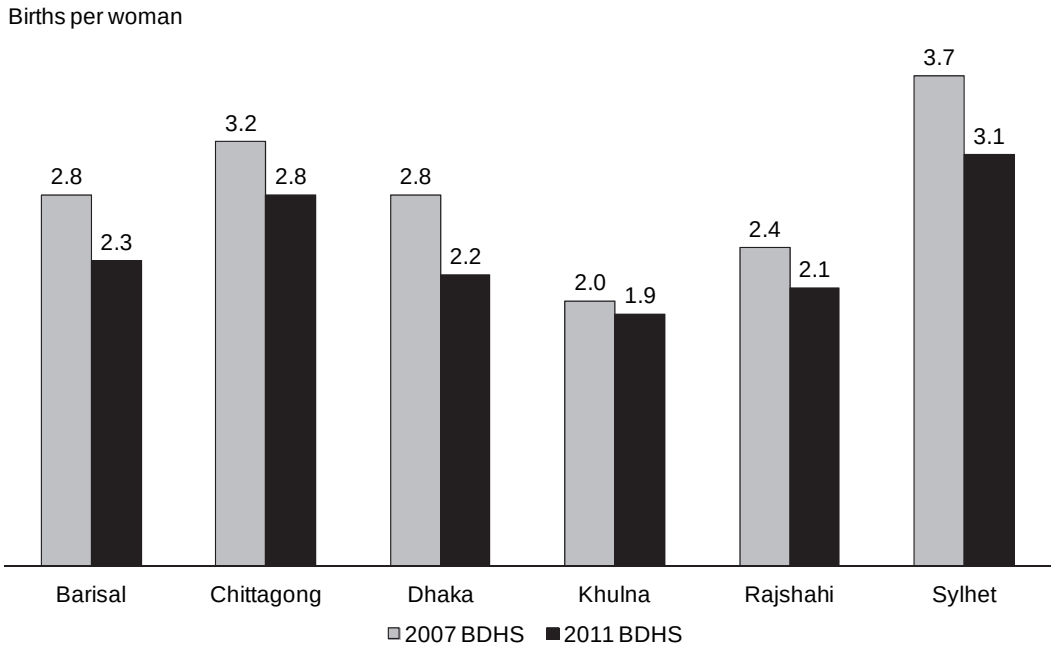


Figure 5.3 shows that in the 2007 BDHS and 2011 BDHS, Khulna Division continues to have the lowest TFR, and Sylhet Division has the highest TFR.

Figure 5.3 Total fertility rates by division, 2007 and 2011



Note: TFR in Rangpur division in 2011 BDHS is 2.1

5.4 CHILDREN EVER BORN AND LIVING

Table 5.4 shows the distribution of all women and currently married women by age and number of children ever born. It also shows the mean number of children ever born to women in each five-year age group, an indicator of the momentum of childbearing. The mean number of children ever born for all women is 2.2, while currently married women have 2.6 births on average. Allowing for mortality of children, Bangladeshi women have, on average, 2.0 living children. Currently married women have an average of 2.3 living children.

Table 5.4 Children ever born and living

Percent distribution of all women and currently married women age 15-49 by number of children ever born, mean number of children ever born, and mean number of living children, according to age group, Bangladesh 2011

Age	Number of children ever born											Total	Number of women	Mean number of children ever born	Mean number of living children
	0	1	2	3	4	5	6	7	8	9	10+				
ALL WOMEN															
15-19	75.6	20.8	3.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	4,306	0.28	0.27
20-24	25.0	38.6	27.2	7.4	1.4	0.3	0.0	0.0	0.0	0.0	0.0	100.0	4,058	1.23	1.15
25-29	7.5	17.8	40.0	23.1	8.4	2.4	0.7	0.2	0.0	0.0	0.0	100.0	3,501	2.18	2.04
30-34	3.9	9.0	29.2	28.9	17.6	7.0	2.7	1.1	0.4	0.1	0.1	100.0	2,686	2.89	2.64
35-39	3.4	5.8	20.3	27.3	20.4	11.2	7.0	2.3	1.6	0.4	0.2	100.0	2,264	3.43	3.08
40-44	2.2	5.0	16.4	23.3	19.1	13.3	10.2	5.5	2.8	1.3	0.8	100.0	2,158	3.93	3.40
45-49	2.2	4.8	11.9	18.1	17.3	15.8	11.4	9.2	4.7	2.5	2.1	100.0	1,824	4.46	3.72
Total	23.1	17.6	21.4	16.1	9.7	5.4	3.3	1.8	0.9	0.4	0.3	100.0	20,797	2.21	1.98
CURRENTLY MARRIED WOMEN															
15-19	45.9	46.1	7.3	0.7	0.1	0.0	0.0	0.0	0.0	0.0	0.0	100.0	1,925	0.63	0.59
20-24	12.7	44.5	31.9	8.7	1.7	0.4	0.0	0.0	0.0	0.0	0.0	100.0	3,396	1.43	1.35
25-29	4.0	17.8	42.2	24.0	8.9	2.4	0.7	0.2	0.0	0.0	0.0	100.0	3,262	2.27	2.12
30-34	2.3	8.0	29.6	29.7	18.3	7.3	2.9	1.1	0.5	0.1	0.1	100.0	2,532	2.98	2.72
35-39	1.9	4.9	20.5	27.9	21.5	11.6	7.2	2.2	1.6	0.5	0.2	100.0	2,081	3.52	3.16
40-44	1.7	3.8	16.6	23.7	18.9	13.4	10.8	5.8	3.0	1.4	0.9	100.0	1,937	4.02	3.49
45-49	1.6	3.4	10.8	17.7	17.5	16.7	12.1	9.8	5.0	3.0	2.2	100.0	1,501	4.64	3.89
Total	9.6	20.5	25.6	18.9	11.3	6.2	3.8	2.0	1.1	0.5	0.4	100.0	16,635	2.59	2.33

Currently married women age 45-49 have given birth to an average of 4.6 children, of whom 3.9 have survived. Among all women age 15-49, the average number of children who have died per woman is 0.23. Among currently married women, it is 0.26; that is, 10 percent of children born to currently married women have died. The percentage of children who have died increases with women's age. Among currently married women, for example, the proportion of children ever-born who have died increases from 6 percent for women age 20-24 to 16 percent for women age 45-49.

Nearly one-quarter (23 percent) of all women age 15-49 have never given birth. This proportion is far higher among women age 15-19, as 76 percent of women in this age group have never given birth. However, this proportion declines to 25 percent among women age 20-24 and rapidly decreases further for older women. The percentage of women who have never given birth is quite low (2 to 3 percent) among all women age 35-44. These data indicate that childbearing among Bangladeshi women is nearly universal. Overall, 10 percent of currently married women age 15-49 have never given birth. The difference in the mean number of children ever born between all women and currently married women is due to the substantial proportion of young and unmarried women in the former category.

The percentage of women in their forties who have never had children is an indicator of the level of primary infertility—that is, the proportion of women who are unable to bear children at all. Because voluntary childlessness is rare in Bangladesh, it is likely that married women with no births are unable to have children. Primary infertility is relatively low in Bangladesh at slightly more than 2 percent.

5.5 BIRTH INTERVALS

Birth interval is the length of time between two successive live births. Information on birth intervals provides insight into birth spacing patterns, which affect fertility as well as maternal, infant, and childhood mortality. Studies have shown that short birth intervals are associated with increased risk of death for mother and baby, particularly when the birth interval is less than 24 months.

Table 5.5 shows the percent distribution of non-first births that occurred in the five years preceding the survey by number of months since the previous birth, according to background characteristics. Birth intervals are generally long in Bangladesh, with a median interval of 47 months. Lengthy breastfeeding and a long period of postpartum amenorrhea are likely to contribute to the relatively high percentage of births occurring after an interval of 24 months or more in Bangladesh.

The length of the birth interval is closely associated with the survival status of the previous sibling. The median birth interval is 18 months shorter when the previous sibling has died than when the previous sibling is still alive (31 and 49 months, respectively). The percentage of births occurring within a very short interval (less than 18 months) is almost eight times higher for children whose previous sibling died than for children whose previous sibling survived (23 and 3 percent, respectively). The shorter interval following the death of a child is partly due to a shortened period of breastfeeding (or no breastfeeding) for the preceding child, which leads to an earlier return of ovulation and hence increased chance of pregnancy. Minimal use of contraception, presumably because of a desire to have another child as soon as possible, could also be partly responsible for the shorter birth interval in these cases.

Birth intervals are slightly longer in urban (55 months) than in rural (46 months) areas. There are marked differences in median birth intervals by administrative divisions. The median birth interval is longest in Khulna (61 months) and shortest in Sylhet (38 months). The median number of months since the preceding birth increases both with the mother's education and the household's wealth. The birth interval increases from 45 months among women with no education to 49 months among women with an incomplete secondary education and to 56 months among those with a complete secondary education or higher. Similarly, the median birth interval for the highest wealth quintile is nearly 5 years (57 months), whereas for the two lowest quintiles it is 45 months or less. The median number of months since a preceding birth increases significantly with age, from 26 months among mothers age 15-19 to 67 months among mothers age 40-49. There is no marked difference in the length of the median birth interval by sex of the preceding birth. However, birth interval decreases with birth order.

Table 5.5 Birth intervals

Percent distribution of non-first births in the five years preceding the survey by number of months since preceding birth, and median number of months since preceding birth, according to background characteristics, Bangladesh 2011

Background characteristic	Months since preceding birth						Total	Number of non-first births	Median number of months since preceding birth
	7-17	18-23	24-35	36-47	48-59	60+			
Age									
15-19	21.6	20.8	37.8	15.9	3.9	0.0	100.0	162	26.4
20-29	4.9	7.7	22.2	21.0	16.7	27.5	100.0	3,625	44.5
30-39	3.3	4.5	15.1	14.9	12.5	49.8	100.0	1,635	59.8
40-49	3.6	2.8	15.4	11.9	7.4	59.0	100.0	231	67.4
Sex of preceding birth									
Male	5.4	6.8	20.0	17.3	15.1	35.4	100.0	2,810	48.4
Female	4.3	7.1	20.6	20.0	14.3	33.6	100.0	2,843	46.7
Survival of preceding birth									
Living	3.3	6.6	19.6	18.8	15.5	36.2	100.0	5,184	49.1
Dead	22.5	10.8	27.5	17.3	6.4	15.6	100.0	469	31.3
Birth order									
2-3	4.6	6.6	19.2	18.5	15.2	35.9	100.0	4,045	48.9
4-6	5.4	7.4	22.6	19.2	13.7	31.7	100.0	1,400	45.1
7+	6.6	11.7	26.5	18.2	12.3	24.7	100.0	209	37.9
Residence									
Urban	4.2	4.5	18.3	15.4	13.2	44.4	100.0	1,134	54.5
Rural	5.0	7.6	20.8	19.5	15.1	32.0	100.0	4,520	45.9
Division									
Barisal	4.4	5.3	15.2	18.9	16.1	40.1	100.0	303	52.9
Chittagong	5.4	8.7	25.1	21.0	14.4	25.4	100.0	1,348	41.5
Dhaka	4.8	6.2	20.5	19.3	15.1	34.0	100.0	1,715	47.3
Khulna	3.8	5.1	12.0	12.8	14.6	51.7	100.0	443	61.0
Rajshahi	3.9	5.3	13.6	17.1	14.6	45.5	100.0	753	56.6
Rangpur	3.7	6.1	19.4	16.3	15.0	39.5	100.0	587	52.1
Sylhet	7.7	10.9	27.9	20.6	13.6	19.3	100.0	505	37.6
Educational attainment									
No education	6.0	7.3	22.4	18.7	13.7	31.9	100.0	1,515	44.6
Primary incomplete	4.8	5.9	20.2	20.2	15.6	33.3	100.0	1,218	47.3
Primary complete[1]	4.0	9.4	22.4	17.8	14.3	32.1	100.0	714	45.7
Secondary incomplete	4.3	7.5	18.6	18.8	15.9	34.9	100.0	1,683	48.7
Secondary complete or higher[2]	4.9	3.6	16.8	15.9	12.6	46.3	100.0	523	56.4
Wealth quintile									
Lowest	5.1	8.3	24.4	22.2	15.9	24.1	100.0	1,570	41.0
Second	6.7	7.0	21.3	18.8	14.1	32.1	100.0	1,171	45.4
Middle	4.1	7.5	19.5	18.3	15.2	35.5	100.0	1,056	48.4
Fourth	4.7	5.3	18.2	16.1	13.4	42.2	100.0	1,011	52.7
Highest	3.0	5.8	14.8	15.7	14.4	46.4	100.0	846	57.3
Total	4.9	7.0	20.3	18.7	14.7	34.5	100.0	5,653	47.4

Note: First-order births are excluded. The interval for multiple births is the number of months since the preceding pregnancy that ended in a live birth.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

A comparison with earlier BDHS surveys shows that the median birth interval has increased markedly, rising from 35 months in 1993-1994 to 39 months in 2004, 44 months in 2007, and 47 months in 2011. Between 1993 and 2011, the median birth interval increased by 34 percent.

5.6 POSTPARTUM AMENORRHEA, ABSTINENCE, AND INSUSCEPTIBILITY

Fertility levels in most populations can be explained by four key proximate determinants that affect a woman's risk of becoming pregnant: nuptiality (including age at first marriage and age at first sexual intercourse); postpartum amenorrhea and sexual abstinence; menopause; and contraceptive use. Table 5.6 addresses two principal factors that influence fertility. Postpartum amenorrhea and sexual abstinence affect the duration of a woman's insusceptibility to pregnancy, which affects birth spacing. The

onset of menopause marks the end of a woman's reproductive life. These variables taken together determine the length and pace of a woman's reproductive life, and therefore are important for understanding fertility levels and differentials.

Postpartum amenorrhea is the interval between the birth of a child and the resumption of menstruation, during which the risk of pregnancy is very low. Postpartum protection from conception can be influenced by the intensity and length of breastfeeding. Postpartum abstinence refers to the period of voluntary sexual inactivity after childbirth. Delaying the resumption of sexual relations after a birth prolongs the period of postpartum protection. A woman is considered insusceptible to pregnancy if she is not exposed to the risk of pregnancy either because she is amenorrheic or because she is abstaining from sexual intercourse following a birth. The duration of amenorrhea and sexual abstinence following birth jointly determine the length of insusceptibility.

In the 2011 BDHS, information was obtained about the duration of amenorrhea and the duration of postpartum sexual abstinence for births in the three years preceding the survey. Table 5.6 shows that Bangladeshi women are amenorrheic for a median of 4.3 months, abstain for a median of 2.2 months, and are insusceptible to pregnancy for a median of 5.1 months.

Table 5.6 Postpartum amenorrhea, abstinence, and insusceptibility

Percentage of births in the three years preceding the survey for which mothers are postpartum amenorrheic, abstaining, and insusceptible, by number of months since birth, and median and mean durations, Bangladesh 2011

Months since birth	Percentage of births for which the mother is:			Number of births
	Amenorrheic	Abstaining	Insusceptible[1]	
< 2	93.0	89.3	97.6	267
2-3	60.3	25.1	66.0	297
4-5	46.7	11.8	53.3	269
6-7	38.2	7.0	40.1	282
8-9	27.0	6.7	31.3	295
10-11	25.9	5.8	30.6	305
12-13	20.2	7.1	25.9	323
14-15	10.6	3.7	13.8	253
16-17	4.8	3.0	7.7	285
18-19	2.8	3.9	6.7	246
20-21	1.4	5.8	7.2	219
22-23	3.3	3.2	6.5	271
24-25	1.1	3.0	4.1	276
26-27	1.7	3.0	4.2	248
28-29	0.9	2.9	3.8	246
30-31	2.0	2.4	4.4	245
32-33	1.1	4.3	5.4	279
34-35	1.0	2.9	3.5	306
Total	19.6	10.7	23.6	4,913
Median	4.3	2.2	5.1	na
Mean	7.1	4.1	8.5	na

Note: Estimates are based on status at the time of the survey.
na = Not applicable
[1] Includes births for which mothers are either still amenorrheic or still abstaining (or both) following birth

Almost all women (98 percent) are insusceptible to pregnancy during the first two months following childbirth. In general, the proportion of women who are amenorrheic or abstaining decreases as months after delivery increase. The proportion of women who are amenorrheic drops from 93 percent in the first two months after birth to a low of less than 1 percent at 28-29 months. The majority (89 percent) of Bangladeshi women abstain from sex during the first two months following a birth. The proportion abstaining drops sharply to 25 percent at 2 to 3 months and then drops to 12 percent at 4 to 5 months. The period of postpartum amenorrhea is considerably longer than the period of postpartum abstinence and is by far the major determinant of the length of postpartum insusceptibility to pregnancy. At 6 to 7 months after birth, more than one-third of all women are still amenorrheic, but only 7 percent are abstaining. At 16 to 17 months after birth, the proportion amenorrheic is 5 percent, while 3 percent of women are abstaining.

A comparison of the 2011 BDHS with earlier BDHS surveys indicates that the duration of abstinence has remained constant since 1993-1994, possibly because of the Muslim tradition of abstaining for 40 days after birth. The median duration of postpartum amenorrhea has steadily decreased over time, from 10.3 months in 1993-1994 to 8.4 months in 1996-1997, 7.9 months in 1999-2000, 6.1 months in 2004, 5.8 months in 2007, and 4.3 months in 2011 (Mitra et al., 1994:77, Mitra et al., 1997:86; NIPORT et al., 2001:82; NIPORT et al., 2005:97). Similarly, there has been a slow and steady decline in the median duration of insusceptibility, from 10.8 months in 1993-1994 to 6.5 months in 2004. Between 2004 and 2007 the median duration of insusceptibility did not change, but there has been a slight decline in the duration of insusceptibility, from 6.5 months in 2007 to 5.1 months in 2011.

Table 5.7 shows the median duration of postpartum amenorrhea, abstinence, and insusceptibility by background characteristics. The median duration of abstinence in Bangladesh varies little by background characteristics. The median duration of postpartum insusceptibility is almost two months longer among women age 30-49 than among women age 15-29. Urban women have a shorter median duration of amenorrhea than rural women, and hence a shorter period of insusceptibility. There are considerable variations by administrative division for the period of insusceptibility. Postpartum insusceptibility is longer among women residing in Dhaka and Sylhet (5.8 and 5.7 months, respectively) than among women in the other divisions. The duration of postpartum amenorrhea is longer among women with no education than in women with some primary or secondary education. The median duration of postpartum amenorrhea also declines with household wealth. The poorest women have the longest duration of amenorrhea and postpartum insusceptibility.

Table 5.7 Median duration of amenorrhea, postpartum abstinence, and postpartum insusceptibility

Median number of months of postpartum amenorrhea, postpartum abstinence, and postpartum insusceptibility following births in the three years preceding the survey, by background characteristics, Bangladesh 2011

Background characteristic	Postpartum amenorrhea	Postpartum abstinence	Postpartum insusceptibility[1]
Mother's age			
15-29	4.2	2.2	4.8
30-49	5.6	2.3	6.6
Residence			
Urban	3.7	2.1	4.3
Rural	4.6	2.2	5.4
Division			
Barisal	4.8	1.8	4.9
Chittagong	3.8	2.3	4.6
Dhaka	5.2	2.3	5.8
Khulna	3.6	2.1	4.2
Rajshahi	3.9	2.0	4.0
Rangpur	4.1	2.0	4.7
Sylhet	5.2	2.3	5.7
Educational attainment			
No education	5.9	1.9	6.5
Primary incomplete	4.2	2.1	4.5
Primary complete[2]	5.6	2.6	7.2
Secondary incomplete	4.2	2.3	4.8
Secondary complete or higher[3]	3.3	2.2	4.3
Wealth quintile			
Lowest	6.2	1.9	6.4
Second	4.5	2.2	5.1
Middle	3.7	2.4	4.3
Fourth	4.5	2.1	5.0
Highest	3.6	2.3	4.5
Total	4.3	2.2	5.1

Note: Medians are based on the status at the time of the survey (current status).
[1] Includes births for which mothers are either still amenorrheic or still abstaining (or both) following birth
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

5.7 MENOPAUSE

The risk of becoming pregnant declines with age. After age 30, women's susceptibility to pregnancy declines as an increasing proportion of women become infecund. The term infecundity denotes a process rather than a well-defined event. Although the onset of infecundity is difficult to determine for an individual woman, there are ways of estimating it for a group of women. One indicator of infecundity is the onset of menopause. Menopause is the culmination of a gradual decline in fecundity with increasing age. The 2011 BDHS defines menopausal women as women who are neither pregnant nor postpartum amenorrheic, but who have not had a menstrual period in the six months preceding the survey. Women who report that they have had a hysterectomy are also defined as menopausal. Table 5.8 presents data on menopause for women age 30 and older. Twenty percent of women age 30-49 are estimated to be menopausal. The proportion menopausal increases with age, from 7 percent among women age 30-34 to 62 percent among women age 48-49. These findings are similar to those in the 2007 BDHS.

Table 5.8 Menopause

Percentage of women age 30-49 who are menopausal, by age, Bangladesh 2011

Age	Percentage menopausal[1]	Number of women
30-34	6.7	2,654
35-39	10.4	2,246
40-41	15.6	1,075
42-43	25.8	753
44-45	34.5	759
46-47	50.1	680
48-49	61.8	705
Total	20.4	8,871

[1] Percentage of women who are not pregnant and not postpartum amenorrheic whose last menstrual period occurred six or more months preceding the survey

5.8 AGE AT FIRST BIRTH

Age at first birth has a direct effect on fertility. The onset of childbearing at an early age has a major effect on both the mother's and the child's health. Early initiation of childbearing lengthens the reproductive period and subsequently increases fertility. In many countries, postponement of first births—reflecting an increase in the age at marriage—has contributed greatly to overall fertility decline. Moreover, bearing children at a young age involves substantial risks to the health of both the mother and child. Early childbearing also tends to restrict educational and economic opportunities for women.

Table 5.9 presents the percentage of all women who had given birth by specific ages for different age cohorts. The median age at first birth is not shown for young women age 15-19, because a large majority had not become mothers before age 15. The median age at first birth is about 18 years across all age cohorts, except for women age 20-24 and age 45-49, whose median age at first birth is 19 years. The proportion of women who had a child before age 15 has decreased; 11 percent of women in their late forties reported having had their first birth by age 15, compared with 4 percent of women age 15-19. About half of Bangladeshi women (49 percent) have given birth before reaching age 18, while 70 percent have given birth by age 20. A comparison of data from the 2007 and 2011 BDHS surveys shows a slight increase in the median age at first birth.

Table 5.9 Age at first birth

Percentage of women age 15-49 who gave birth by exact ages, percentage who have never given birth, and median age at first birth, according to current age, Bangladesh 2011

Current age	Percentage who gave birth by exact age					Percentage who have never given birth	Number of women	Median age at first birth
	15	18	20	22	25			
15-19	3.5	na	na	na	na	75.6	4,306	a
20-24	8.8	40.0	62.1	na	na	25.0	4,058	18.9
25-29	11.3	49.1	70.4	82.9	89.6	7.5	3,501	18.1
30-34	12.7	49.3	69.5	82.0	90.6	3.9	2,686	18.1
35-39	11.6	50.9	69.8	81.9	90.3	3.4	2,264	17.9
40-44	10.8	48.9	71.0	82.8	91.4	2.2	2,158	18.1
45-49	11.1	44.5	65.5	79.4	90.3	2.2	1,824	18.5
20-49	10.9	46.6	67.7	na	na	9.4	16,491	18.3
25-49	11.5	48.8	69.5	82.0	90.4	4.3	12,434	18.1

na = Not applicable due to censoring
a = Omitted because less than 50 percent of women had a birth before reaching the beginning of the age group

Table 5.10 summarizes the median age at first birth for different age cohorts by respondents' background characteristics. Among women age 20-49, the median age at first birth is a year higher in urban areas than in rural areas. Among administrative divisions, it is highest in Sylhet (19.7 years). Median age at first birth is more than two years higher for women in the highest wealth quintile (19.8 years), compared with those in the lowest wealth quintile (17.6 years). Women who have some secondary education start childbearing later than those with little or no education.

Table 5.10 Median age at first birth

Median age at first birth among women age 20-49 and 25-49, by background characteristics, Bangladesh 2011

Background characteristic	Women age 20-49	Women age 25-49
Residence		
Urban	19.0	18.8
Rural	18.1	17.9
Division		
Barisal	18.2	18.0
Chittagong	18.8	18.5
Dhaka	18.5	18.3
Khulna	17.9	17.7
Rajshahi	17.8	17.6
Rangpur	17.5	17.5
Sylhet	19.7	19.5
Educational attainment		
No education	17.5	17.5
Primary incomplete	17.2	17.3
Primary complete[1]	17.7	17.7
Secondary incomplete	18.6	18.5
Secondary complete or higher[2]	a	22.2
Wealth quintile		
Lowest	17.6	17.7
Second	17.7	17.6
Middle	17.9	17.6
Fourth	18.5	18.1
Highest	19.8	19.6
Total	18.3	18.1

a = Omitted because less than 50 percent of the women had a birth before reaching the beginning of the age group
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

5.9 TEENAGE PREGNANCY AND MOTHERHOOD

Teenage pregnancy and motherhood is a major social and health concern. Early teenage pregnancy can cause severe health problems for both the mother and the child. The 2004 Bangladesh Population Policy focused on ensuring for adolescents adequate availability of and access to reproductive health services, especially family planning information, counselling, and services (MOHFW, 2009). Teenage mothers are more likely to suffer from severe complications during delivery, which result in high morbidity and mortality for both themselves and their children. In addition, young mothers may not be sufficiently emotionally mature to bear the burden of childbearing and rearing. Moreover, an early start to childbearing greatly reduces women's educational and employment opportunities and is associated with higher levels of fertility. This hurts their job prospects, which often lowers their status in society.

Table 5.11 shows that 30 percent of adolescents age 15-19 have begun childbearing. About one-fourth of teenagers in Bangladesh have given birth, and another 6 percent are pregnant with their first child. As expected, the proportion of women age 15-19 who have begun childbearing rises rapidly with age, from 10 percent among women age 15 to 58 percent among women age 19.

Early childbearing among teenagers is more common in rural than in urban areas (33 versus 24 percent, respectively), and in Rangpur (41 percent) compared with other divisions. Childbearing begins

later in Sylhet than in other divisions, mainly because of the later age at marriage in Sylhet. Delayed childbearing is strongly related to education among women age 15-19. Only 11 percent of the teenagers who completed secondary or higher education have begun childbearing, compared with almost half of those with no education (47 percent). Childbearing begins earlier in the lowest wealth quintile: 42 percent of adolescents in this group have begun childbearing, compared with 19 percent of adolescents in the highest wealth quintile. The proportion of adolescents age 15-19 who have begun childbearing remained the same (33 percent) in the 2004 and 2007 BDHS surveys. However, early childbearing among teenage women has slightly declined to 30 percent in 2011.

Table 5.11 Teenage pregnancy and motherhood

Percentage of women age 15-19 who have had a live birth or who are pregnant with their first child, and percentage who have begun childbearing, by background characteristics, Bangladesh 2011

Background characteristic	Percentage of women age 15-19 who:		Percentage who have begun childbearing	Number of women
	Have had a live birth	Are pregnant with first child		
Age				
15	6.0	3.8	9.8	888
16	11.5	4.6	16.1	818
17	22.3	6.6	28.9	825
18	31.7	7.1	38.8	971
19	51.4	6.9	58.3	804
Residence				
Urban	19.1	4.9	24.0	1,140
Rural	26.3	6.1	32.5	3,167
Division				
Barisal	24.6	5.5	30.2	264
Chittagong	21.9	5.5	27.4	913
Dhaka	23.7	5.1	28.8	1,365
Khulna	26.9	6.0	32.9	480
Rajshahi	24.8	8.0	32.8	519
Rangpur	35.1	5.9	41.0	473
Sylhet	13.6	5.8	19.5	293
Educational attainment				
No education	41.6	5.1	46.7	249
Primary incomplete	33.9	5.3	39.3	537
Primary complete[1]	31.5	8.3	39.8	430
Secondary incomplete	25.3	6.3	31.6	2,262
Secondary complete or higher[2]	7.2	3.9	11.1	816
Wealth quintile				
Lowest	34.9	6.7	41.6	606
Second	27.0	6.7	33.8	945
Middle	24.9	5.9	30.8	956
Fourth	22.5	6.1	28.6	952
Highest	15.6	3.7	19.3	849
Total	24.4	5.8	30.2	4,306

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

FERTILITY PREFERENCES 6

Key Findings

- Sixty-five percent of currently married women in Bangladesh want to limit child bearing—59 percent want no more children, and 6 percent have been sterilized.
- The desire to stop childbearing among currently married women with two children has increased rapidly over the past decade, from 66 percent in 1999-2000 to 82 percent in 2011.
- Women and men prefer to have the same family size of about two children (2.2). Since 1999-2000, the mean ideal number of children has decreased from 2.5 children to 2.2 children in 2011.
- Bangladeshi women have 0.7 children more than their desired number. This implies that the TFR would be 30 percent lower if unwanted births were avoided. The gap between wanted and actual fertility rates has narrowed over the years; from 1.1 children in 1999-2000 to 0.7 children in 2011.

Information on fertility preferences is of considerable importance to family planning programs because it allows planners to assess the desire for children and also to assess the extent of unwanted and mistimed pregnancies. Data on fertility preferences also indicate the direction that future fertility efforts of a country's citizens may take. As in previous BDHS surveys, the 2011 BDHS asked women a series of questions to ascertain their fertility preferences. The resulting data are used to quantify fertility preferences—whether couples want to cease childbearing altogether or merely delay the next pregnancy, for example. Data can also be used to determine the demand for family planning—in combination with data on contraceptive use—to estimate unmet need for family planning, including the need for spacing and limiting births. The ideal number of children is another important indicator of fertility preferences that shows the number of children a woman or man would want in total if she or he could start afresh. The information on ideal family size provides two measures. First, for men and women who have not yet started a family the data provide an idea of future fertility (to the extent that couples are able to realize their fertility desires). Second, the excess of past fertility over ideal family size provides a measure of unwanted fertility. Other topics discussed in this chapter are fertility planning, the effect of unwanted births on fertility rates, and how fertility preferences between husband and wife differ.

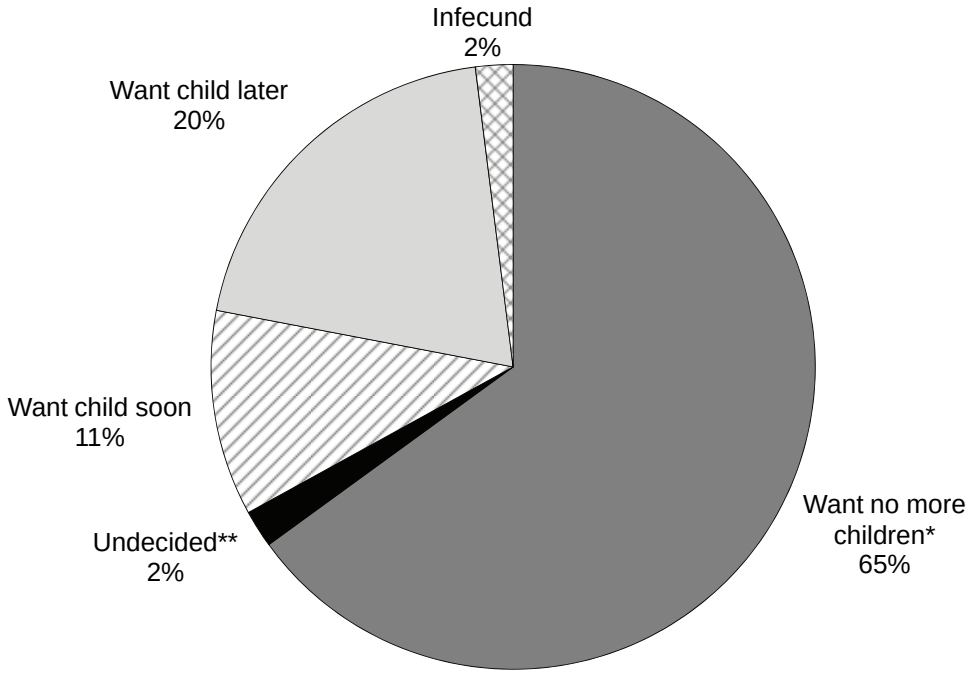
The interpretation of data on fertility preferences is often difficult since it is understood that respondents' reported preferences are, in a sense, hypothetical and thus subject to change and rationalization. Still, data on fertility preferences indicate the direction of future fertility to the extent that individuals and couples will act to achieve their preferred family sizes.

6.1 DESIRE FOR MORE CHILDREN

Information about the desire for more children is important for understanding future reproductive behavior. The provision of adequate and accessible family planning services depends on the availability of such information. In the 2011 BDHS, currently married women (whether pregnant or not) and men were asked about their intentions to have another child and, if they had such intentions, how soon they wanted the child. The same question was phrased differently in the case of pregnant women to ensure the wantedness of subsequent children after completion of the current pregnancy. Sterilized women and men were considered to want no more children, and therefore they were not asked questions about their desire

for more children. Figure 6.1 shows the overall fertility preferences among currently married women in Bangladesh. There is widespread desire among Bangladeshi women to control the timing and number of births they have. Overall, 65 percent of currently married women in Bangladesh want to limit child bearing—59 percent say they want no more children, and an additional 6 percent have been sterilized. Thirty-one percent of married women want to have a child at some time in the future, but only 11 percent of married women want a child within two years, and 20 percent would prefer to wait two or more years Thus, the vast majority of married women want to either space their next birth or cease childbearing altogether.

Figure 6.1 **Fertility preferences among currently married women age 15-49**



* Includes male and female sterilization
** Includes undecided about when or if to have a child

BDHS 2011

Table 6.1 shows the percent distribution of currently married women by desire for another child, according to the number of living children. The proportion of women who want to stop childbearing or are sterilized increases rapidly with the number of living children, from 16 percent of women with one child to 82 percent of women with two living children and over 90 percent of women with three or more children. The proportion of women who want to have another child decreases with the number of living children. Two in three women with no children want to have a child soon, while 62 percent of women with one child want to space the next birth and wait for two or more years.

There have been some changes in fertility preferences among married women since 2007. The proportion of currently married women who either want no more children or who have been sterilized increased from 62 percent in 2007 to 65 percent in 2011, while the proportion of married women who want another child soon or later has decreased from 33 percent in 2007 to 31 percent in 2011 (NIPORT, Mitra and Associates, and Macro International, 2009).

Table 6.1 Fertility preferences by number of living children

Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Bangladesh 2011

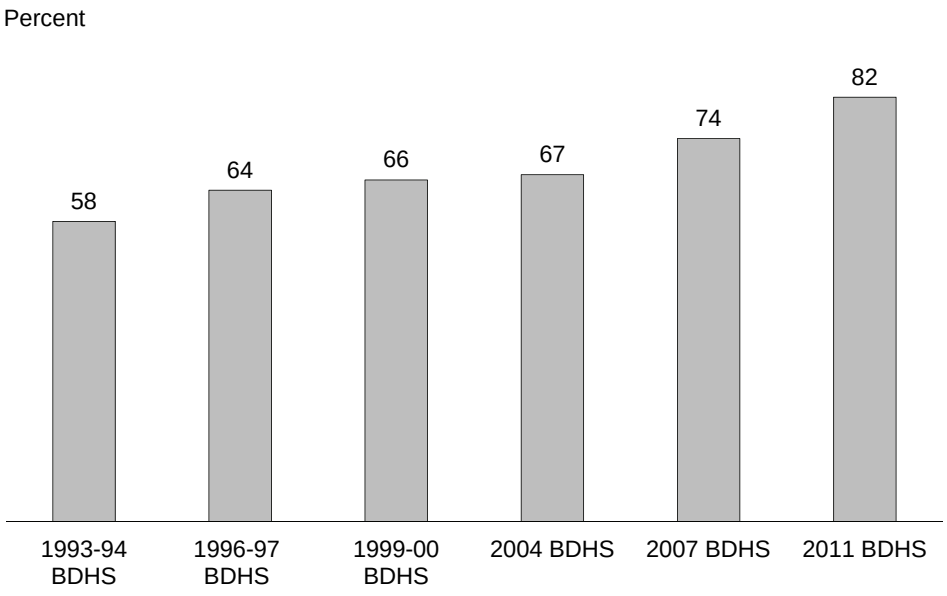
Desire for children	Number of living children[1]							Total 15-49
	0	1	2	3	4	5	6+	
Have another soon[2]	65.8	17.4	4.9	1.6	1.1	0.5	0.3	10.9
Have another later[3]	27.4	62.3	10.2	2.7	1.1	0.2	0.0	19.8
Have another, undecided when	1.6	1.5	0.3	0.0	0.1	0.1	0.7	0.6
Undecided	1.5	2.1	1.5	1.2	0.3	0.5	0.4	1.4
Want no more	0.9	14.5	76.2	80.7	81.4	80.7	86.3	58.7
Sterilized[4]	0.5	1.0	5.3	11.1	11.4	12.1	6.1	6.2
Declared infecund	2.3	1.1	1.3	2.4	4.1	5.9	5.9	2.3
Missing	0.0	0.1	0.3	0.2	0.4	0.0	0.2	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,268	3,740	4,886	3,365	1,836	853	688	16,635

[1] The number of living children includes current pregnancy for women.
[2] Wants next birth within 2 years
[3] Wants to delay next birth for 2 or more years
[4] Includes both female and male sterilization

6.2 DESIRE TO LIMIT CHILDBEARING

The proportion of women who want no more children is an important and easily understood measure of fertility preference. The National Population Policy promotes a two-child family norm and emphasizes a dissemination of the message—not more than two children, one is better (MOHFW, 2009). Figure 6.2 shows that the desire to limit childbearing has increased rapidly in Bangladesh over the past decade. The percentage of currently married women with two children who desire to stop childbearing increased by 16 percentage points in the last decade, from 66 percent in 1999-00 to 82 percent in 2011.

Figure 6.2 **Trends in currently married women with two children who want no more children, 1993-2011**



Includes male and female sterilization.

Table 6.2 shows the percentage of currently married women who desire to stop childbearing by urban-rural residence, division, education, and household wealth, by the number of living children the women have. Overall, rural women are more likely than urban women to want no more children because rural women already have more children than urban women do. With fewer numbers of living children, the pattern is reversed, that is, urban women are more likely than rural women to want no more children. For example, among women with two children, 86 percent of urban women want no more children compared with 80 percent of rural women.

Table 6.2 Desire to limit childbearing

Percentage of currently married women age 15-49 who want no more children, by number of living children, according to background characteristics, Bangladesh 2011

Background characteristic	Number of living children[1]							Total
	0	1	2	3	4	5	6+	
Residence								
Urban	1.7	18.9	86.3	93.5	93.4	85.9	88.9	62.4
Rural	1.2	14.0	79.7	91.3	92.7	94.1	93.0	65.8
Division								
Barisal	1.7	14.7	82.5	92.6	96.5	95.2	98.6	66.7
Chittagong	0.0	9.4	69.5	86.5	93.4	95.0	92.5	62.1
Dhaka	1.5	15.1	81.0	94.1	93.9	92.0	93.5	64.0
Khulna	1.7	20.4	88.6	93.2	95.6	89.3	93.5	66.9
Rajshahi	1.7	21.7	85.8	92.8	88.4	89.1	88.2	66.3
Rangpur	0.3	13.1	87.0	93.6	91.6	95.4	90.6	67.6
Sylhet	4.5	12.2	66.9	83.3	89.1	91.6	90.6	63.9
Education								
No education	7.2	29.8	83.2	91.3	91.8	93.3	91.3	81.6
Primary incomplete	1.0	16.4	79.8	93.2	93.3	89.9	95.1	73.6
Primary complete[2]	0.8	12.1	79.6	90.3	94.1	93.9	94.5	65.6
Secondary incomplete	0.4	11.7	80.1	91.9	93.3	95.1	90.2	51.2
Secondary complete or higher[3]	0.7	18.1	86.4	91.7	96.8	100.0	100.0	50.4
Wealth quintile								
Lowest	3.7	15.1	77.5	89.6	92.6	95.0	91.1	69.6
Second	0.3	15.1	80.5	92.8	92.8	92.2	94.0	67.0
Middle	2.3	13.9	82.4	92.1	93.3	96.9	92.5	65.9
Fourth	0.3	14.6	81.9	92.8	91.1	89.4	90.3	62.1
Highest	1.2	18.1	83.7	91.8	94.6	86.3	95.8	60.8
Total	1.3	15.5	81.5	91.8	92.8	92.8	92.4	64.9

Note: Women who have been sterilized are considered to want no more children.
[1] The number of living children includes the current pregnancy.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Overall, differences among women in their desire to limit childbearing are relatively small by administrative division. This difference has narrowed over time. For example, the percentage of women who want to stop childbearing in Sylhet increased from 54 percent in 2007 to 64 percent in 2011. However, the desire to limit childbearing varies somewhat among currently married women with two children. While the proportion of women with two children who want no more children has increased substantially in Sylhet, Barisal, and Chittagong divisions since 2007, this proportion remains lower than average in Sylhet (67 percent) and Chittagong (70 percent) (NIPORT, Mitra and Associates, and Macro International, 2009).

There are major differences in women's fertility preferences by level of education. Overall, the desire to limit childbearing is higher among women with no education than among women with education. For example, 82 percent of currently married women with no education want to stop childbearing compared with 50 percent of those who have completed secondary education. There are differences in the desire to limit childbearing by household wealth. Overall, the desire not to have any more children declines with wealth; women in the lowest wealth quintile are most likely to want no more children (70 percent) while women in the highest wealth quintile are least likely to want no more children (61 percent). The

results by specific number of living children are less clear. At lower parities, however, women in the higher wealth quintiles are more likely to want no more children than women in the lower wealth quintiles.

6.3 IDEAL FAMILY SIZE

Women and men who were interviewed in the 2011 BDHS were asked two questions for determining ideal family size. Respondents who did not have any living children were asked, "If you could choose exactly the number of children to have in your lifetime, how many would that be?" For respondents who had living children, the question was rephrased as follows, "If you could go back to the time you did not have any children and could choose exactly the number of children to have in your lifetime, how many would that be?" The results for women are presented in Table 6.3.

Women in Bangladesh prefer a small family size (2.2 children on average). Three in four women want to have two children, while 5 percent want to have only one child. Twelve percent of women prefer a three-child family.

Table 6.3 Ideal number of children by number of living children

Percent distribution of ever-married women age 15-49 by ideal number of children, and mean ideal number of children for ever-married women and for currently married women, according to the number of living children, Bangladesh 2011

	Number of living children[1]							
Ideal number of children	0	1	2	3	4	5	6+	Total
0	1.0	0.1	0.0	0.0	0.1	0.2	0.3	0.2
1	11.3	10.9	3.7	2.5	1.3	0.6	0.3	5.1
2	79.9	83.0	84.4	70.2	65.5	52.4	45.8	75.5
3	4.4	4.5	9.2	21.1	16.5	24.8	21.5	12.2
4	1.7	1.1	2.2	5.1	13.8	16.7	22.7	5.4
5	0.3	0.1	0.1	0.2	1.1	2.3	1.9	0.4
6+	0.1	0.0	0.0	0.0	0.3	0.8	2.6	0.2
Non-numeric responses	1.3	0.4	0.3	0.7	1.4	2.1	4.9	0.9
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number	1,447	4,011	5,115	3,568	1,954	918	737	17,749
Mean ideal number children for:[2]								
Ever-married women	2.0	2.0	2.1	2.3	2.5	2.7	2.9	2.2
Number	1,428	3,996	5,099	3,542	1,927	898	700	17,590
Currently married women	2.0	2.0	2.1	2.3	2.5	2.7	2.9	2.2
Number	1,254	3,725	4,874	3,338	1,812	836	654	16,493

[1] The number of living children includes current pregnancy for women.
[2] Means are calculated excluding respondents who gave non-numeric responses.

There has been a decline in the mean ideal number of children among women since 1999-2000. The mean ideal number of children decreased by 0.1 in each subsequent survey, from 2.5 children in 1999-2000 to 2.2 in 2011. This finding could explain the declining total fertility rates in the same period.

The ideal number of children increases with the number of living children. Women with six or more living children have an ideal family size of 2.9, compared with 2.0 for those with no children or one child. The positive association between actual and ideal number of children is due to two factors. First, to the extent that women are able to implement their fertility desires, women who want smaller families will tend to achieve smaller families. Second, some women may have difficulty admitting their desire for fewer children if they could begin childbearing again and may in fact report their actual number as their preferred number. Despite this tendency to rationalize, the data provide evidence of unwanted fertility, with the vast majority of women with three or more children reporting an ideal family size of fewer than their actual number of children.

Both women and men in Bangladesh prefer to have the same number of children (2.2). Table 6.4 presents data on the mean ideal number of children for ever-married women and men age 15-49, by background characteristics. The ideal family size for both women and men increases with age. For women,

it rises from 2.0 children in the youngest age group (15-19 years) to 2.5 children in the oldest age group (45-49 years). For men, it rises from 2.0 children among men age 20-24 to 2.2 children in the older age groups (30-49 years). Ideal family size for both women and men is slightly higher in rural areas than urban areas, and it is inversely related to education and household wealth. Divisional variations in ideal family size among both women and men are modest, ranging from 2.0 to 2.5 children. Ideal family size for both women and men is highest in Sylhet and Chittagong (2.5 children and 2.4 children, respectively) and is lowest among men in Khulna (2.0 children) and among women in Khulna, Rajshahi, and Rangpur (2.1 children).

Table 6.4 Mean ideal number of children

Mean ideal number of children for ever-married women age 15-49 and ever-married men age 15-49 by background characteristics, Bangladesh 2011

Background characteristic	Mean	Number of women[1]	Mean	Number of men[1]
Age				
15-19	2.0	1,961	*	21
20-24	2.1	3,497	2.0	247
25-29	2.1	3,380	2.0	620
30-34	2.2	2,632	2.2	620
35-39	2.3	2,217	2.2	656
40-44	2.4	2,119	2.2	625
45-49	2.5	1,785	2.2	580
Residence				
Urban	2.1	4,600	2.0	944
Rural	2.2	12,991	2.2	2,425
Division				
Barisal	2.2	990	2.1	173
Chittagong	2.4	3,173	2.4	511
Dhaka	2.2	5,724	2.1	1,092
Khulna	2.1	2,131	2.0	430
Rajshahi	2.1	2,633	2.1	552
Rangpur	2.1	2,026	2.1	440
Sylhet	2.5	914	2.5	170
Education				
No education	2.4	4,835	2.3	883
Primary incomplete	2.3	3,231	2.2	818
Primary complete[2]	2.2	2,034	2.1	304
Secondary incomplete	2.1	5,369	2.1	753
Secondary complete or higher[3]	2.0	2,121	2.0	611
Wealth quintile				
Lowest	2.3	3,211	2.3	650
Second	2.2	3,449	2.2	662
Middle	2.2	3,529	2.2	638
Fourth	2.2	3,639	2.1	721
Highest	2.1	3,762	2.0	698
Total 15-49	2.2	17,590	2.2	3,369

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Number of women/men who gave a numeric response
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

6.4 FERTILITY PLANNING

Information collected in the 2011 BDHS can be used to estimate levels of unwanted fertility. This information provides some insight into the degree to which couples are able to control fertility. Women age 15-49 were asked a series of questions about each child born to them in the preceding five years, as well as any current pregnancy, to determine whether the birth or pregnancy was wanted then (planned), wanted later (mistimed), or not wanted at all (unplanned) at the time of conception. In assessing these results, it is important to recognize that women may declare a previously unwanted birth or current pregnancy as wanted, and this rationalization results in an underestimate of the true extent of unwanted births.

Table 6.5 shows that almost three in four births in the five years preceding the survey were planned, 15 percent were mistimed, and 13 percent were unwanted. These figures are almost unchanged since the 2007 BDHS.

The proportion of wanted births decreases and the proportion of unwanted births increases with increasing birth order, a pattern similar to that found in the 2004 and 2007 BDHS surveys. Eighty-seven percent of first-order births are wanted then, and 46 percent of fourth and higher-order births are unwanted. The proportion of mistimed births is highest for second-order births (23 percent) and then declines with birth order.

Table 6.5 Fertility planning status

Percent distribution of births to women age 15-49 in the five years preceding the survey (including current pregnancies), by planning status of the birth, according to birth order and mother's age at birth, Bangladesh 2011

Birth order and mother's age at birth	Planning status of birth				Total	Number of births
	Wanted then	Wanted later	Wanted no more	Missing		
Birth order						
1	87.1	12.8	0.1	0.1	100.0	3,512
2	74.6	23.2	2.2	0.0	100.0	2,866
3	63.7	14.7	21.6	0.0	100.0	1,717
4+	47.5	6.2	46.1	0.2	100.0	1,763
Mother's age at birth						
<20	79.2	19.8	0.9	0.1	100.0	3,105
20-24	75.0	17.9	7.1	0.0	100.0	3,418
25-29	68.6	9.7	21.6	0.1	100.0	2,009
30-34	59.4	4.5	36.1	0.0	100.0	903
35-39	46.6	2.0	51.0	0.3	100.0	335
40-44	36.2	5.7	58.1	0.0	100.0	72
45-49	*	*	*	*	*	15
Total	72.3	15.0	12.7	0.1	100.0	9,857

Note: An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.

A similar pattern is observed for the mother's age at birth. The proportion of planned births is highest (79 percent) among mothers in the youngest age group (<20) and then decreases with mother's age. Mistimed births are also more common among younger mothers (under age 20) than among older mothers. The percentage of unwanted births increases with mother's age at birth, rising from 1 percent among mothers below age 20 to 58 percent among mothers age 40-44.

6.5 WANTED FERTILITY RATES

The wanted fertility rate measures the potential demographic impact of avoiding unwanted births. It is calculated in the same manner as the total fertility rate but excludes unwanted births from the numerator. A birth is considered wanted if the number of living children at the time of conception is lower than the ideal number of children reported by the respondent. The gap between wanted and actual fertility shows how successful women are in achieving their reproductive intentions. This measure also may be an underestimate to the extent that women may not report an ideal family size lower than their actual family size.

The total wanted fertility rates in Table 6.6 represent the levels of fertility that would have prevailed in the three years preceding the survey if all unwanted births had been avoided. Overall, the total wanted fertility rate for Bangladesh is 1.6 children, a 16 percent decline from the 1.9 children estimated in the 2007 BDHS. The total fertility rate (TFR) is estimated as 2.3 children, which shows the same decline (15 percent) in the same period. This implies that Bangladeshi women have 0.7 children more than their wanted number of children and the TFR would be 30 percent lower if unwanted births were avoided. The gap between wanted and actual fertility rates has narrowed over the years; from 1.1 children in 1999-2000 to 0.7 children in 2011 (Figure 6.3).

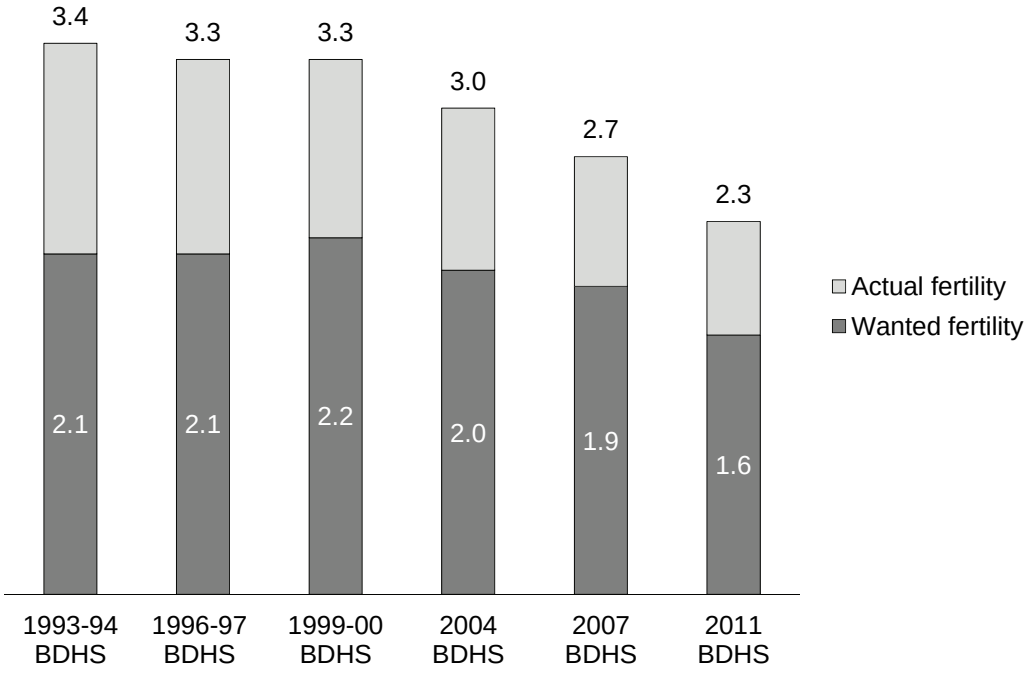
Table 6.6 Wanted fertility rates

Total wanted fertility rates and total fertility rates for the three years preceding the survey, by background characteristics, Bangladesh 2011

Background characteristic	Total wanted fertility rates	Total fertility rate
Residence		
Urban	1.5	2.0
Rural	1.6	2.5
Division		
Barisal	1.6	2.3
Chittagong	1.7	2.8
Dhaka	1.6	2.2
Khulna	1.5	1.9
Rajshahi	1.6	2.1
Rangpur	1.5	2.1
Sylhet	1.8	3.1
Education		
No education	1.8	2.9
Primary incomplete	1.6	2.6
Primary complete[1]	1.6	2.3
Secondary incomplete	1.7	2.2
Secondary complete or higher[2]	1.5	1.9
Wealth quintile		
Lowest	1.8	3.1
Second	1.7	2.5
Middle	1.6	2.2
Fourth	1.5	2.1
Highest	1.5	1.9
Total	1.6	2.3

Note: Rates are calculated based on births to women age 15-49 in the period 1-36 months preceding the survey. The total fertility rates are the same as those presented in Table 5.2.
[1] Primary complete is defined as completing grade 5
[2] Secondary complete is defined as completing grade 10.

Figure 6.3 **Trends in gap between wanted and unwanted fertility rates, 1993-2011**



There is a wide gap between wanted and observed fertility rates by characteristics of women. The gap is higher among women who live in rural areas (0.9 children) than among women who live in urban areas (0.5 children). The gap is also higher among women residing in Sylhet (1.3 children) and Chittagong (1.1 children) than women residing in Khulna (0.4 children) and Rajshahi (0.5 children). The gap between wanted and observed total fertility rates decreases with increasing education and wealth. Women with no education have 1.1 children more than they want, compared to 0.4 children among women with secondary or higher level of education. Similarly, the gap between wanted and actual fertility rates ranges from 0.4 children among women in the highest wealth quintile to 1.3 children among women in the lowest wealth quintile.

6.6 SPOUSAL AGREEMENT IN DESIRED NUMBER OF CHILDREN

Currently married women who were not sterilized in the 2011 BDHS sample were asked, "Does your husband want the same number of children that you want, or does he want more or fewer than you want?" Responses to these questions are presented as spousal agreement in desired number of children in Table 6.7 by background characteristics of women.

Table 6.7 Comparison of desired number of children

Percent distribution of currently married women age 15-49 by husband's desired number of children, by background characteristics, Bangladesh 2011

Background characteristic	Husband wants					Total	Number of women
	Same number	More children	Fewer children	Don't know	Missing		
Residence							
Urban	83.2	9.0	5.8	1.8	0.2	100.0	4,292
Rural	79.8	10.0	7.2	2.9	0.2	100.0	12,343
Division							
Barisal	81.3	9.3	5.5	3.8	0.1	100.0	952
Chittagong	79.0	10.8	6.7	3.3	0.2	100.0	3,015
Dhaka	82.7	9.6	5.3	2.2	0.2	100.0	5,334
Khulna	79.8	9.6	8.8	1.9	0.1	100.0	1,996
Rajshahi	81.1	7.6	8.7	2.3	0.3	100.0	2,526
Rangpur	81.5	8.9	7.2	2.1	0.3	100.0	1,927
Sylhet	72.2	15.3	6.7	5.5	0.3	100.0	884
Education							
No education	78.6	11.6	5.8	3.7	0.3	100.0	4,379
Primary incomplete	79.2	11.2	6.6	2.8	0.2	100.0	3,056
Primary complete[1]	81.1	9.3	6.9	2.6	0.2	100.0	1,963
Secondary incomplete	82.1	8.1	7.5	2.1	0.2	100.0	5,176
Secondary complete or higher[2]	83.2	8.1	7.3	1.4	0.1	100.0	2,061
Wealth quintile							
Lowest	77.2	12.6	6.0	3.9	0.3	100.0	2,975
Second	80.5	9.8	6.5	2.9	0.3	100.0	3,267
Middle	81.3	8.6	7.2	2.7	0.2	100.0	3,372
Fourth	80.7	9.1	7.7	2.3	0.1	100.0	3,457
Highest	83.0	8.8	6.5	1.5	0.2	100.0	3,564
Total	80.7	9.7	6.8	2.6	0.2	100.0	16,635

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Overall, four in five women report having spousal agreement in the desired number of children. Ten percent of women say their husband wants more children than they want, and 7 percent say he wants fewer children.

There are relatively small variations in spousal agreement in the desired number of children by residence and education. Urban women are slightly more likely to report spousal agreement than rural women (83 percent and 80 percent respectively). There is a tendency towards increased spousal agreement in desired number of children with household wealth. The proportion of women having spousal agreement ranges from 77 percent among women in the lowest quintile to 83 percent in the highest quintle. Divisional variations in spousal agreement in desired number of children are modest, ranging from 79 to 83 percent, except in Sylhet where agreement is only 72 percent.

FERTILITY REGULATION 7

Key Findings

- Three in five married women in Bangladesh use a method of contraception, and more than half use a modern method of contraception (52 percent). Use of contraception increased from 56 to 61 percent between 2007 and 2011.
- The four most popular modern methods used by married women are the pill (27 percent), injectables (11 percent), the male condom (6 percent), and female sterilization (5 percent).
- Only 8 percent of currently married couples use a long-term or permanent method, such as sterilization, an IUD, or an implant.
- More than one in three users of contraception has discontinued a method within 12 months of starting its use (36 percent).
- The government sector remains the major provider of contraceptive methods, catering to more than half of all users (52 percent); government fieldworkers supply 23 percent. The private sector provides contraceptives to 43 percent of all users, with pharmacies supplying 33 percent. About two in five pill users (38 percent) and three in five condom users (60 percent) use a socially marketed brand.
- Fourteen percent of currently married women in Bangladesh have an unmet need for family planning services; 8 percent have an unmet need for limiting births and 5 percent have an unmet need for spacing births.
- Television is the most popular source of family planning messages in Bangladesh, with 24 percent of ever-married women and 37 percent of ever-married men having seen a family planning message in this media in the past six months.

This chapter presents results on contraceptive use and related information from the 2011 BDHS. Use of family planning is one of the primary determinants of family size. Information is presented on current use of contraceptives, use of socially marketed brands of pills and condoms, contact with family planning workers, exposure to family planning messages in the media, discussion of family planning with the spouse, and other issues associated with family planning.

7.1 CURRENT USE OF CONTRACEPTION

In BDHS surveys, current use of contraception is defined as the proportion of currently married women who report that they are using a family planning method at the time of the survey. Overall, 61 percent of currently married Bangladeshi women age 15-49 are currently using a contraceptive method (Table 7.1). More than half (52 percent) use a modern method, and 9 percent use a traditional method. The pill is by far the most widely used method (27 percent), followed by injectables (11 percent), periodic abstinence (7 percent), male condoms (6 percent), and female sterilization (5 percent). About 1 percent each uses the IUD, male sterilization, implants, and withdrawal. Current use of contraception varies by age. Among young women, the use of any method increases with age, rising from usage among 47 percent of currently married women age 15-19 to a peak usage of 72 percent at age 35-39. Then usage among currently married women decreases to 64 percent at age 40-44 and to 43 percent at age 45-49. This inverted U-shaped pattern of contraceptive use by age is typical of most countries. The drop in current use among older women is usually attributed to their declining fecundity—whether perceived or real—while

lower levels of use among younger women are usually attributed to their desire to have more children. Contraceptive use among women age 15-19 has increased from 42 percent in 2007 to 47 percent in 2011 (NIPORT et al, 2009).

There are also variations in the use of specific methods by age. The pill is the most popular method among married women in all age groups, with one exception: women in the oldest age group, who are more likely to be sterilized. Injectables are the second most popular modern method after the pill for women age 20-34, while periodic abstinence is the second most popular method for women age 35-49.

Table 7.1 Current use of contraception by age

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to age, Bangladesh 2011

			Modern method							Any	Traditional method					
Age	Any method	Any modern method	Female sterili-zation	Male sterili-zation	Pill	IUD	Inject-ables	Im-plants	Male condom	tradi-tional method	Periodic absti-nence	With-drawal	Other	Not cur-rently using	Total	Number of women
15-19	47.1	42.4	0.0	0.0	26.0	0.0	8.9	0.7	6.8	4.7	2.8	1.9	0.1	52.9	100.0	1,925
20-24	57.9	53.4	0.8	0.5	31.9	0.6	12.8	1.2	5.6	4.5	3.1	1.2	0.2	42.1	100.0	3,396
25-29	65.8	60.0	3.5	1.2	32.3	0.8	14.1	1.7	6.3	5.8	4.1	1.7	0.0	34.2	100.0	3,262
30-34	70.7	61.0	5.2	2.1	32.6	1.0	13.2	1.2	5.7	9.8	7.1	2.2	0.5	29.3	100.0	2,532
35-39	71.7	56.9	7.9	1.5	27.6	1.3	10.7	1.7	6.2	14.8	11.3	2.8	0.7	28.3	100.0	2,081
40-44	63.6	46.0	9.2	2.5	18.5	0.9	9.4	0.7	4.8	17.7	14.5	2.0	1.1	36.4	100.0	1,937
45-49	43.1	30.4	13.7	1.3	9.0	0.2	3.9	0.1	2.1	12.8	10.8	1.6	0.3	56.9	100.0	1,501
Total	61.2	52.1	5.0	1.2	27.2	0.7	11.2	1.1	5.5	9.2	6.9	1.9	0.4	38.8	100.0	16,635

Note: If more than one method is used, only the most effective method is considered in this tabulation.

7.2 DIFFERENTIALS IN CURRENT USE OF FAMILY PLANNING

Use of contraceptives varies by the woman's number of living children (Table 7.2 and Figure 7.1). Contraceptive use increases sharply as the number goes up, from 24 percent among married women with no children to 65 percent among women with one or two children. It continues to increase to 69 percent among women with three or four children but decreases to 58 percent after five or more children. This decrease in use may be caused by declining fecundity associated with the older age of high-parity women. The pill is the most widely used method among all categories of women.

Contraceptive use varies by place of residence. While use of contraception continues to be higher in urban (64 percent) than in rural areas (60 percent), the gap is narrowing; in the 2007 BDHS it was 62 percent in urban areas and 54 percent in rural areas (NIPORT et al, 2009). The urban-rural differential in contraceptive use is primarily the result of greater use of condoms in urban areas than in rural areas (10 percent compared with 4 percent). Contraceptive use among geographic divisions ranges from a high of 69 percent in Rangpur to a low of 45 percent in Sylhet.

There is a small variation in contraceptive use by women's education. Contraceptive pills are favored by women of all educational levels (21 to 32 percent). Women with no education are more likely to use female sterilization than educated women. Women in the lowest two educational quintiles are the most likely to report using male sterilization. After the pill, injectables are favored by women (no education through secondary incomplete level) (10 to 14 percent). In contrast, male condom use is the second most popular method among women with secondary or higher education (18 percent).

There is no significant variation in overall contraceptive use by economic status of women (61 percent of women in the highest wealth quintile use contraceptives compared with 62 percent of women in the lowest wealth quintile). Use of condoms increases with wealth quintile, while use of injectables declines as wealth increases.

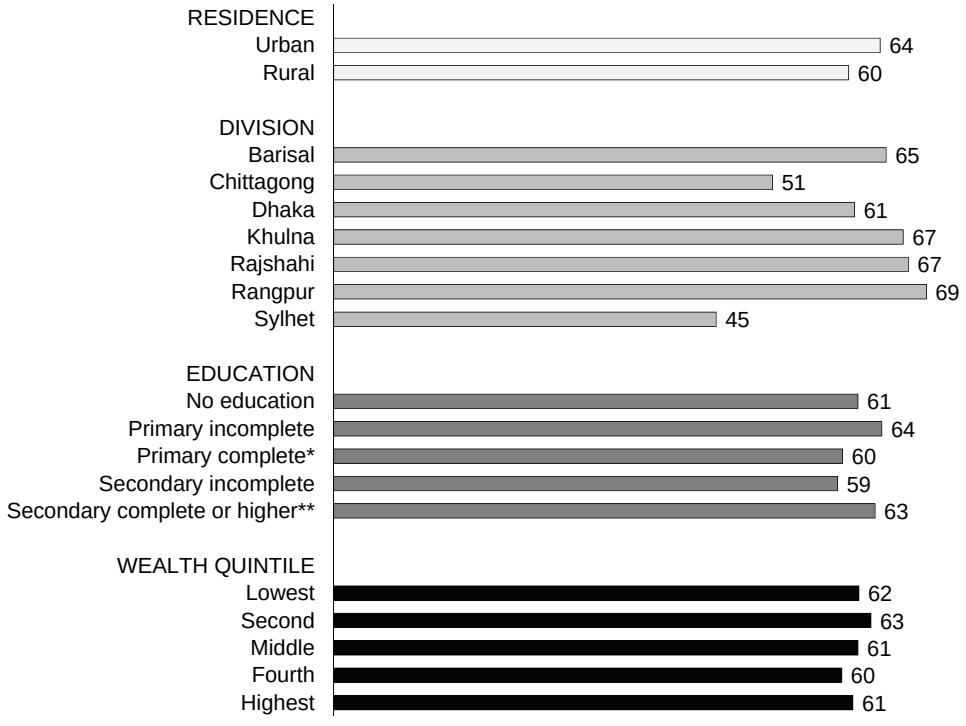
Table 7.2 Current use of contraception by background characteristics

Percent distribution of currently married women age 15-49 by contraceptive method currently used, according to background characteristics, Bangladesh 2011

Background characteristic	Any method	Any modern method	Modern method: Female sterilization	Modern method: Male sterilization	Modern method: Pill	Modern method: IUD	Modern method: Injectables	Modern method: Implants	Modern method: Male condom	Any traditional method	Traditional method: Periodic abstinence	Traditional method: Withdrawal	Traditional method: Other	Not currently using	Total	Number of women
Number of living children																
0	24.4	20.2	0.1	0.3	13.2	0.0	0.1	0.0	6.5	4.2	2.6	1.7	0.0	75.6	100.0	1,688
1-2	64.7	57.3	2.7	0.9	32.4	0.7	12.4	1.3	7.0	7.4	5.4	1.8	0.2	35.3	100.0	8,389
3-4	68.8	56.9	9.7	1.9	26.3	1.0	12.7	1.4	4.0	11.9	9.1	2.2	0.7	31.2	100.0	5,037
5+	57.5	42.2	7.4	2.1	17.5	0.8	11.9	0.7	1.8	15.2	12.9	1.4	0.9	42.5	100.0	1,521
Residence																
Urban	64.0	54.0	3.9	1.0	28.1	0.7	9.2	0.9	10.3	10.0	7.8	2.0	0.3	36.0	100.0	4,292
Rural	60.3	51.4	5.3	1.3	26.9	0.7	11.9	1.2	3.9	8.9	6.6	1.8	0.4	39.7	100.0	12,343
Division																
Barisal	64.7	54.5	2.8	1.5	26.6	0.7	18.4	1.2	3.3	10.1	8.5	1.4	0.3	35.3	100.0	952
Chittagong	51.4	44.5	4.5	0.8	22.3	0.6	11.5	1.0	3.8	6.9	4.9	1.3	0.6	48.6	100.0	3,015
Dhaka	61.0	51.1	4.6	1.0	27.7	0.5	9.1	1.1	6.9	9.9	7.8	1.8	0.2	39.0	100.0	5,334
Khulna	66.7	56.1	5.8	1.0	28.9	0.9	11.6	1.1	6.8	10.6	6.9	3.3	0.4	33.3	100.0	1,996
Rajshahi	67.3	58.3	5.3	1.5	31.2	1.4	10.7	1.5	6.8	9.1	6.3	2.2	0.6	32.7	100.0	2,526
Rangpur	69.4	60.7	6.6	2.5	30.8	0.5	16.1	1.1	3.0	8.7	7.0	1.3	0.4	30.6	100.0	1,927
Sylhet	44.8	35.2	4.6	0.9	19.0	0.6	4.9	0.6	4.6	9.6	8.1	1.1	0.3	55.2	100.0	884
Education																
No education	61.4	50.2	9.6	1.9	21.4	0.8	13.5	1.1	1.9	11.2	9.1	1.3	0.8	38.6	100.0	4,379
Primary incomplete	64.2	53.5	5.5	2.0	26.8	0.6	14.4	1.5	2.7	10.7	8.2	2.0	0.5	35.8	100.0	3,056
Primary complete[1]	59.6	50.5	4.0	1.7	27.1	0.6	12.4	1.2	3.4	9.1	7.5	1.3	0.3	40.4	100.0	1,963
Secondary incomplete	59.0	52.9	2.1	0.5	32.1	0.8	10.0	1.1	6.4	6.1	3.9	2.0	0.2	41.0	100.0	5,176
Secondary complete or higher[2]	63.4	53.2	2.5	0.2	28.2	0.8	3.4	0.5	17.5	10.3	7.3	2.9	0.1	36.6	100.0	2,061
Wealth quintile																
Lowest	61.5	52.9	6.7	2.5	24.3	0.7	16.0	1.2	1.3	8.6	7.1	1.0	0.5	38.5	100.0	2,975
Second	62.9	53.8	5.3	1.7	27.8	0.7	13.7	1.9	2.6	9.2	7.0	1.6	0.5	37.1	100.0	3,267
Middle	61.4	52.1	5.2	1.0	28.8	0.9	11.4	1.2	3.8	9.3	7.1	1.7	0.4	38.6	100.0	3,372
Fourth	59.5	50.6	4.3	0.8	27.8	0.6	10.2	0.9	6.1	8.9	6.2	2.3	0.3	40.5	100.0	3,457
Highest	60.8	51.1	3.6	0.4	27.2	0.8	5.7	0.6	12.9	9.8	7.1	2.5	0.1	39.2	100.0	3,564
Total	61.2	52.1	5.0	1.2	27.2	0.7	11.2	1.1	5.5	9.2	6.9	1.9	0.4	38.8	100.0	16,635

Note: If more than one method is used, only the most effective method is considered in this tabulation.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Figure 7.1 Contraceptive use by background characteristics



* Primary complete is defined as completing grade 5.
** Secondary complete is defined as completing grade 10.

7.3 TRENDS IN CURRENT USE OF FAMILY PLANNING

Use of contraception among married women in Bangladesh has increased gradually, from 8 percent in 1975 to 61 percent in 2011, a greater than sevenfold increase in fewer than four decades (Table 7.3 and Figure 7.2). Over the past four years alone, contraceptive use has increased by five percentage points, from 56 percent in 2007 to 61 percent in 2011. The use of oral pills declined slightly between 2007 and 2011, but the decline in injectable use seen in 2007 reversed in 2011, showing an increase from 7 percent to 11 percent of married women. It should be noted that the decline in injectable use, from 10 percent in 2004 to 7 percent in 2007, was due to a nationwide stock-out just before the survey. The 2008 Utilization of Essential Service Delivery survey (UESD) found a return to 11 percent as soon as the stock-out was resolved (Al-Sabir et al, 2009). While female sterilization has stalled, holding steady at about 5 percent of married women since 2004, there is a hint that use of male sterilization may have increased slightly since 2007. Use of traditional methods also declined, from 11 percent in 2004 to 8 percent in 2007, but then usage increased slightly to 9 percent in 2011.

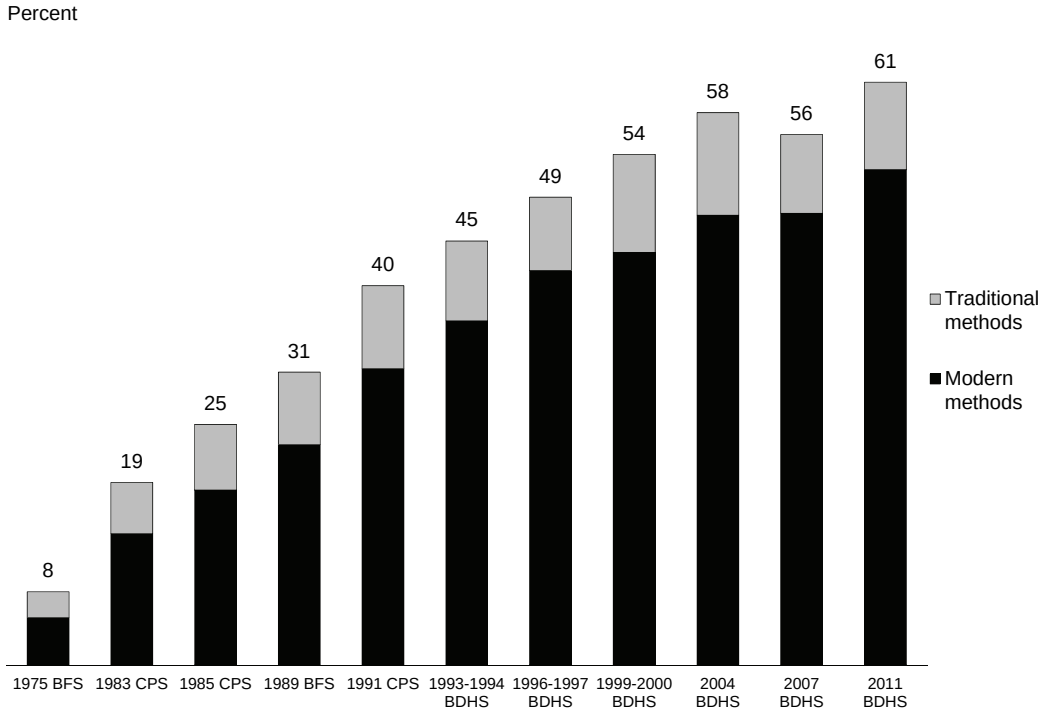
Table 7.3 Trends in current use of contraceptive methods

Percentage of currently married women age 10-49 who are currently using specific family planning methods, selected sources, Bangladesh 1975-2011

Method	1975 BFS	1983 CPS	1985 CPS	1989 BFS	1991 CPS	1993-94 BDHS	1996-97 BDHS	1999-2000 BDHS	2004 BDHS	2007 BDHS[1]	2011 BDHS[1]
Any method	7.7	19.1	25.3	30.8	39.9	44.6	49.2	53.8	58.1	55.8	61.2
Any modern method	5.0	13.8	18.4	23.2	31.2	36.2	41.5	43.4	47.3	47.5	52.1
Pill	2.7	3.3	5.1	9.6	13.9	17.4	20.8	23.0	26.2	28.5	27.2
IUD	0.5	1.0	1.4	1.4	1.8	2.2	1.8	1.2	0.6	0.9	0.7
Injectables	u	0.2	0.5	0.6	2.6	4.5	6.2	7.2	9.7	7.0	11.2
Implants	u	u	u	u	u	u	0.1	0.5	0.8	0.7	1.1
Vaginal methods	0.0	0.3	0.2	0.1	u	u	u	u	u	u	u
Condom	0.7	1.5	1.8	1.8	2.5	3.0	3.9	4.3	4.2	4.5	5.5
Female sterilization	0.6	6.2	7.9	8.5	9.1	8.1	7.6	6.7	5.2	5.0	5.0
Male sterilization	0.5	1.2	1.5	1.2	1.2	1.1	1.1	0.5	0.6	0.7	1.2
Any traditional method	2.7	5.4	6.9	7.6	8.7	8.4	7.7	10.3	10.8	8.3	9.2
Periodic abstinence	0.9	2.4	3.8	4.0	4.7	4.8	5.0	5.4	6.5	4.9	6.9
Withdrawal	0.5	1.3	0.9	1.8	2.0	2.5	1.9	4.0	3.6	2.9	1.9
Other traditional methods	1.3	1.8	2.2	1.8	2.0	1.1	0.8	0.9	0.6	0.6	0.4
Number of women	u	7,662	7,822	10,907	9,745	8,980	8,450	9,720	10,582	10,192	16,635

u = Unknown (not available)
[1] Data from 2007 and 2011 are restricted to currently married women age 15-49.
Sources: 1975 Bangladesh Fertility Survey (BFS) (Islam and Islam, 1993:43); 1983 Contraceptive Prevalence Survey (CPS) (Mitra and Kamal, 1985:159); 1985 CPS (Mitra 1987:147); 1989 BFS (Huq and Cleland, 1990:64); 1991 CPS (Mitra et al., 1993:53); 1993-1994 Bangladesh Demographic and Health Survey (BDHS) (Mitra et al., 1994:45); 1996-1997 BDHS (Mitra et al., 1997:50); 1999-2000 BDHS (NIPORT et al., 2001:53); 2004 BDHS (NIPORT et at., 2005:67), and 2007 BDHS (NIPORT et al., 2008: 52)

Figure 7.2 **Trends in contraceptive use among currently married women age 10-49, 1975-2011**

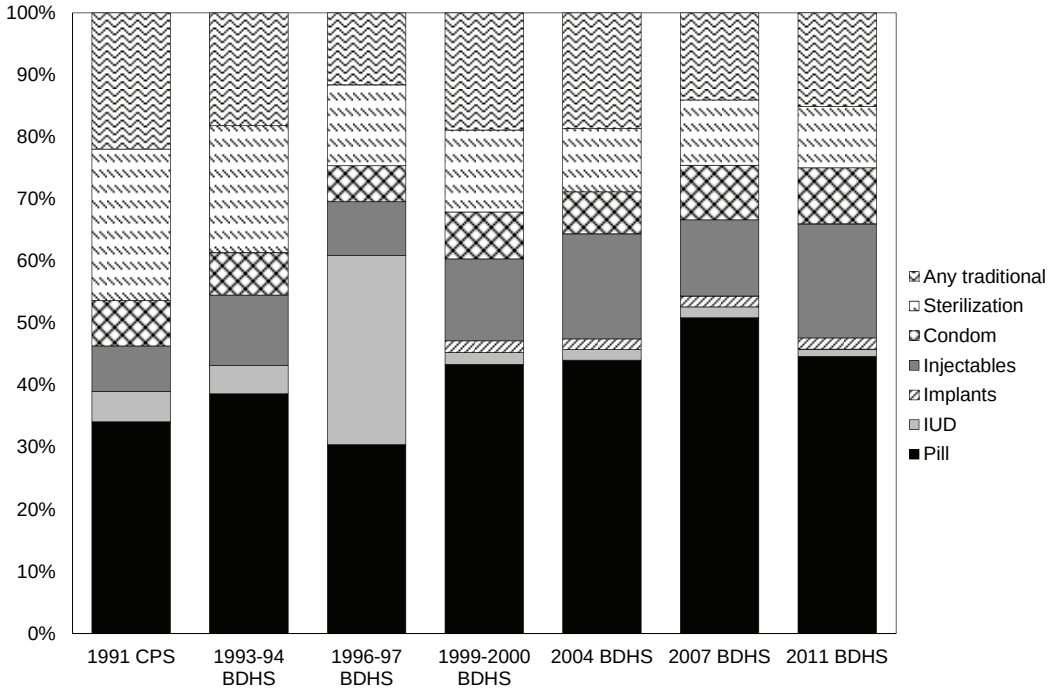


Note: Contraceptive use in 2007 and 2011 is for women age 15-49.

Between 1991 and 2011 use of female sterilization among currently married women declined from 9 to 5 percent. At the same time, two methods gained popularity; the pill is being used by 27 percent of women, almost double the level in 1991 (14 percent). Use of injectables increased from 3 percent in 1991 to 11 percent in 2011, a fourfold increase. However, the usage rate of injectables has stagnated at around 11 percent since 2008, a matter that may need further attention by program planners and policy makers.

The method mix has also changed over the past two decades. Currently only 8 percent of married couples use a long-acting or permanent method (LAPM), namely sterilization, IUD, and implants, which account for 13 percent of all contraceptive use. Use of LAPM was 12 percent in 1991, accounting for 30 percent of contraceptive use. Use of LAPM started to decline in the early 1990s, stabilized in 2007, and hints at a slight increase in 2011. Since 2004 there has been a slow increase in the use of male sterilization and implants, although the usage rate of these methods remains very low. The plateauing of LAPM methods should be of concern, as fertility is now so low that most childbearing is completed by the mid- to late-twenties, and women face two subsequent decades of reproductive life during which they must protect themselves from unwanted pregnancies.

Figure 7.3 **Trends in contraceptive method mix among currently married women, age 10-49, from1991-2011**



Note: Contraceptive use in 2007 and 2011 is for women age 15-49.

Under the Health Population Nutrition Sector Development Program (HPNSDP), Bangladesh aims to increase overall use of contraception to 72 percent by 2016. This means an increase of 11 percentage points would need to occur in the next 5 years, or an average of a 2.2 percentage point increase per year. During 2004-2011, all-method contraceptive use increased from 58 to 61 percent, a 3-percentage-point increase in seven years. The HPNSDP for 2011-2016 also focuses on reducing regional differences in contraceptive use. Its plan is to increase modern method contraceptive use in Sylhet and Chittagong (the two divisions lagging behind in the adoption of family planning) to 50 percent by 2016. To reach this level, modern contraceptive method use in Chittagong and Sylhet must increase by 5 and 15 percentage points, respectively.

7.4 TIMING OF STERILIZATION

Table 7.4 shows the distribution of sterilized women by the age at which they were sterilized, according to the number of years preceding the survey that the procedure was done. Because data on age at sterilization are derived from a question on the month and year of the operation, it is possible that the data are distorted by recall errors in reporting either the date of the operation or the date of birth or age of the woman.

Women who decide to get sterilized generally undergo the procedure early in their reproductive years. Six in ten sterilized women had the procedure done before age 30, and three in ten women were sterilized before age 25. The median age of sterilization is 28 years, which is one year higher than reported in the 2007 BDHS (NIPORT et al, 2009).

Table 7.4 Timing of sterilization

Percent distribution of sterilized women age 15-49 by age at the time of sterilization and median age at sterilization, according to the number of years since the operation, Bangladesh 2011

Years since operation	Age at time of sterilization						Total	Number of women	Median age[1]
	<25	25-29	30-34	35-39	40-44	45-49			
<2	8.5	39.8	23.6	17.6	6.1	4.3	100.0	148	29.6
2-3	23.6	24.0	24.6	19.1	7.7	0.9	100.0	135	29.2
4-5	24.7	25.8	17.3	23.2	7.7	1.2	100.0	80	28.2
6-7	17.7	28.2	39.7	10.0	4.5	0.0	100.0	82	30.4
8-9	17.2	30.3	26.1	25.9	0.6	0.0	100.0	50	31.2
10+	46.3	28.6	19.9	5.2	0.0	0.0	100.0	331	a
Total	29.1	29.6	23.4	13.2	3.6	1.0	100.0	825	28.2

a = Not calculated due to censoring
[1] Median age at sterilization is calculated only for women sterilized before age 40 to avoid problems of censoring

7.5 KNOWLEDGE AND USE OF MENSTRUAL REGULATION

Menstrual regulation (MR) is a procedure used to bring on menses in women who have missed their menstrual cycle. According to Bangladesh government policy, the MR procedure can be performed within eight weeks from the first day of the last menstrual period (LMP) by a paramedic (that is, a trained family welfare visitor) or within ten weeks from the first day of the LMP by a trained medical doctor. The 2011 BDHS asked women if they knew about or had ever used menstrual regulation (MR). Women who have used MR were asked their source of services.

Seven in ten ever-married and currently married women know about MR (Table 7.5). Among those who have ever heard of MR, 9 percent of ever-married and currently married women have ever used it. The use of MR increases among the ever-married and currently married women up to age 39 and then decreases slightly.

Table 7.5 Menstrual regulation

Percentage of ever-married and currently married women who know of menstrual regulation (MR) and percentage who ever used MR, by age group, Bangladesh 2011

Age	Ever-married women				Currently married women			
			Among women who have ever heard of MR				Among women who have ever heard of MR	
	Percent of ever-married women who have ever heard of MR	Number of ever-married women	Percent ever used MR	Number of ever-married women	Percent of currently married women who have ever heard of MR	Number of currently married women	Percent ever used MR	Number of currently married women
15-19	58.2	1,970	2.7	1,147	58.5	1,925	2.6	1,126
20-24	69.3	3,514	5.4	2,435	69.4	3,396	5.5	2,356
25-29	74.6	3,394	9.3	2,530	75.1	3,262	9.6	2,450
30-34	73.6	2,654	12.0	1,954	74.3	2,532	12.2	1,882
35-39	73.5	2,246	13.5	1,650	74.5	2,081	14.1	1,549
40-44	69.5	2,152	10.9	1,496	69.9	1,937	11.5	1,355
45-49	63.1	1,820	9.7	1,147	64.6	1,501	10.1	970
Total	69.6	17,749	9.1	12,360	70.3	16,635	9.4	11,689

The major source of MR among the ever-married women who have used MR in the last three years is public sector facilities (43 percent), followed by private medical sector (32 percent) and NGO sector (9 percent) facilities (Table 7.6). Private hospitals and clinics are the major sources of MR (21 percent), followed by the Upazila health complex (20 percent) and the health and family welfare center (11 percent).

Table 7.6 Use of menstrual regulation

Percent distribution of ever-married women age 15-49 who have ever used menstrual regulation in the last three years by source of service, Bangladesh 2011

Source of service	Percent
Public sector	43.3
Medical college hospital	1.0
District hospital	3.6
Maternal and child welfare center	6.1
Upazila health complex	19.5
Health and family welfare center	10.8
Satellite clinic/EPI outreach	0.1
Community clinic	0.3
Government field worker (FWA)	1.7
Private medical sector	32.0
Private hospital/clinic	20.8
Qualified doctor's chamber	6.2
Non-qualified doctor's chamber	2.7
Pharmacy	2.2
Other private medical sector	0.1
NGO sector	8.8
Static clinic	7.6
Depot holder	0.2
Field worker	0.9
Other	3.3
Don't know	2.3
Missing	10.3
Total	100.0
Number of women	378

7.6 SOURCES OF FAMILY PLANNING METHODS

To ascertain the sources of family planning methods in Bangladesh, the 2011 BDHS asked women who were currently using a modern method of contraception where they obtained the method the last time they used it. Because women often do not know what category their source fits into (hospital, Upazila health complex, family welfare center, or private clinic), interviewers were instructed to write the name of the facility in the questionnaire. Team supervisors verified that the name and the type of source coded were correct and consistent.

The sources of family planning methods are classified into four major categories: public-sector sources (including government hospitals, Upazila health complexes, family welfare centers, satellite/EPI clinics, maternal and child welfare centers, and government fieldworkers), NGO-sector sources (including static clinics, satellite clinics, depot holders, and fieldworkers), private medical sources (including private hospitals and clinics, qualified or traditional doctors, and pharmacies), and other private sources (including shops and friends or relatives).

Table 7.7 Source of modern contraception methods

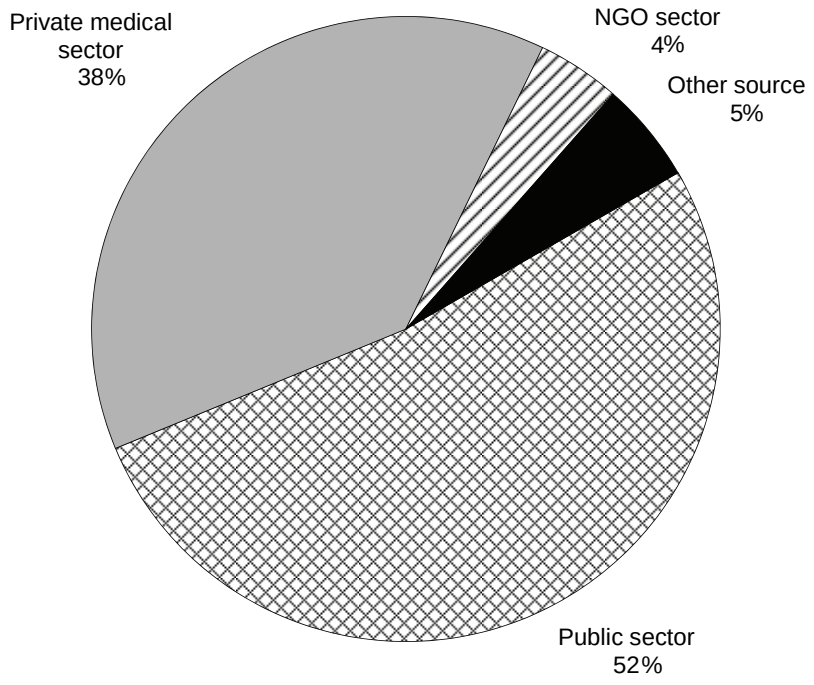
Percent distribution of users of modern contraceptive methods age 15-49 by most recent source of method, according to method, Bangladesh 2011

Source	Female sterilization	Male sterilization	Pill	IUD	Injectables	Implants	Male condom	Total
Public sector	**74.9**	**87.7**	**44.9**	**89.3**	**66.4**	**93.3**	**16.7**	**52.1**
Medical college hospital	4.2	1.5	0.1	0.5	0.1	0.8	0.0	0.5
Specialized government hospital	0.1	2.4	0.0	0.0	0.0	0.0	0.0	0.1
District hospital	15.9	19.9	0.1	8.8	0.6	8.6	0.1	2.5
Maternal and child welfare center	7.3	6.9	0.4	10.1	2.0	13.1	0.5	2.0
Upazilla health complex	41.8	51.5	2.1	28.1	5.2	42.8	0.9	8.8
Health and family welfare center	5.1	5.5	5.5	35.3	17.7	26.5	2.8	8.7
Satellite clinic/Epi outreach	0.0	0.0	3.2	0.0	11.1	0.0	0.4	4.1
Community clinic	0.0	0.0	2.1	6.0	6.0	1.5	0.8	2.6
Government field worker (FWA)	0.0	0.0	31.3	0.5	23.5	0.0	11.2	22.7
Other public sector	0.5	0.0	0.1	0.0	0.2	0.0	0.0	0.2
Private medical sector	**21.1**	**3.9**	**45.0**	**3.8**	**24.5**	**1.8**	**69.3**	**38.4**
Private hospital/clinic	20.5	3.9	0.1	3.5	1.8	1.4	0.2	2.6
Qualified doctor's chamber	0.3	0.0	0.2	0.3	2.1	0.0	0.0	0.6
Non-qualified doctor's chamber	0.0	0.0	0.6	0.0	6.9	0.3	0.1	1.8
Pharmacy	0.0	0.0	44.1	0.0	13.7	0.0	69.0	33.3
Other private medical sector	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
NGO sector	**2.5**	**4.7**	**3.4**	**6.9**	**8.1**	**4.9**	**2.2**	**4.3**
Static clinic	2.5	4.7	1.2	6.9	5.5	4.9	1.6	2.5
Satellite clinic	0.0	0.0	0.1	0.0	0.8	0.0	0.1	0.2
Depot holder	0.0	0.0	0.5	0.0	0.1	0.0	0.1	0.3
Field worker	0.0	0.0	1.5	0.0	1.5	0.0	0.4	1.2
Other NGO	0.0	0.0	0.1	0.0	0.2	0.0	0.0	0.1
Other source	**0.0**	**0.0**	**6.6**	**0.0**	**0.9**	**0.0**	**11.8**	**4.9**
Grocery	0.0	0.0	4.3	0.0	0.3	0.0	10.2	3.4
Friends/relatives	0.0	0.0	1.9	0.0	0.1	0.0	0.8	1.1
Other	0.0	0.0	0.5	0.0	0.5	0.0	0.8	0.4
Don't know	0.4	2.6	0.0	0.0	0.0	0.0	0.0	0.1
Missing	1.0	1.1	0.2	0.0	0.2	0.0	0.1	0.2
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	825	207	4,531	122	1,863	189	921	8,659

Table 7.7 and Figure 7.4 show the percentage of current users of modern methods who obtained their method from a specific source. The table shows that the public sector remains the predominant source, providing contraceptive methods to more than half of users (52 percent), with government fieldworkers the most important public sector source, supplying 23 percent of users. The contribution of the public sector in providing modern family planning methods declined from 57 percent in 2004 to 50 percent in 2007, and increased slightly to 52 percent in 2011. The rise in public sector contribution is mainly due to increased use of fieldworkers and community clinics for family planning supplies. In recent years the government of Bangladesh has recruited new health workers to fill vacant positions and has increased efforts to make the community clinics functional.

Thirty-eight percent of modern contraceptive users get their supplies from a private medical source, with pharmacies being the most important source, serving 33 percent of users. An additional 5 percent use non-medical private sources, mainly groceries. Non-governmental organizations (NGOs) supply contraceptives to 4 percent of users. Between 2007 and 2011, the contribution of the private sector (medical and non-medical) as a source of contraceptive supply declined slightly, from 44 to 43 percent. Although use of private medical practitioners or clinics has increased slightly, the share of pharmacies and shops in providing contraceptives has declined (from 40 to 37 percent).

Figure 7.4 **Distribution of current users of modern methods by source of supply**



BDHS 2011

There are large differences by specific method in the source used. The public sector is the predominant source for sterilizations, IUDs, implants, and injectables. The Upazila health complex accounts for the largest share of sterilizations and implants. The government fieldworkers are becoming increasingly important for delivering injectables (now that they are authorized to dispense them). Their share in the provision of injectables increased from 8 percent in 2007 to 24 percent in 2011. Pharmacies are the predominant source for pills and condoms. The government fieldworker is also an important source for pills.

The 2011 BDHS asked women who have never used family planning whether they know a source of services for family planning. Table 7.8 shows the knowledge level in different sectors as a source of family planning services. Seven in ten know a public sector source, while almost half know a private medical sector source of family planning services. Eight percent of never users know about an NGO source. However, one in five doesn't know any source of family planning method.

Table 7.8 Knowledge of specific sources of family planning services

Percentage of ever-married women age 15-49 who have never used family planning who know sources of family planning, Bangladesh 2011

Source known	Percent
Public sector	**71.0**
Medical college hospital	0.6
Specialized government hospital	0.6
District hospital	6.4
Maternal and child welfare center	3.8
Upazila health complex	22.5
Health and family welfare center	21.3
Satellite clinic/EPI outreach	12.2
Community clinic	5.6
Government field worker (FWA)	41.1
Private medical sector	**49.5**
Private hospital/clinic	2.9
Qualified doctor's chamber	1.2
Non-qualified doctor's chamber	1.8
Pharmacy	46.8
Private medical college hospital	0.2
NGO sector	**7.6**
Static clinic	4.1
Satellite clinic	0.5
Depot holder	0.2
Field worker	3.3
Other NGO	0.1
Other source	**11.6**
Grocery	11.5
Friends/relatives	0.1
Don't know	20.7
Missing	0.2
Any source	79.1
Number of women	3,159

7.7 USE OF SOCIAL MARKETING BRANDS

Bangladesh has an active social marketing program that distributes family planning methods including pills, condoms, and injectables as well as other health and nutrition products such as oral rehydration salts (ORS), micronutrition powder, zinc tablets, and a safe delivery kit. These items are distributed through a network of retail outlets such as pharmacies, small shops, kiosks, a network of private health providers (Blue Star), and NGOs. The Social Marketing Company (SMC) currently carries several brands of oral contraceptives, including Femicon, Femipil, Noret-28, C-3, and the Progestin-only pill Minicon. Another oral pill, Nordette-28, has been discontinued.

To obtain information on the number of users purchasing the social marketing brands, the 2011 BDHS interviewers asked current pill users to show the packet of pills they were using. If the user could show the packet, the interviewer recorded the brand on the questionnaire. If not, the interviewer showed the woman a chart depicting all major pill brands and asked the user to identify which brand she was currently using.

As shown in Table 7.9, 38 percent of pill users use social marketing brands compared with 55 percent who use the government-supplied brand, Shuki. Shuki is provided free of charge through government fieldworkers and clinics and at a nominal charge through nongovernmental service providers. One in four pill users uses Femicon, the most popular social marketing brand of pill. Femicon is more common in urban (33 percent) than in rural (23 percent) areas. The next most widely used social marketing brand is Femipil (8 percent), with a small variation in the proportion of use between urban and rural areas. Minicon, a socially marketed progestin-only pill for lactating mothers, is used by 2 percent of pill users.

The percentage of pill users using a social marketing brand has risen consistently from 14 percent in 1993-94 to 40 percent in 2004, and to 45 percent in 2007; use then declined to 38 percent in 2011. The use of Femicon decreased by nine percentage points, from 35 percent in 2007 to 26 percent in 2011. The supply of Femicon and Nordette-28 was interrupted in 2010 because the plant was closed by the manufacturer (Wyeth, USA).

Table 7.9 Use of pill brands

Percent distribution of currently married pill users by brand of pill used, according to urban-rural residence, Bangladesh 2011

Background characteristic	Residence		Total
	Urban	Rural	
Social marketing	48.8	34.2	38.1
Nordette-28	3.8	0.7	1.5
Femicon	33.0	22.8	25.5
Minicon	1.7	1.5	1.6
Femipil	8.6	8.3	8.4
Noret-28	1.5	0.8	1.0
Combination-3	0.2	0.1	0.1
Government	40.8	60.3	55.1
Shuki	40.8	60.3	55.1
Private	10.0	4.9	6.3
Ovostat	6.2	3.1	4.0
Desolon	0.7	0.2	0.3
Bredicon	0.2	0.2	0.2
Lynes	0.3	0.1	0.2
Marvelon	2.0	1.0	1.3
Aco	0.4	0.3	0.4
Regumen	0.1	0.0	0.1
Other	0.4	0.5	0.5
Total	100.0	100.0	100.0
Number of women	1,201	3,318	4,519

Note: Pill users who do not know the brand name are excluded from the table.

To assess the social marketing program's reach in condom use, the 2011 BDHS gathered information on what type of condoms the couples used. Interviewers showed a chart depicting all major condom brands to women who reported that their husbands were currently using condoms. The women were asked to identify the brand used. Men would presumably be a more reliable source of data on condom brands; however, because of the larger sample of women than men in the BDHS survey, the data shown in Table 7.10 are derived from women.

Three in five condom users buy social marketing brands; 24 percent use Panther, 14 percent use Hero, 13 percent use Sensation, and another 3 percent use U&ME. The Panther, Sensation, and U&ME brands are more popular in urban than rural areas, while Raja and Hero brands are more popular in rural areas. The percentage of condom users who obtain their supplies from the SMC has increased over the past four years, from 57 percent in 2007 to 60 percent in 2011.

The SMC distributes the injectable brand Somaject through a network of private sector health providers called the Blue Star Program. Although information on the brand of injectables among the users was not collected in the 2011 BDHS, information in Table 7.7 can be used as proxy indicators to estimate the use of social marketing brands because the Blue Star Program is the only formal source of injectables in the private sector in Bangladesh. Table 7.7 shows that about one fifth of married women age 15-49 years who currently use injectables obtained the injection from either nonqualified doctor's chambers or pharmacies, which are the sources of Somaject distribution.

Table 7.10 Use of condom brands

Percent distribution of currently married condom users by brand of condom used, according to urban-rural residence, Bangladesh 2011

Condom brand	Residence		Total
	Urban	Rural	
Social marketing	65.2	55.5	60.1
Raja	3.4	8.3	6.0
Panther	26.5	21.5	23.9
Hero	11.6	16.0	13.9
Sensation	19.0	8.0	13.3
U & ME	4.6	1.7	3.1
Government	8.6	21.9	15.5
Nirapad	8.6	21.9	15.5
Private	21.0	15.7	18.2
Moods	0.3	0.3	0.3
Gamy	1.2	0.9	1.1
Wonder life	0.1	0.3	0.2
Romantex	0.8	1.3	1.1
Durex	1.7	0.2	0.9
Love guard	0.9	1.2	1.1
Coral	3.8	2.5	3.1
Jippy	0.4	0.6	0.5
Green love	3.0	3.1	3.1
Carex	6.5	3.9	5.2
Long love	1.4	0.9	1.1
Luxury	0.6	0.0	0.3
Care free	0.2	0.0	0.1
Feelings	0.1	0.2	0.2
Sweet love	0.0	0.3	0.2
Other	5.2	6.9	6.1
Total	100.0	100.0	100.0
Number of women	405	445	850

Note: Table excludes condom users who do not know the brand name. Table is based on women's reports.

7.8 CONTRACEPTIVE DISCONTINUATION

A key concern for family planning programs is the rate at which users discontinue use of contraception and the reasons for such discontinuation. Life table contraceptive discontinuation rates are presented in Table 7.11. These rates are based on information collected in the 5-year, month-by-month calendar of contraceptive use in the BDHS questionnaire. The analysis utilizes all episodes of contraceptive use from 3 to 62 months prior to the date of interview. The month of interview and the two preceding months are ignored to avoid the bias that might be introduced by an unrecognized pregnancy.

The rates presented in Table 7.11 are cumulative one-year discontinuation rates and represent the proportion of users who discontinue using a method within 12 months of starting. The rates are calculated by dividing the number of discontinuations at each duration of use in single months, by the number of months of exposure for that duration. The single-month rates are then cumulated to produce a one-year rate.

Table 7.11 12-month contraceptive discontinuation rates

Among women age 15-49 who started an episode of contraceptive use within the five years preceding the survey, the percentage of episodes discontinued within 12 months, by reason for discontinuation and specific method, Bangladesh, 2011

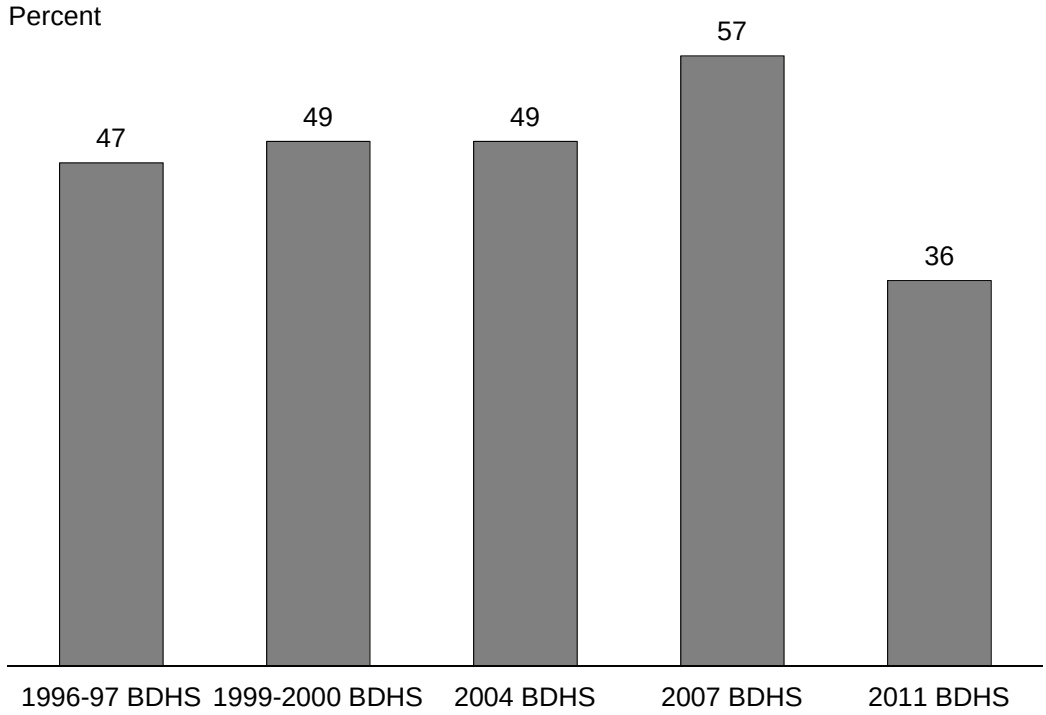
Method	Method failure	Desire to become pregnant	Other fertility-related reasons[2]	Side effects/ health concerns	Wanted more effective method	Other method-related reasons[3]	Other reason	Any reason[4]	Switched to another method[5]	Number of episodes of use[6]
Female sterilization	0.7	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	331
Pill	4.3	8.9	9.5	11.6	1.3	1.5	1.9	39.0	11.1	7,109
IUD	(1.6)	(0.8)	(0.0)	(16.5)	(1.0)	(0.7)	(1.8)	(22.4)	(15.0)	134
Injectables	1.2	3.4	3.8	22.9	0.5	2.6	1.6	36.1	20.3	2,656
Implants	(1.1)	(1.0)	(0.0)	(5.7)	(0.0)	(0.0)	(0.0)	(7.8)	(4.0)	203
Condom	7.8	9.1	4.1	4.9	6.4	10.1	4.7	47.0	24.5	1,549
Periodic abstinence	5.3	5.6	1.4	0.8	7.8	0.7	1.4	23.1	10.0	1,106
Withdrawal	8.0	3.1	0.9	1.5	5.7	4.3	1.7	25.3	11.5	346
All methods[1]	4.1	7.0	6.3	11.4	2.3	2.6	2.0	35.7	13.8	13,614

Note: Figures are based on life table calculations using information on episodes of use that began 3-62 months prior to the survey. Figures in parentheses are based on 125-249 unweighted episodes of use.
[1] Includes male sterilization
[2] Includes infrequent sex/husband away, difficult to get pregnant/menopausal, and marital dissolution/ separation
[3] Includes lack of access/too far, costs too much, and inconvenient to use
[4] Reasons for discontinuation are mutually exclusive and add to the total given in this column.
[5] The episodes of use included in this column are a subset of the discontinued episodes included in the discontinuation rate. A woman is considered to have switched to another method if she used a different method in the month following discontinuation or if she gave "wanted a more effective method" as the reason for discontinuation and started another method within two months of discontinuation.
[6] Number of episodes of use includes both episodes of use that were discontinued during the period of observation and episodes of use that were not discontinued during the period of observation.

The results indicate that 36 percent of users of contraceptive methods stop using the method within 12 months of starting. Not surprisingly, discontinuation rates are much higher for more temporary methods like condoms (47 percent) and the pill (39 percent) than for longer-term methods like the IUD and implants.

There has been a decline in discontinuation rates from 57 percent in 2007 to 36 percent in 2011. While the decline occurred for all methods in the past four years, it has been particularly large for withdrawal and periodic abstinence. Figure 7.5 shows the trend in discontinuation rates from 1996-97 to 2011. The all-method discontinuation rate for any reason fluctuated between 47 and 49 percent between 1996-97 and 2004, increased to 57 percent in 2007, and then sharply declined to 36 percent in 2011. The reasons for this decline in discontinuation rate need further investigation.

Figure 7.5 **Twelve-month contraceptive discontinuation rates for any reason**



Further information on reasons for contraceptive discontinuation is presented in Table 7.12. This table shows the percent distribution of all discontinuations occurring during the five years preceding the survey, regardless of whether they occurred during the first 12 months of use or not. Side effects/health concerns are the most common reason for discontinuation, accounting for 29 percent of all discontinuations. The next most common reason for discontinuation is the desire to become pregnant (26 percent), followed by accidental pregnancies (15 percent).

Table 7.12 Reasons for discontinuation

Percent distribution of discontinuations of contraceptive methods in the five years preceding the survey by main reason stated for discontinuation, according to specific method, Bangladesh 2011

Reason	Pill	IUD	Inject-ables	Implants	Male condom	Periodic absti-nence	With-drawal	All methods
Became pregnant while using	15.2	2.4	5.2	1.4	19.4	29.5	29.4	15.0
Wanted to become pregnant	29.9	11.6	17.2	8.6	25.7	24.5	21.1	26.2
Husband disapproved	0.6	0.3	0.9	0.0	5.9	1.4	8.4	1.4
Wanted a more effective method	3.3	4.5	2.2	8.3	11.3	19.8	18.9	5.4
Side effects/health concerns	28.3	64.2	53.2	64.9	10.3	1.5	2.3	29.3
Lack of access/too far	0.8	0.4	4.4	3.3	0.8	0.0	0.0	1.4
Cost too much	0.4	0.0	0.5	0.0	0.5	0.0	0.0	0.4
Inconvenient to use	2.4	2.5	1.7	1.7	14.3	2.3	7.8	3.5
Up to God/fatalistic	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1
Difficult to get pregnant/ menopausal	2.1	3.0	5.2	2.7	1.6	7.9	2.5	3.0
Infrequent sex/husband away	12.7	1.3	4.8	2.8	6.8	3.9	3.0	9.6
Marital dissolution/separation	1.1	0.0	1.1	3.1	0.8	1.4	1.4	1.1
Other	0.4	7.8	0.7	2.8	0.3	0.7	1.3	0.6
Don't know	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Missing	2.7	2.0	2.9	0.3	2.2	7.2	3.8	3.0
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of discontinuations	6,847	85	2,114	112	1,125	810	232	11,360

Note: Total includes 4 women and 5 men who had been sterilized and 26 women who used other methods.

There are variations in reasons for discontinuation by method. Side effects are the most common reason for discontinuation of the injectables (53 percent), implant (65 percent), and IUD (64 percent), while desire to become pregnant is the most common reason for discontinuation of the pill (30 percent) and male condom (26 percent). Method failure ("became pregnant while using") is the most common reason for discontinuation of periodic abstinence (30 percent) and withdrawal (29 percent). Desire to become pregnant is an important reason for discontinuation of reversible methods such as condom (26 percent), periodic abstinence (25 percent), withdrawal (21 percent), injectables (17 percent), and the IUD (12 percent).

7.9 NEED FOR FAMILY PLANNING SERVICES

This section provides information on the extent of need and potential demand for family planning services in Bangladesh. In the past, the definition of unmet need used information from the contraceptive calendar and other questions that were not included in every survey, which led to unmet need being calculated inconsistently. The revised definition uses only information that has been collected in every survey so that unmet need can be measured in the same way over time.

Unmet need for family planning refers to fecund women who are not using contraception but who wish to postpone the next birth (spacing) or stop childbearing altogether (limiting). Specifically, women are considered to have unmet need for spacing if they are:

- At risk of becoming pregnant, not using contraception, and either do not want to become pregnant within the next two years, or are unsure if or when they want to become pregnant.
- Pregnant with a mistimed pregnancy.
- Postpartum amenorrheic for up to two years following a mistimed birth and not using contraception.

Women are considered to have unmet need for limiting if they are:

- At risk of becoming pregnant, not using contraception, and want no (more) children.
- Pregnant with an unwanted pregnancy.
- Postpartum amenorrheic for up to two years following an unwanted birth and not using contraception.

Women who are classified as infecund have no unmet need because they are not at risk of becoming pregnant.

Women using contraception are considered to have met need. Women using contraception who say they want no (more) children are considered to have met need for limiting, and women who are using contraception and say they want to delay having a child, or are unsure if or when they want a/another child, are considered to have met need for spacing.

Unmet need, total demand, percentage of demand satisfied, and percentage of demand satisfied by modern methods are defined as follows:

- **Unmet need:** the sum of unmet need for spacing plus unmet need for limiting
- **Total demand for family planning:** the sum of unmet need plus total contraceptive use
- **Percentage of demand satisfied:** total contraceptive use divided by the sum of unmet need plus total contraceptive use

Overall, 14 percent of currently married women in Bangladesh have an unmet need for family planning services, 8 percent for limiting and 5 percent for spacing of births (Table 7.13). Unmet need for family planning decreases with increasing age, ranging from 17 percent among women age 15-19 to 8 percent among women age 45-49. Women in rural areas have a higher unmet need (14 percent) than women in urban areas (11 percent). By division, unmet need is highest in Chittagong (21 percent) and lowest in Khulna and Rangpur (both 10 percent).

Unmet need increased from 15 percent of currently married women in 2004 to 17 percent in 2007 and then decreased to 14 percent in 2011 (Figure 7.6). The Health Population Nutrition Sector Development Programme (HPNSDP) has set as a target reducing unmet need for family planning services to 9 percent by 2016.

Demand for family planning services is defined as the sum of total unmet need and total contraceptive use. The 2011 BDHS shows that demand for family planning services is 75 percent and proportion of demand satisfied (total contraceptive use divided by the sum of total unmet need and total contraceptive use) is 82 percent.

Table 7.13 Need and demand for family planning among currently married women

Percentage of currently married women age 15-49 with unmet need for family planning, percentage with met need for family planning, the total demand for family planning, and the percentage of the demand for contraception that is satisfied, by background characteristics, Bangladesh 2011

Background characteristic	Unmet need for family planning[1]			Met need for family planning (currently using)[2]			Total demand for family planning			Percentage of demand satisfied	Number of women
	For spacing	For limiting	Total	For spacing	For limiting	Total	For spacing	For limiting	Total		
Age											
15-19	15.7	1.3	17.0	42.0	5.1	47.1	57.7	6.4	64.1	73.5	1,925
20-24	10.9	4.4	15.3	34.2	23.6	57.9	45.1	28.1	73.2	79.1	3,396
25-29	5.1	10.1	15.2	16.2	49.5	65.8	21.4	59.6	81.0	81.2	3,262
30-34	1.8	11.7	13.5	5.3	65.4	70.7	7.2	77.1	84.2	83.9	2,532
35-39	0.5	11.0	11.5	1.5	70.3	71.7	1.9	81.3	83.2	86.2	2,081
40-44	0.1	10.2	10.3	0.3	63.4	63.6	0.4	73.5	74.0	86.0	1,937
45-49	0.1	7.6	7.8	0.3	42.8	43.1	0.4	50.5	50.9	84.8	1,501
Residence											
Urban	4.2	6.9	11.1	19.2	44.8	64.0	23.4	51.7	75.0	85.3	4,292
Rural	5.8	8.5	14.3	15.0	45.2	60.3	20.9	53.7	74.6	80.8	12,343
Division											
Barisal	5.3	6.9	12.1	18.5	46.1	64.7	23.8	53.0	76.8	84.2	952
Chittagong	8.4	12.3	20.7	14.6	36.8	51.4	23.0	49.1	72.1	71.3	3,015
Dhaka	5.0	8.0	13.0	16.6	44.4	61.0	21.6	52.4	74.0	82.4	5,334
Khulna	3.7	5.8	9.5	17.2	49.5	66.7	21.0	55.3	76.2	87.5	1,996
Rajshahi	4.6	6.4	11.0	16.8	50.6	67.3	21.4	57.0	78.4	85.9	2,526
Rangpur	4.1	5.5	9.7	16.7	52.7	69.4	20.8	58.2	79.0	87.8	1,927
Sylhet	6.6	10.7	17.3	9.8	34.9	44.8	16.4	45.7	62.1	72.1	884
Educational attainment											
No education	2.2	9.8	12.0	5.0	56.4	61.4	7.2	66.2	73.4	83.6	4,379
Primary incomplete	4.2	8.7	12.9	11.6	52.6	64.2	15.8	61.3	77.1	83.2	3,056
Primary complete[3]	5.4	7.5	12.9	15.1	44.5	59.6	20.5	52.0	72.5	82.2	1,963
Secondary incomplete	8.5	7.1	15.6	24.3	34.7	59.0	32.8	41.8	74.6	79.1	5,176
Secondary complete or higher[4]	6.2	6.3	12.5	26.7	36.7	63.4	32.9	43.0	76.0	83.5	2,061
Number of living children[1]											
0	4.4	8.2	12.6	16.6	46.0	62.7	21.1	54.2	75.3	83.2	2,303
1	4.9	7.6	12.6	15.3	46.6	61.9	20.2	54.2	74.4	83.1	4,349
2	5.3	8.6	13.9	16.0	45.3	61.3	21.3	53.9	75.2	81.6	3,980
3	5.4	8.0	13.5	16.8	45.2	62.0	22.3	53.3	75.5	82.2	2,792
4+	6.9	8.0	14.8	16.4	42.1	58.4	23.2	50.0	73.3	79.8	3,212
Wealth quintile											
Lowest	5.2	8.6	13.8	12.9	48.6	61.5	18.1	57.2	75.3	81.6	2,975
Second	5.4	7.0	12.4	15.3	47.7	62.9	20.7	54.7	75.4	83.5	3,267
Middle	5.4	8.1	13.4	15.4	46.1	61.4	20.7	54.1	74.9	82.1	3,372
Fourth	6.3	8.8	15.1	17.0	42.5	59.5	23.3	51.4	74.6	79.7	3,457
Highest	4.8	7.8	12.6	19.4	41.5	60.8	24.1	49.3	73.4	82.9	3,564
Total	5.4	8.1	13.5	16.1	45.1	61.2	21.5	53.2	74.7	82.0	16,635

[1] Unmet need for spacing: Includes women who are fecund and not using family planning and who say they want to wait two or more years for their next birth, or who say they are unsure whether they want another child, or who want another child but are unsure when to have the child. In addition, unmet need for spacing includes pregnant women whose current pregnancy was mistimed, or whose last pregnancy was unwanted but who now say they want more children. Unmet need for spacing also includes amenorrheic women whose last birth was mistimed, or whose last birth was unwanted but who now say they want more children.

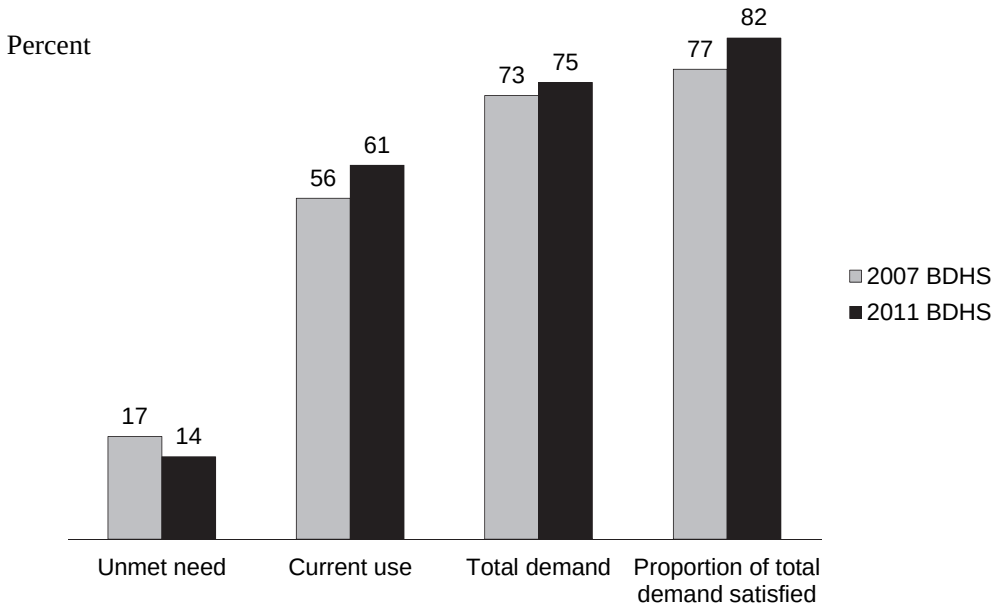
Unmet need for limiting includes women who are fecund and not using family planning and who say they do not want another child. In addition, unmet need for limiting includes pregnant women whose current pregnancy was unwanted but who now say they do not want more children or who are undecided whether they want another child. Unmet need for limiting also includes amenorrheic women whose last birth was unwanted but who now say they do not want more children or who are undecided whether they want another child.

[2] Using for spacing is defined as women who are using some method of family planning and say they want to have another child or are undecided whether to have another. Using for limiting is defined as women who are using and who want no more children. Note that the specific methods used are not taken into account here.

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

Figure 7.6 **Trends in unmet need for family planning among currently married women age 15-49, 2007 and 2011 BDHS**



7.10 FUTURE USE OF CONTRACEPTION

An important indicator of the changing demand for family planning is the extent to which nonusers of contraception plan to use family planning in the future. Currently married women who were not using contraception at the time of survey—defined as nonusers—were asked about their intention to use family planning in the future. The results are presented in Table 7.14, according to the number of living children the women had.

Approximately two-thirds of nonusers said they intend to use family planning methods, and one-third said that they do not intend to use contraceptives. Only a few nonusers (2 percent) say they are unsure of their intention. Intention to use varies with the number of children. The proportion of nonusers who say they intend to use family planning in the future peaks at 84 percent for women with one child and falls sharply to 34 percent among women with four or more children. The proportion of nonusers intending to use family planning in the future has been decreasing gradually, dropping from 73 percent in 2004 to 70 percent in 2007 and to 65 percent in 2011.

Table 7.14 Future use of contraception

Percent distribution of currently married women age 15-49 who are not using a contraceptive method by intention to use in the future, according to number of living children, Bangladesh 2011

Intention to use in the future	Number of living children[1]					Total
	0	1	2	3	4+	
Intends to use	76.5	83.5	71.6	58.6	34.3	65.4
Unsure	3.3	2.2	1.2	0.7	1.1	1.6
Does not intend to use	20.2	13.8	26.8	40.2	63.8	32.5
Missing	0.0	0.5	0.3	0.6	0.8	0.5
Total	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	856	1,657	1,538	1,066	1,336	6,452

[1] Includes current pregnancy

Another question assessed future demand for specific contraceptive methods among currently married women who were not using contraception but who said they intended to use a method in the future. They were asked which method they would prefer to use. The results are presented in Table 7.15. More than half of the prospective users prefer the pill (51 percent), while 19 percent prefer injectables.

Table 7.15 Preferred method of contraception for future use

Percent distribution of currently married women age 15-49 who are not using a contraceptive method but who intend to use in the future by preferred method, according to age, Bangladesh 2011

Method	Age 15-29	Age 30-49	Total
Female sterilization	2.3	3.9	2.6
Male sterilization	0.1	0.1	0.1
Pill	50.4	50.9	50.5
IUD	0.4	0.5	0.4
Injectables	19.7	18.2	19.3
Implants	0.9	0.5	0.8
Male condom	3.7	4.8	4.0
Periodic abstinence	1.0	3.9	1.6
Withdrawal	0.1	0.5	0.2
Other	0.2	0.2	0.2
Unsure	21.2	16.7	20.2
Total	100.0	100.0	100.0
Number of women	3,289	933	4,222

7.11 REASONS FOR NOT INTENDING TO USE CONTRACEPTION

Table 7.16 presents the main reasons for not intending to use contraception in the future as reported by nonintenders (nonusers who do not intend to use family planning in the future). More than three-quarters of the nonintenders do not plan to use family planning for reasons related to fertility. The most common reason for nonuse is menopause/hysterectomy, cited by 35 percent of nonintenders, followed by those are subfecund or infecund (24 percent). Sixteen percent of women do not intend to use a contraceptive method because of infrequent sex or no sex. Two percent of nonintenders, mostly women age 15-29, do not intend to use contraception because they want more children.

Fourteen percent of married women do not intend to use because of method-related reasons, mainly health concerns. Other major reasons for nonuse are opposition to family planning and lack of knowledge. Six percent of nonintenders do not intend to use contraceptives because of opposition to family planning, either by themselves, their husband, or others, or because of religious prohibitions.

Table 7.16 Reason for not intending to use contraception in the future

Percent distribution of currently married women age 15-49 who are not using contraception and who do not intend to use in the future by main reason for not intending to use, according to age, Bangladesh 2011

Reason	Age 15-29	Age 30-49	Total
Fertility-related reasons	47.2	80.6	77.2
Infrequent sex/no sex	16.0	16.1	16.1
Menopausal/had hysterectomy	5.8	37.8	34.6
Subfecund/infecund	13.9	24.6	23.5
Wants as many children as possible	9.9	1.1	1.9
Up to God/fatalistic	1.5	1.0	1.0
Opposition to use	20.3	4.6	6.1
Respondent opposed	7.1	2.1	2.6
Husband/partner opposed	10.8	1.2	2.2
Religious prohibition	2.4	1.3	1.4
Lack of knowledge	0.4	0.2	0.3
Knows no method	0.4	0.1	0.1
Knows no source	0.0	0.1	0.1
Method-related reasons	23.6	12.5	13.7
Health concerns	10.3	5.2	5.7
Fear of side effects	3.9	2.8	2.9
Inconvenient to use	1.0	0.1	0.2
Interfere with body's normal process	8.4	4.5	4.9
Other	6.2	0.9	1.5
Don't know	0.9	0.5	0.5
Missing	1.3	0.7	0.7
Total	100.0	100.0	100.0
Number of women	211	1,886	2,096

7.12 EXPOSURE TO FAMILY PLANNING MESSAGES

The media play an important role in communicating messages about family planning. In assessing the reach of family planning messages, the 2011 BDHS asked women and men whether they had heard or seen a message about family planning on the radio, on television, in a newspaper or magazine, on a billboard, poster, or leaflet, or at a community event in the month before the survey. Table 7.17.1 presents the proportion of ever-married women and Table 7.17.2 presents the proportion of ever-married men who had heard or seen such a message from a media source, by background characteristics.

Television is the most popular source for family planning messages in Bangladesh, with 24 percent of ever-married women age 15-49 and 37 percent of ever-married men age 15-49 having seen a family planning message in this media. Six percent of women and 24 percent of men saw a family planning message in either a poster billboard, or leaflet, and 3 percent of women and 16 percent of men read about family planning in a newspaper or magazine. Overall, 74 percent of women and 59 percent of men were not exposed to family planning messages in any of the three main media (radio, television, and print media).

Not surprisingly, women residing in urban areas are much more likely to have been exposed to family planning messages in any media than their rural counterparts. This is especially true for messages on television and in print media. In the case of radio broadcasts, women and men residing in rural areas are more exposed to family planning messages on radio than those living in urban areas.

Education has a positive influence on media exposure. For example, 12 percent of uneducated women have exposure to family planning information on television compared with 45 percent of women with a secondary or higher education. A similar pattern is observed for men. Among both women and men, exposure to family planning messages increases with wealth.

Table 7.17.1 Exposure to family planning messages: Women

Percentage of ever-married women age 15-49 who heard or saw a family planning message on radio, on television or in a newspaper in the last month, according to background characteristics, Bangladesh 2011

Background characteristic	Radio	Television	Newspaper/ magazine	None of these three media sources	Poster, billboard or leaflet	Community event	Community health worker		At least one of these sources	Number of women
							Govern-ment	Non-government		
Age										
15-19	4.2	26.1	2.2	71.6	5.5	1.2	5.4	1.6	34.5	1,970
20-24	3.0	27.1	2.5	70.7	7.3	1.2	6.1	1.5	36.7	3,514
25-29	3.1	28.1	3.9	70.0	6.3	1.4	6.9	1.5	36.7	3,394
30-34	2.8	24.3	2.9	73.8	5.1	1.3	6.5	1.2	33.2	2,654
35-39	3.5	21.8	3.5	75.4	5.0	1.3	7.9	0.8	32.3	2,246
40-44	1.9	21.6	3.3	76.6	4.5	0.9	4.4	0.8	28.1	2,152
45-49	1.5	17.5	2.2	81.3	3.4	1.1	3.4	0.4	22.0	1,820
Residence										
Urban	1.6	35.1	6.5	63.3	9.7	1.4	3.1	1.5	41.7	4,619
Rural	3.4	20.7	1.7	77.1	4.1	1.2	7.0	1.1	29.7	13,130
Division										
Barisal	6.5	18.7	2.4	76.8	5.3	1.0	6.5	0.8	29.9	1,002
Chittagong	2.9	27.2	2.8	71.1	4.9	1.3	4.3	0.7	33.5	3,222
Dhaka	2.2	25.6	3.8	72.6	6.4	0.8	5.1	1.1	33.4	5,736
Khulna	3.0	21.3	2.0	76.4	5.8	1.4	6.8	0.9	30.9	2,139
Rajshahi	3.1	23.7	2.5	74.0	4.5	1.6	8.5	0.9	33.4	2,646
Rangpur	3.3	22.5	2.9	75.2	5.5	1.8	7.9	2.6	33.4	2,039
Sylhet	1.8	26.9	2.9	72.3	5.0	1.2	3.1	1.6	31.6	967
Educational attainment										
No education	1.4	11.6	0.0	87.6	1.6	0.8	5.0	0.8	18.0	4,912
Primary incomplete	2.3	17.3	0.1	80.9	2.7	0.7	6.5	1.1	25.7	3,264
Primary complete[1]	2.9	23.4	1.2	74.6	3.7	0.7	6.4	0.9	31.3	2,062
Secondary incomplete	3.9	32.7	3.1	64.9	6.9	1.4	6.6	1.8	41.9	5,383
Secondary complete or higher[2]	4.8	45.1	15.7	50.5	17.3	2.8	5.4	0.8	56.2	2,127
Wealth quintile										
Lowest	1.7	6.0	0.2	92.9	1.9	1.0	5.9	1.0	14.2	3,250
Second	3.4	10.7	0.6	86.7	3.3	1.2	6.9	1.1	21.0	3,487
Middle	3.7	22.0	1.4	75.2	3.9	1.3	7.7	1.2	32.3	3,567
Fourth	3.6	36.3	2.6	61.8	6.0	1.1	6.7	1.3	43.9	3,664
Highest	2.1	43.7	9.4	54.5	11.9	1.5	2.9	1.2	49.5	3,781
Total 15-49	2.9	24.4	3.0	73.5	5.5	1.2	6.0	1.2	32.8	17,749

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Table 7.17.2 Exposure to family planning messages: Men

Percentage of ever-married men age 15-49 who heard or saw a family planning message on radio, television or in a newspaper in the last month, according to background characteristics, Bangladesh 2011

Background characteristic	Radio	Television	Newspaper/ magazine	None of these three media sources	Poster, billboard or leaflet	Community event	Community health worker: Govern-ment	Community health worker: Non-government	At least one of these sources	Number of men
Age										
15-19	11.6	47.7	4.8	52.3	20.9	9.6	5.6	4.7	58.0	21
20-24	5.9	33.1	16.1	61.4	25.5	2.8	5.4	1.0	47.1	249
25-29	6.5	42.1	16.8	54.3	27.0	6.2	4.3	0.7	55.4	621
30-34	5.8	36.1	13.9	59.9	23.6	5.5	3.6	1.7	50.4	625
35-39	4.6	36.1	15.0	59.2	25.0	7.0	5.3	1.0	50.1	660
40-44	4.9	34.2	17.3	61.3	23.3	7.0	6.1	0.5	48.8	629
45-49	6.4	40.2	15.0	56.7	22.0	6.9	6.0	0.9	51.5	586
Residence										
Urban	2.9	38.9	22.3	57.1	27.9	7.2	3.2	1.0	52.1	949
Rural	6.8	36.8	13.0	59.0	22.9	5.9	5.8	0.9	50.5	2,442
Division										
Barisal	9.2	37.5	12.1	58.2	25.5	8.7	7.2	0.0	51.9	174
Chittagong	3.7	40.6	14.7	54.9	23.0	7.0	6.2	1.2	53.1	519
Dhaka	5.5	34.9	16.6	61.6	21.7	5.5	4.0	0.3	47.1	1,095
Khulna	4.7	32.3	15.3	63.7	21.5	3.8	2.4	0.8	46.1	430
Rajshahi	8.9	39.2	15.9	54.9	26.1	6.3	5.5	1.7	54.6	556
Rangpur	4.3	42.7	15.4	54.6	29.4	5.6	7.5	1.5	57.2	442
Sylhet	4.9	37.3	14.7	58.7	31.5	14.3	5.9	2.2	52.1	175
Educational attainment										
No education	4.5	26.9	0.3	71.1	9.4	3.4	2.4	0.7	36.3	890
Primary incomplete	6.3	32.4	3.9	64.5	15.3	4.0	3.8	0.6	45.2	823
Primary complete[1]	7.6	39.4	14.4	55.5	27.4	7.1	3.8	0.6	52.8	305
Secondary incomplete	6.5	43.4	22.9	51.7	33.4	7.5	6.3	0.9	59.7	758
Secondary complete or higher[2]	4.7	51.0	44.7	42.1	45.1	11.6	9.8	1.9	68.1	615
Wealth quintile										
Lowest	4.9	24.9	2.3	72.5	14.4	4.4	3.0	1.0	36.1	654
Second	7.2	31.8	7.2	63.8	19.1	5.0	4.4	0.9	48.1	666
Middle	8.7	38.9	10.9	56.5	21.6	4.8	5.3	1.2	51.8	647
Fourth	4.7	43.5	23.2	52.3	29.5	7.7	6.8	0.7	55.2	726
Highest	3.2	46.8	32.3	48.6	35.5	9.1	5.7	1.1	62.3	699
Total 15-49	5.7	37.4	15.6	58.5	24.3	6.3	5.1	1.0	50.9	3,392
50-54	6.3	29.8	12.3	65.8	19.2	5.3	5.3	0.8	43.6	605
Total 15-54	5.8	36.3	15.1	59.6	23.5	6.1	5.1	0.9	49.8	3,997

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Exposure to family planning messages in the mass media for men and women age 15-49 has declined over the last four years. Among women, exposure to family planning messages in radio has declined from 13 percent in the 2007 BDHS to 3 percent in the 2011 BDHS, exposure through television has declined from 31 percent in 2007 to 24 percent in 2011, and exposure through poster, bill board, or leaflet has declined from 10 percent in 2007 to 6 percent in 2011. Among men age 15-49, exposure through the radio has decreased from 19 percent in 2007 to 6 percent in 2011, through television from 39 percent to 37 percent, and through poster, billboard, or leaflet from 35 percent to 24 percent in the same period.

7.13 FIELDWORKER VISITS

In the 2011 BDHS, women were asked whether a family planning fieldworker had visited them in the six months prior to the survey. Table 7.18 shows that only 15 percent of currently married women said they were visited by a fieldworker in the six months before the survey, down from 21 percent in 2007. One-third of women visited by a fieldworker received a family planning method from the worker.

The decline in household visits by fieldworkers may be a consequence of the decision that fieldworkers will provide services from community clinics for three days a week.

Table 7.18 Contact with family planning providers: type of service

Percentage of currently married women age 15-49 who reported having been visited by a fieldworker in the past six months and among women who were visited by a family planning fieldworker, the percent distribution of various types of services provided by the fieldworker, by background characteristics, Bangladesh 2011

Background characteristic	Percentage of women who reported being visited by fieldworker in the past 6 months	Number of women	Among women who were visited by a family planning fieldworker, services provided by the fieldworker:				
			Talked	Gave family planning method	Talked and gave family planning method	Total	Number of women
Age							
15-19	12.1	1,925	71.1	22.3	6.7	100.0	233
20-24	15.5	3,396	59.4	28.2	12.5	100.0	525
25-29	17.8	3,262	54.3	33.5	12.2	100.0	581
30-34	16.7	2,532	48.2	38.7	13.1	100.0	422
35-39	16.6	2,081	46.4	41.4	12.2	100.0	346
40-44	10.7	1,937	52.3	36.7	11.0	100.0	208
45-49	6.9	1,501	54.1	28.6	17.2	100.0	104
Contraceptive use							
Not using	8.7	6,452	82.5	10.1	7.4	100.0	560
Using	18.3	10,183	46.2	40.4	13.4	100.0	1,858
Residence							
Urban	10.4	4,292	62.0	27.7	10.3	100.0	445
Rural	16.0	12,343	53.0	34.7	12.4	100.0	1,973
Division							
Barisal	12.7	952	56.7	30.8	12.5	100.0	121
Chittagong	9.7	3,015	68.8	17.8	13.4	100.0	293
Dhaka	13.7	5,334	55.5	32.0	12.5	100.0	732
Khulna	14.7	1,996	48.5	36.6	14.9	100.0	292
Rajshahi	18.6	2,526	44.3	46.1	9.6	100.0	471
Rangpur	20.8	1,927	56.1	34.2	9.7	100.0	401
Sylhet	12.1	884	64.6	20.5	14.9	100.0	107
Education							
No education	13.0	4,379	46.5	41.1	12.4	100.0	568
Primary incomplete	15.2	3,056	51.5	36.9	11.6	100.0	464
Primary complete[1]	16.0	1,963	58.2	28.2	13.5	100.0	315
Secondary incomplete	16.0	5,176	58.4	30.6	10.9	100.0	827
Secondary complete or higher[2]	11.9	2,061	62.0	24.6	13.4	100.0	245
Wealth quintile							
Lowest	15.5	2,975	52.3	36.2	11.5	100.0	461
Second	15.9	3,267	48.3	40.6	11.0	100.0	521
Middle	17.1	3,372	52.9	32.1	15.0	100.0	575
Fourth	15.6	3,457	58.1	30.9	10.9	100.0	541
Highest	9.0	3,564	65.5	24.1	10.5	100.0	321
Total	14.5	16,635	54.6	33.4	12.0	100.0	2,418

Ten percent of women said they were visited by a government family planning fieldworker (down from 16 percent in 2007), while 2 percent were visited by a government health worker and 2 percent by an NGO fieldworker (Table 7.19). Married women who live in rural areas are twice as likely to be visited by a government family planning worker than women in urban areas. Users of family planning are more than twice as likely to be visited by a government family planning worker than nonusers.

Table 7.19 Contact with family planning providers: type of fieldworker

Percent distribution of currently-married women age 15-49 according to visit by a fieldworker in the past six months, by type of fieldworker, according to background characteristics, Bangladesh 2011

Background characteristic	Not visited by a field worker	Visited in the last six months by a: Government family planning worker	Government health worker	NGO worker	Other	Don't know/ missing	Total	Number of women
Age								
15-19	87.9	7.6	1.7	2.8	0.0	0.0	100.0	1,925
20-24	84.5	9.7	2.7	3.0	0.1	0.1	100.0	3,396
25-29	82.2	13.0	2.6	2.2	0.2	0.0	100.0	3,262
30-34	83.3	11.5	2.5	2.7	0.1	0.0	100.0	2,532
35-39	83.4	12.0	2.6	1.9	0.3	0.1	100.0	2,081
40-44	89.3	8.5	1.1	1.1	0.0	0.1	100.0	1,937
45-49	93.1	5.6	1.1	0.5	0.0	0.0	100.0	1,501
Residence								
Urban	89.6	5.7	1.5	3.1	0.2	0.1	100.0	4,292
Rural	84.0	11.7	2.4	1.9	0.1	0.0	100.0	12,343
Division								
Barisal	87.3	9.8	2.0	1.2	0.0	0.0	100.0	952
Chittagong	90.3	6.1	1.8	1.6	0.1	0.1	100.0	3,015
Dhaka	86.3	9.8	1.6	2.2	0.1	0.1	100.0	5,334
Khulna	85.3	10.8	1.2	2.5	0.1	0.1	100.0	1,996
Rajshahi	81.4	14.8	2.8	1.2	0.1	0.0	100.0	2,526
Rangpur	79.2	12.2	4.4	4.5	0.0	0.0	100.0	1,927
Sylhet	87.9	7.3	3.2	1.7	0.2	0.0	100.0	884
Educational attainment								
No education	87.0	9.5	1.8	1.5	0.2	0.1	100.0	4,379
Primary incomplete	84.8	11.1	1.9	2.3	0.0	0.0	100.0	3,056
Primary complete[1]	84.0	10.8	3.0	2.4	0.2	0.1	100.0	1,963
Secondary incomplete	84.0	10.8	2.5	2.7	0.0	0.0	100.0	5,176
Secondary complete or higher[2]	88.1	8.1	1.9	1.9	0.1	0.0	100.0	2,061
Wealth quintile								
Lowest	84.5	11.7	1.7	2.0	0.1	0.1	100.0	2,975
Second	84.1	11.3	2.7	1.9	0.1	0.0	100.0	3,267
Middle	82.9	12.0	3.0	2.2	0.1	0.0	100.0	3,372
Fourth	84.4	10.9	2.3	2.4	0.1	0.1	100.0	3,457
Highest	91.0	5.4	1.4	2.3	0.1	0.0	100.0	3,564
Contraceptive use								
Not using	91.3	5.3	1.5	1.9	0.1	0.0	100.0	6,452
Using	81.7	13.2	2.7	2.3	0.1	0.1	100.0	10,183
Total	85.5	10.2	2.2	2.2	0.1	0.1	100.0	16,635

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

7.14 SATELLITE CLINICS

As shown in Table 7.20, three in four ever-married women are aware of the existence of a satellite clinic in their community. Awareness of satellite clinics is lower among younger women, women in urban areas, women in Rajshahi, Chittagong and Sylhet divisions, women who completed secondary or higher education, and women in the highest wealth quintile.

Sixteen percent of women who were aware of satellite clinics reported visiting such a clinic in the three months before the 2011 BDHS. More than half of the women who visited a satellite clinic received immunization services for children, while one-fifth of women received family planning methods or visited to obtain vitamin A for their children. Other reasons for visiting satellite clinics include receiving tetanus toxoid injections (6 percent), medicine for general health (3 percent), antenatal care services (2 percent), child growth monitoring (1 percent) and deworming medicine (1 percent).

Table 7.20 Satellite clinics

Percentage of ever-married women age 15-49 who reported a satellite clinic in their community in the past three months, the percentage who visited a satellite clinic, and among those who visited the clinic the percentage who reported various types of services received at the clinic, by background characteristics, Bangladesh 2011

Background characteristic	Percentage reporting a satellite clinic in the community	Number of women	Of those who reported a satellite clinic in the community: Percentage who visited clinic	Number of women	Of those who visited a satellite clinic, percentage reporting receiving of various services: Family planning methods	Immuni-zations	Child growth monitoring	Tetanus toxoid injections	Antenatal care	Vitamin A for children	Deworming medicine	Medicine for general health	Others	Don't know/ missing	Number of women
Age															
15-19	72.0	1,970	25.1	1,418	10.5	69.7	0.6	12.1	3.2	10.7	0.1	1.3	0.1	0.0	356
20-24	75.4	3,514	22.7	2,650	15.0	63.9	1.2	6.7	1.1	21.7	0.9	0.6	1.3	0.0	601
25-29	74.2	3,394	20.1	2,519	20.3	53.6	0.7	6.0	1.4	23.8	2.1	3.0	2.5	0.1	506
30-34	75.8	2,654	14.9	2,012	28.1	44.8	1.8	3.7	1.1	18.8	1.1	4.4	2.2	0.2	300
35-39	76.9	2,246	9.2	1,728	43.5	33.2	0.7	2.7	2.0	21.1	2.8	1.9	3.3	1.7	159
40-44	75.4	2,152	8.3	1,621	39.0	42.5	3.3	2.7	0.0	22.1	0.3	3.0	1.0	0.0	135
45-49	75.1	1,820	5.6	1,366	17.2	37.6	0.5	4.8	1.7	26.4	2.6	12.4	5.2	2.6	77
Residence															
Urban	66.2	4,619	12.6	3,058	24.3	52.4	1.6	5.2	2.4	15.4	2.0	3.0	1.7	0.0	384
Rural	78.1	13,130	17.1	10,256	20.4	55.7	1.0	6.6	1.4	21.1	1.1	2.4	1.8	0.3	1,750
Division															
Barisal	80.6	1,002	17.5	808	33.2	46.4	1.9	8.1	1.8	12.9	1.0	1.7	2.4	0.5	142
Chittagong	72.0	3,222	19.6	2,321	17.7	58.9	1.5	4.7	1.5	23.2	2.4	1.5	2.6	0.0	455
Dhaka	75.2	5,736	13.7	4,311	18.3	59.5	1.2	6.5	1.3	14.4	0.3	3.1	1.6	0.3	592
Khulna	84.3	2,139	13.2	1,803	25.3	49.3	1.2	10.1	0.1	16.8	0.9	2.9	0.8	0.0	238
Rajshahi	67.9	2,646	18.2	1,795	24.6	46.3	0.8	4.6	2.0	26.7	2.6	4.2	2.9	0.0	328
Rangpur	77.3	2,039	16.6	1,575	25.6	57.9	0.4	6.7	2.4	17.5	0.1	1.1	0.7	0.4	261
Sylhet	72.5	967	17.0	701	5.5	59.1	1.2	7.3	2.3	39.2	1.1	2.5	0.5	1.8	119
Educational attainment															
No education	76.2	4,912	12.5	3,745	23.5	52.8	1.3	5.7	1.9	20.9	1.7	2.9	1.3	0.5	470
Primary incomplete	77.2	3,264	16.9	2,519	26.0	48.8	0.7	5.8	1.9	23.7	1.1	2.5	0.7	0.3	425
Primary complete[1]	78.1	2,062	16.6	1,611	18.0	54.1	1.5	10.5	1.1	19.1	0.6	0.4	2.7	0.0	267
Secondary incomplete	75.4	5,383	19.1	4,057	18.9	60.5	1.3	6.0	1.3	16.4	1.2	3.6	1.7	0.3	777
Secondary complete or higher[2]	64.9	2,127	14.1	1,381	17.3	54.6	0.8	5.2	1.4	26.6	1.4	0.0	4.7	0.0	195
Wealth quintile															
Lowest	79.7	3,250	19.7	2,589	22.4	54.5	0.8	6.7	1.6	21.4	1.9	2.5	0.6	0.0	509
Second	75.9	3,487	16.5	2,648	20.5	56.6	0.4	7.5	1.4	19.8	0.3	1.9	1.7	0.7	437
Middle	79.1	3,567	17.0	2,821	24.8	49.9	1.6	6.3	1.5	20.1	0.9	3.0	2.4	0.3	481
Fourth	74.6	3,664	14.8	2,732	19.2	61.0	1.4	4.2	0.9	19.9	1.7	2.4	1.7	0.3	404
Highest	66.8	3,781	12.0	2,525	16.1	54.6	1.7	7.5	2.6	18.7	1.3	2.8	3.2	0.0	303
Total	75.0	17,749	16.0	13,314	21.1	55.1	1.1	6.4	1.5	20.1	1.2	2.5	1.8	0.3	2,134

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

7.15 COMMUNITY CLINICS

The government of Bangladesh has planned to establish one community clinic for each 6,000 people that would provide health care services to the community. These clinics are to provide comprehensive primary health care, family planning services, and nutritional services from a single center.

A question was asked of all ever-married women age 15-49 in the survey about whether their village or area has a community clinic, whether they visit that clinic, and if so, for what services. As shown in Table 7.21, about one in five ever-married women are aware of the community clinic in their area. Awareness of community clinics is lower among older women, women in urban areas, women in Dhaka, Sylhet, and Khulna divisions, and women with higher education and wealth status.

Sixteen percent of women who were aware of community clinics reported visiting such a clinic in the three months before the 2011 BDHS. Thirty-nine percent of women who visited a community clinic went to obtain medicine for general health, while one-third visited for family planning services and 15 percent visited for immunization services for their children. Other reasons for visiting community clinics are vitamin A for children (5 percent), tetanus toxoid injections (3 percent), antenatal care services (3 percent), and child growth monitoring (1 percent).

Table 7.21 Community clinics

Percentage of ever-married women age 15-49 who reported a community clinic in their village/mahalla, the percentage who visited a community clinic in the past three months, and the percentage who reported various types of services received at the clinic, by background characteristics, Bangladesh 2011

Background characteristic	Percentage reporting a community clinic in the community	Number of women	Among those who reported knowing a community clinic in their area:		Among those who visited a community clinic, percentage receiving services in:									
			Percentage who visited clinic	Number of women	Family planning methods	Immuni-zations	Child growth monitoring	Tetanus toxoid injections	Antenatal care	Vitamin A for children	Medicine for general health	Others	Don't know/ missing	Number of women
Age														
15-19	18.1	1,970	12.2	357	18.2	36.3	1.3	8.5	4.9	10.0	20.7	6.4	0.0	43
20-24	18.3	3,514	18.8	645	32.2	20.4	3.0	1.9	6.7	8.4	23.6	11.2	0.0	121
25-29	19.7	3,394	18.7	668	38.2	14.2	0.0	5.4	1.0	4.8	37.5	1.3	2.9	125
30-34	18.0	2,654	18.1	479	43.5	13.4	1.2	2.2	0.0	4.3	31.3	5.0	0.0	87
35-39	17.2	2,246	16.8	386	36.5	5.2	0.9	0.0	3.7	1.5	51.4	3.1	0.0	65
40-44	17.2	2,152	12.1	369	31.9	5.7	0.0	0.0	0.0	0.6	55.0	7.4	0.0	45
45-49	16.6	1,820	12.0	302	13.6	6.3	0.0	3.3	0.0	3.0	88.0	1.5	0.0	36
Residence														
Urban	6.7	4,619	10.5	309	26.3	17.6	0.0	8.4	8.6	1.7	42.0	0.0	0.0	32
Rural	22.1	13,130	16.9	2,897	34.1	14.8	1.2	2.7	2.3	5.3	38.3	5.8	0.7	490
Division														
Barisal	23.1	1,002	16.0	231	51.0	11.9	1.7	0.0	0.7	4.0	32.2	1.6	0.0	37
Chittagong	20.2	3,222	12.3	651	31.4	21.1	0.0	5.0	1.7	5.0	30.2	8.2	0.0	80
Dhaka	10.8	5,736	16.2	622	27.1	13.3	0.0	1.8	3.8	1.9	43.4	6.8	1.9	100
Khulna	19.3	2,139	19.4	412	36.0	5.5	0.0	1.2	3.1	1.2	53.5	2.4	0.0	80
Rajshahi	23.9	2,646	15.5	632	40.9	16.9	2.6	6.2	0.0	5.0	33.4	4.7	1.1	98
Rangpur	25.4	2,039	19.2	519	30.6	16.0	2.1	1.7	4.9	9.3	36.6	6.2	0.0	100
Sylhet	14.3	967	20.1	138	17.8	24.0	2.1	4.7	4.1	15.3	36.0	5.9	2.0	28
Educational attainment														
No education	17.0	4,912	14.6	837	35.2	9.3	0.5	1.4	0.4	6.7	46.4	6.6	0.0	122
Primary incomplete	18.1	3,264	22.0	591	38.9	15.7	1.6	3.9	0.4	5.9	35.5	1.9	0.4	130
Primary complete[1]	20.6	2,062	15.4	425	36.1	14.8	0.0	1.8	1.5	3.4	38.8	8.9	0.0	65
Secondary incomplete	19.2	5,383	14.6	1,035	31.1	18.8	1.2	2.3	2.3	5.0	36.3	6.3	2.0	151
Secondary complete or higher[2]	14.9	2,127	17.0	317	20.9	15.4	2.3	8.1	15.3	1.8	34.4	4.4	0.0	54
Wealth quintile														
Lowest	19.8	3,250	19.4	644	41.6	11.1	1.4	3.4	1.6	6.5	35.2	4.2	0.0	125
Second	21.3	3,487	19.3	744	33.5	11.3	1.1	0.7	1.2	5.2	43.6	7.9	0.0	143
Middle	21.2	3,567	17.7	755	36.7	17.1	0.0	2.4	3.8	3.4	37.1	2.9	2.7	133
Fourth	17.4	3,664	13.0	639	25.3	17.8	3.1	7.0	2.3	2.8	36.6	7.6	0.0	83
Highest	11.2	3,781	8.9	424	14.5	27.4	0.0	4.0	8.4	11.0	40.2	3.5	0.0	38
Total	18.1	17,749	16.3	3,205	33.6	14.9	1.1	3.0	2.7	5.1	38.6	5.4	0.7	523

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

INFANT AND CHILD MORTALITY 8

Key Findings

- Infant and under-5 mortality rates for the past five years are 43 and 53 deaths per 1,000 live births, respectively. At these mortality levels, one in every 23 Bangladeshi children dies before reaching his or her first birthday, and one in every 19 children does not survive to his or her fifth birthday.
- As under-5 mortality continues to decline, Bangladesh is on track to achieve the Millennium Development Goal (MDG) 4 target of 48 deaths per 1,000 live births by the year 2015.
- Infant mortality has declined by 51 percent over the last 18 years, while child mortality and under-5 mortality have declined by 78 percent and 60 percent, respectively, over the same period.
- The neonatal mortality rate for the past five years has been 32 deaths per 1,000 live births, which is three times the postneonatal mortality rate (10 deaths per 1,000 live births). The perinatal mortality rate is 50 deaths per 1,000 pregnancies.
- Sylhet has the highest mortality rates for all mortality indicators except child mortality.

Infant and child mortality rates reflect a country's level of socioeconomic development and quality of life. They are used to monitor and evaluate population and health programs and policies. The rates are also useful in identifying promising directions for health and nutrition programs in Bangladesh. This chapter provides information on the mortality of children under age 5. Specifically, it presents information on levels, trends, and differentials in neonatal, postneonatal, infant, and child mortality. Information on perinatal mortality and patterns of fertility associated with mortality is also presented. Mortality estimates are disaggregated by socioeconomic characteristics, such as urban-rural residence, geographic division, mother's level of education, and household wealth, as well as selected demographic characteristics, which may be used to identify segments of the population requiring special attention.

The data for mortality estimates were collected in the birth history section of the Woman's Questionnaire. The 2011 BDHS asked all ever-married women age 15-49 to provide a complete history of their live births, including the sex, month, and year of each birth, survival status, and age at the time of the survey or age at death. Age at death was recorded in days for children dying in the first month of life, in months for children dying before their second birthday, and in years for children dying at later ages. In this chapter, the following direct estimates of infant and child mortality[1] were used:

Neonatal mortality: the probability of dying within the first month of life;

Postneonatal mortality: the difference between infant and neonatal mortality;

[1] A detailed description of the method for calculating the probabilities presented here is given in Rutstein (1984). The mortality estimates are not rates but are true probabilities calculated according to the conventional life-table approach. Deaths and exposure in any calendar period are first tabulated for the age intervals 0, 1-2, 3-5, 6-11, 12-23, 24-35, 36-47, and 48-59 months. Then age-interval-specific probabilities of survival are calculated. Finally, probabilities of mortality for larger age segments are produced by multiplying the relevant age-interval survival probabilities together and subtracting the product from one: $${}_nq_x = 1 - \prod_{i=x}^{i=x+n}(1 - q_i)$$

Infant mortality: the probability of dying before the first birthday;

Child mortality: the probability of dying between the first and fifth birthday;

Under-5 mortality: the probability of dying between birth and the fifth birthday.

All rates are expressed per 1,000 live births except for child mortality, which is expressed per 1,000 children surviving to their first birthday (12 months of age).

8.1 ASSESSMENT OF DATA QUALITY

The reliability of mortality estimates calculated from retrospective birth histories depends upon the completeness with which deaths of children are reported and the extent to which birth dates and ages at death are accurately reported and recorded. Estimated rates of infant and child mortality are subject to both sampling and nonsampling errors. Sampling errors for various mortality estimates are provided in Appendix B, and this section describes the results of various checks for nonsampling errors—in particular, underreporting of deaths in early childhood (which would result in an underestimate of mortality) and misreporting of the date of birth or age at death (which could distort the age pattern of under-5 mortality). Both problems are likely to be more pronounced for children born further in the past than for children born recently. Underreporting of infant deaths is usually most serious for deaths that occur very early in infancy. If deaths in the early neonatal period are selectively underreported, there will be an abnormally low ratio of deaths under seven days to all neonatal deaths and an abnormally low ratio of neonatal to infant mortality. Changes in these ratios over time can be examined to test the hypothesis that underreporting of early infant deaths is more common for births that occurred further in the past than for births that occurred more recently. Failure to report deaths will result in mortality figures that are low, and if underreporting is more severe for children born longer ago than for children born recently, any decrease in mortality will tend to be understated.

Results from Appendix Table C.5 suggest that early neonatal deaths have not been seriously underreported in the 2011 BDHS because the ratios of deaths under seven days to all neonatal deaths are acceptable. For 0 to 19 years before the survey, the overall percentage of neonatal deaths occurring during the first week of life is 72 percent. A ratio of about 70 percent is often considered normal.[2] This percentage decreases somewhat with increasing years before the survey, from 81 percent of neonatal deaths for the periods 0 to 4 years preceding the survey to 66 percent for the period 15 to 19 years preceding the survey. The ratios of neonatal to infant deaths (Appendix Table C.6) are also consistently high (between 65 percent and 77 percent) for the various periods preceding the survey.

Another problem inherent in most retrospective surveys is heaping of age at death on certain digits (e.g., 6, 12, and 18 months). If the net result of misreporting is the transference of deaths between age segments for which the rates are calculated, misreporting of the age at death will bias estimates of the age pattern of mortality. For instance, an overestimate of child mortality relative to infant mortality may result if children dying during the first year of life are reported as having died at age 1 or older. Thus, heaping at 12 months can bias the mortality estimates because a certain fraction of these deaths, which are reported to have occurred after infancy (i.e., at age 12-23 months), may have actually occurred during infancy (i.e., at age 0-11 months). In such cases, heaping would bias infant mortality ($_1q_0$) downward and child mortality ($_4q_1$) upward.

In the 2011 BDHS, there appears to be a preference for reporting age at death at 3, 7, 15, and 21 days (Appendix Table C.5). An examination of the distribution of deaths under age 2 during the 15 years preceding the survey by month of death (Appendix Table C.6) indicates some heaping of deaths at 6, 12, and 18 months of age. Some heaping on 12 months and recording of deaths at "1 year" is found despite the strong emphasis

[2] There are no models for mortality patterns during the neonatal period. However, one review of data from developing countries concluded that at a neonatal mortality of 20 per 1,000 or higher, approximately 70 percent of neonatal deaths occur within the first six days of life (Boerma, 1988).

on this problem during the training of interviewers for the BDHS fieldwork.[3] However, this brief assessment of the internal consistency of childhood mortality data suggests that the extent of digit preference is such that it will not substantially alter the rates.

Appendix Table C.4 can be used to assess the quality of information recorded on date of birth. The results show that there was evidence of shifting in the reporting of births from calendar year 2006 to 2005. This shifting usually results from interviewers transferring births out of the five-year period for which child data are collected on maternal and child health indicators (January 2006 to date of interview for the 2011 BDHS) in an attempt to reduce the length of the interview. The data also show that transference is proportionately higher for dead children than for living children, which may underestimate the true level of childhood mortality rates for the five-year period before the survey.

It is seldom possible to establish mortality levels with confidence for a period of more than 15 years before a survey. Even within the recent 15-year period considered here, apparent trends in mortality rates should be interpreted with caution for several reasons. First, there may be differences in the completeness of death reporting related to the length of time before the survey. Second, the accuracy of reports of age at death and of date of birth may deteriorate with time. Third, sampling variability of mortality rates tends to be high, especially for groups with relatively few births. Fourth, mortality rates are truncated as they go back in time because women currently age 50 or older who were bearing children during earlier periods were not included in the survey. This truncation affects mortality trends in particular. For example, for the period 10 to 14 years before the survey, the rates do not include any births to women age 40-49 because these women were over age 50 at the time of the survey and therefore not eligible to be interviewed. Because these older women were likely to have a somewhat greater risk of dying than births to younger women, the mortality rates for the period may be slightly underestimated. Estimates for more recent periods are less affected by truncation bias because fewer older women are excluded. However the extent of this bias depends on the proportion of births omitted. Table 6.5 (Chapter 6) shows that very few children born in the five years before the survey were born to women age 35 and above. Given the small proportion of births excluded, selection bias for infant and child mortality statistics as far back as 15 years before the survey should be negligible.

8.2 LEVELS AND TRENDS IN INFANT AND CHILD MORTALITY

Mortality rates for children under age 5 are presented in Table 8.1 for the three five-year periods preceding the survey. Data from the 2011 BDHS show that under-5 mortality during the five years preceding the survey (which roughly corresponds to the years 2007-2011) is 53 deaths per 1,000 live births. This means that one in nineteen children born in Bangladesh dies before reaching the fifth birthday. The infant mortality rate is 43 deaths per 1,000 live births, and the child mortality rate is 11deaths per 1,000 children surviving to 12 months of age, but not to their fifth birthday. During infancy, the risk of dying in the first month of life (32 deaths per 1,000 live births) is three times greater than in the subsequent 11 months (10 deaths per 1,000 live births). Deaths in the neonatal period account for 60 percent of all under-5 deaths.

Table 8.1 Early childhood mortality rates

Neonatal, post-neonatal, infant, child, and under-5 mortality rates for five-year periods preceding the survey, Bangladesh 2011

Years preceding the survey	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
0-4	32	10	43	11	53
5-9	40	17	56	17	73
10-14	43	22	65	24	87

[1] Computed as the difference between the infant and neonatal mortality rates

[3] Interviewers were trained to probe for the exact number of months lived by the child if the age at death was reported as "1 year."

Childhood mortality rates obtained for the five years preceding successive DHS surveys conducted in Bangladesh since 1993-1994 confirm a declining trend in mortality (Table 8.2 and Figure 8.1). Between the periods 1989-1993 and 2007-2011, infant mortality declined by half, from 87 deaths per 1,000 live births to 43 deaths per 1,000 live births. Even more impressive are the 71 percent decline in postneonatal mortality and the 60 percent decline in under-5 mortality over the same period. The corresponding decline in neonatal mortality was 38 percent. Comparison of mortality rates over the last two surveys show that infant, child, and under-5 mortality have declined by about 20 percent. As a consequence of this rapid rate of decline, Bangladesh is on track to achieve the MDG 4 target of an under-5 mortality rate of 48 deaths per 1,000 live births by 2015. An examination of neonatal, infant, and under-5 mortality rates in Bangladesh over the last 18 years reveals that neonatal mortality declined at a slower pace than infant and child mortality, with the result that neonatal deaths have increased from 60 percent of all infant deaths in 1989-1993 to 74 percent in 2007-2011, and from 39 percent of under-5 deaths in 1989-1993 to 60 percent in 2007-2011.

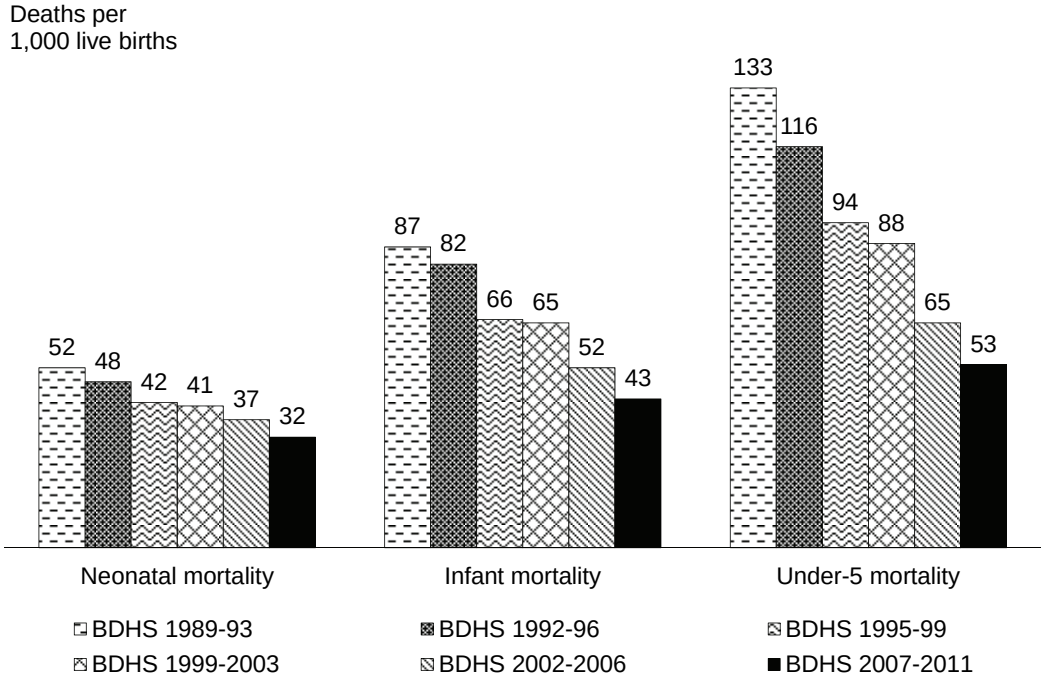
Table 8.2 Trends in early childhood mortality

Neonatal, postneonatal, infant, child, and under-5 mortality rates for five-year periods preceding the BDHS surveys

Data source	Approximate reference period	Neonatal mortality (NN)	Postneonatal mortality[1] (PNN)	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
BDHS 2011	2007-2011	32	10	43	11	53
BDHS 2007	2002-2006	37	15	52	14	65
BDHS 2004	1999-2003	41	24	65	24	88
BDHS 1999-2000	1995-1999	42	24	66	30	94
BDHS 1996-1997	1992-1996	48	34	82	37	116
BDHS 1993-1994	1989-1993	52	35	87	50	133

[1] Computed as the difference between the infant and neonatal mortality rates

Figure 8.1 **Trends in childhood mortality, 1989-2011**



8.3 SOCIOECONOMIC DIFFERENTIALS IN INFANT AND CHILD MORTALITY

Differentials in childhood mortality by selected background characteristics for the five years preceding the survey are presented in Table 8.3 and Figure 8.2. These findings must be interpreted with caution given the low precision of mortality estimates due to sampling error. There is no significant difference in mortality levels in urban and rural areas among children under age 1. Child mortality is somewhat higher in rural areas than in urban areas. Over the years, mortality levels among children under age 5 have declined faster in the rural areas than in the urban areas, reducing the gap between urban and rural childhood mortality rates.

The 2011 BDHS data show wide variations in mortality by division. Infant mortality rates range from 35 deaths per 1,000 live births in Chittagong to 59 deaths per 1,000 live births in Sylhet. Khulna has the lowest child and under-5 mortality rates, while Sylhet has the highest neonatal, postneonatal, infant, and under-5 mortality rates. Whereas Chittagong has the lowest infant mortality rate (35 deaths per 1,000 live births), it has the highest child mortality (16 deaths per 1,000 live births).

Mother's level of education is inversely related to her child's risk of dying. Higher levels of educational attainment are generally associated with lower mortality risks because education exposes mothers to information about better pregnancy and child health care. For example, infant mortality is 40 percent lower for children whose mothers have completed secondary education than for those with no education (33 and 55 deaths per 1,000 live births, respectively).

A child's risk of dying is also associated with the economic status of the household. All childhood mortality rates are lowest for children in the highest wealth quintile. For instance, the risk of dying by age 5 for children in the highest quintile is 37 deaths per 1,000 live births compared with 64 deaths per 1,000 live births for children in the lowest quintile.

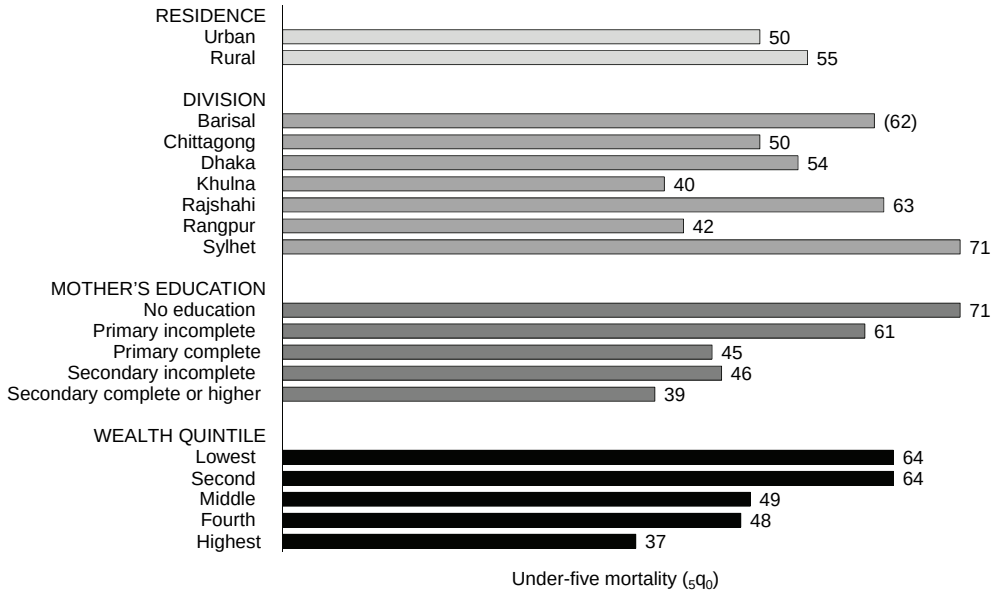
Table 8.3 Early childhood mortality rates by socioeconomic characteristics

Neonatal, post-neonatal, infant, child, and under-5 mortality rates for the 5-year period preceding the survey, by background characteristic, Bangladesh 2011

Background characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Residence					
Urban	32	10	42	8	50
Rural	33	10	43	12	55
Division					
Barisal	(38)	(11)	(49)	(14)	(62)
Chittagong	21	13	35	16	50
Dhaka	36	8	44	11	54
Khulna	32	4	36	4	40
Rajshahi	39	13	51	13	63
Rangpur	27	9	36	6	42
Sylhet	45	14	59	12	71
Mother's education					
No education	32	23	55	18	71
Primary incomplete	38	11	49	13	61
Primary complete[2]	32	8	40	5	45
Secondary incomplete	30	6	36	10	46
Secondary complete or higher[3]	33	1	33	6	39
Wealth quintile					
Lowest	34	16	50	15	64
Second	38	13	51	15	64
Middle	32	9	41	9	49
Fourth	33	5	38	10	48
Highest	23	7	29	8	37

Note: Figures in parentheses have 250-499 years of exposure for that group.
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Figure 8.2 Under-5 mortality rates by socioeconomic characteristics



Notes: Rates are for the 5-year period preceding the survey. Figures in parentheses have 250-499 years of exposure for that group.

BDHS 2011

8.4 DEMOGRAPHIC DIFFERENTIALS IN INFANT AND CHILD MORTALITY

This section examines differentials in early childhood mortality by demographic characteristics of the child and the mother. Table 8.4 and Figure 8.3 present mortality rates for the five-year period preceding the survey by sex of the child, age of the mother at birth, birth order, previous birth interval, and birth size.

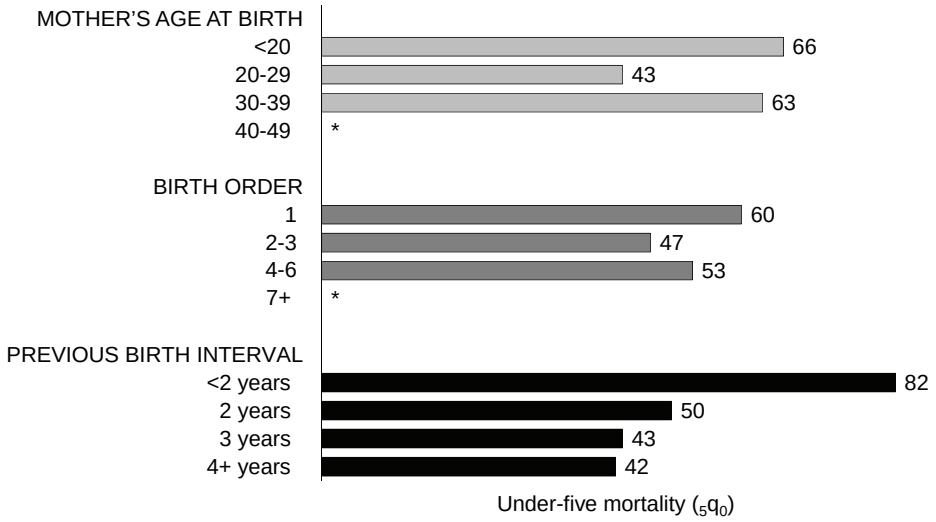
Table 8.4 Early childhood mortality rates by demographic characteristics

Neonatal, postneonatal, infant, child, and under-5 mortality rates for the 5-year period preceding the survey, by demographic characteristics, Bangladesh 2011

Demographic characteristic	Neonatal mortality (NN)	Post-neonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
Child's sex					
Male	39	9	48	10	57
Female	26	11	37	13	50
Mother's age at birth					
<20	45	11	57	10	66
20-29	26	8	34	9	43
30-39	26	16	42	22	63
40-49	*	*	*	*	*
Birth order					
1	43	8	52	8	60
2-3	29	8	37	10	47
4-6	21	17	38	15	53
7+	*	*	*	*	*
Previous birth interval[2]					
<2 years	45	22	66	17	82
2 years	16	11	28	23	50
3 years	20	13	33	10	43
4+ years	27	8	35	8	42
Birth size[3]					
Small/very small	41	16	57	na	na
Average or larger	30	9	38	na	na

Note: An asterisk indicates that the exposure years for the age group are fewer than 250.
na = Not applicable
[1] Computed as the difference between the infant and neonatal mortality rates
[2] Excludes first-order births

Figure 8.3 Under-5 mortality rates by demographic characteristics



Notes: Rates are for the 5-year period preceding the survey. Previous birth interval excludes first-order births. An asterisk indicates that the exposure years for the age group are less than 250.

BDHS 2011

Male children have higher neonatal mortality than female children, while female children experience higher postneonatal and child mortality than males. Neonatal mortality is expected to be higher for boys than for girls because baby boys are more vulnerable than baby girls from the time of conception. With the exception of the 2004 and 2007 BDHS, all BDHS surveys reported both higher postneonatal and child mortality for females than for males—a pattern that has been observed in other countries of South Asia where strong son preference is thought to result in relative nutritional and medical neglect of female children (Das Gupta, 1987; Basu, 1989). The 2011 BDHS indicates that infant and under-5 mortality of male children is now higher than that of female children.

The relationship between mother's age at birth and childhood mortality rates exhibits a U-shaped pattern—children of both the youngest and the oldest mothers experience the highest mortality risks. The 2011 BDHS shows a similar pattern for all mortality estimates except for neonatal mortality rates. Infant and under-5 mortality rates also have a U-shaped relationship with birth order (Table 8.3). In contrast, neonatal mortality decreases linearly, and child mortality increases linearly with birth order.

Short birth intervals are associated with an increased risk of dying. Retherford and others (1989) observe an association between short birth intervals (less than 2 years) and increased mortality, even after controlling for other demographic and socioeconomic variables. As shown in Table 8.4, all childhood mortality rates are lower at longer birth intervals. Neonatal, postneonatal, infant, child, and under-5 mortality rates are almost two times higher for children born after an interval of less than two years compared with children who are born after an interval of four years or longer.

Studies have shown that children's birth weight is an important determinant of their survival chances (UNICEF and WHO, 2004). Because most births in Bangladesh occur at home, where children often are not weighed at birth, data on birth weight are available for only a few children. However, mothers in the 2011 BDHS were asked whether, according to their perception, their child was very large, larger than average, average, smaller than average, or very small at birth; this perception has been found to be a good proxy for a child's weight. As expected, the size of the baby at birth and mortality were negatively associated. For example, 1 in 18 children regarded by their mothers as very small or small did not survive to the first year compared with 1 in 26 children perceived as average or larger at birth.

8.5 PERINATAL MORTALITY

Perinatal deaths are composed of pregnancy losses occurring after seven completed months of gestation (stillbirths) and deaths within the first seven days of life (early neonatal deaths). The perinatal mortality rate is calculated by dividing the total number of perinatal deaths by the total number of pregnancies reaching seven months of gestation. The distinction between a stillbirth and an early neonatal death is a delicate one, often depending on the observed presence or absence of some signs of life after delivery. The causes of stillbirths and early neonatal deaths overlap, and examining just one or the other can understate the true level of mortality around delivery. For these reasons, it is suggested that both events be combined and examined together. In the 2011 BDHS, information on stillbirths is available for the five years preceding the survey and is collected using the calendar at the end of the Woman's Questionnaire.

Table 8.5 shows that the perinatal mortality rate in Bangladesh is 50 deaths per 1,000 pregnancies, which is 9 percent lower than the level observed in the 2007 BDHS (55 deaths per 1,000 pregnancies). Perinatal mortality is high among teenage mothers and mothers age 40-49. Perinatal mortality is highest among first pregnancies (71 deaths per 1,000 pregnancies). Rural areas have higher perinatal mortality than urban areas, and Barisal has the highest perinatal mortality rate of all divisions. Perinatal mortality has a negative association with the mother's education and wealth status; it is lowest for women who have completed secondary or higher education and for women in the highest wealth quintile.

Table 8.5 Perinatal mortality

Number of stillbirths and early neonatal deaths, and the perinatal mortality rate for the five-year period preceding the survey, by background characteristics, Bangladesh 2011

Background characteristic	Number of stillbirths[1]	Number of early neonatal deaths[2]	Perinatal mortality rate[3]	Number of pregnancies of 7+ months duration
Mother's age at birth				
<20	81	103	63	2,895
20-29	108	95	41	4,903
30-39	40	20	53	1,138
40-49	4	2	62	85
Previous pregnancy interval in months[4]				
First pregnancy	106	105	71	2,955
<15	7	14	53	390
15-26	19	25	41	1,087
27-38	28	11	32	1,231
39+	71	66	41	3,359
Residence				
Urban	39	55	47	1,994
Rural	194	165	51	7,027
Division				
Barisal	17	15	62	507
Chittagong	44	31	36	2,061
Dhaka	72	80	54	2,798
Khulna	16	21	45	812
Rajshahi	30	38	58	1,180
Rangpur	30	18	50	956
Sylhet	24	18	60	706
Mother's education				
No education	69	36	57	1,854
Primary incomplete	37	49	52	1,650
Primary complete[5]	30	29	52	1,124
Secondary incomplete	79	78	47	3,323
Secondary complete or higher[6]	17	29	43	1,070
Wealth quintile				
Lowest	48	55	49	2,116
Second	62	50	60	1,861
Middle	55	39	53	1,758
Fourth	42	46	51	1,728
Highest	26	30	36	1,559
Total	232	220	50	9,021

[1] Stillbirths are fetal deaths in pregnancies lasting seven or more months.
[2] Early neonatal deaths are deaths at age 0 to 6 days among live-born children.
[3] The sum of the number of stillbirths and early neonatal deaths divided by the number of pregnancies of seven or more months' duration, expressed per 1000.
[4] Categories correspond to birth intervals of <24 mos., 24-35 mos., 36-47 mos., and 48+ mos.
[5] Primary complete is defined as completing grade 5.
[6] Secondary complete is defined as completing grade 10.

8.6 HIGH-RISK FERTILITY BEHAVIOR

Many studies have found a strong relationship between children's chances of dying and certain fertility behaviors. In general, the probability of dying in early childhood is much greater if children are born to mothers who are too young or too old, if they are born after a short birth interval, or if they are born to mothers with high parity. For this analysis, mothers are classified as too young if they are less than age 18 and too old if they are over age 34 at the time of delivery. A short birth interval is defined as a birth occurring within two years of a previous birth, and a high birth order is defined as a birth occurring after three or more previous births (birth order four or higher). After cross-classification of births by combinations of all three characteristics, a birth may have from zero to three high-risk characteristics. All risk categories are potentially avoidable except for first births to mothers age 18-34.

Table 8.6 shows the percent distribution of births in the five-year period preceding the survey and the distribution of all currently married women across various risk categories. It also shows the relative risk of children dying across the various risk categories. The purpose of this table is to identify areas in which changes in reproductive behavior would be likely to reduce infant and child mortality. Mortality risk is represented by the proportion of children born during the five years preceding the survey who had died by the time of the survey. The "risk ratio" is the ratio of the proportion of dead children in a given high-risk category to the proportion of dead children not in any high-risk category.

Table 8.6 High-risk fertility behavior

Percent distribution of children born in the five years preceding the survey by category of elevated risk of mortality and the risk ratio, and percent distribution of currently married women by category of risk if they were to conceive a child at the time of the survey, Bangladesh 2011

	Births in the 5 years preceding the survey		Percentage of currently married women[1]
Risk category	Percentage of births	Risk ratio	
Not in any high risk category	39.2	1.00	34.5[a]
Unavoidable risk category			
First order births between ages 18 and 34 years	21.4	1.44	6.9
Single high-risk category			
Mother's age <18	15.0	1.37	2.3
Mother's age >34	0.8	2.19	7.5
Birth interval <24 months	4.2	1.92	7.5
Birth order >3	12.5	1.14	12.2
Subtotal	32.6	1.37	29.5
Multiple high-risk category			
Age <18 and birth interval <24 months[2]	0.9	2.33	0.9
Age >34 and birth interval <24 months	0.0	*	0.0
Age >34 and birth order >3	3.3	0.75	23.8
Age >34 and birth interval <24 months and birth order >3	0.2	(4.09)	0.5
Birth interval <24 months and birth order >3	2.2	1.43	3.8
Subtotal	6.7	1.30	29.0
In any avoidable high-risk category	39.3	1.36	58.6
Total	100.0	na	100.0
Number of births/women	8,789	na	16,635

Note: Risk ratio is the ratio of the proportion dead among births in a specific high-risk category to the proportion dead among births not in any high-risk category. An asterisk indicates that a figure is based on fewer than 25 unweighted cases and has been suppressed.
na = Not applicable
[1] Women are assigned to risk categories according to the status they would have at the birth of a child if they were to conceive at the time of the survey: current age less than 17 years and 3 months or older than 34 years and 2 months, latest birth less than 15 months ago, or latest birth being of order 3 or higher.
[2] Includes the category age <18 and birth order >3
[a] Includes sterilized women

Among children born in the five years preceding the survey, 39 percent are not in any high-risk categories, another 39 percent of births are in one of the avoidable high-risk categories, 33 percent are in a single high-risk category, and 7 percent are in a multiple high-risk category. The remainder (21 percent) fall in the category of unavoidable risk, that is, first order births to women age 18-34. Thus, 61 percent of births in Bangladesh are in some high-risk category. The most common risk categories are mother's young age (younger than 18 years) and a birth order of three or higher.

Risk ratios, which describe the relationship between a particular risk category and a reference category, are used to compare mortality by risk category. Children born to mothers age 34 or older are more than twice as likely to die as those born to mothers who are not in any high-risk category. Children whose preceding birth interval is less than 24 months are about twice as likely to die as children who are not in any high-risk category. Children are more than two times as likely to die when their mothers are under age 18 *and* the preceding birth interval is less than 24 months. However, less than 1 percent of the births fall in this category.

The last column in Table 8.6 shows the distribution of currently married women by the risk category into which a birth would fall if conceived at the time of the survey. This column is based on assumptions that do not take into account family planning, postpartum infecundity, and prolonged abstinence. Among married woman who gave birth in the five years preceding the survey, 35 percent are not at any elevated risk of mortality, and 59 percent are in at least one of the avoidable high-risk categories; 30 percent have a single high-risk factor and 29 percent have multiple high-risk factors.

MATERNAL AND NEWBORN HEALTH 9

Key Findings

- Fifty-five percent of women who gave birth in the three years preceding the survey received antenatal care from a medically-trained provider, up from 52 percent in 2007.
- One in every four women (26 percent) has four or more antenatal care visits during the course of her pregnancy, which demonstrates improvement from 22 percent in 2007.
- Nine in ten mothers had their last live birth protected against neonatal tetanus.
- Thirty-two percent of births in the past three years have been assisted by a skilled provider. Birth attendance by skilled provider has doubled since 2004.
- In the three years before the survey, 27 percent of women received postnatal care for their last birth from a medically-trained provider within two days of their delivery, up from 20 percent in 2007.
- Newborn care practices have improved considerably since 2007 in Bangladesh. Among the noninstitutional births in the three years preceding the survey, a boiled instrument was used to cut the umbilical cord in 84 percent of cases. About half of the newborns were dried, and one-third were wrapped within five minutes of birth. The practice of waiting at least 72 hours after birth to bathe the newborn is more common in 2011 than in 2007, having increased from 17 percent to 28 percent.

A health care system aiming to reduce morbidity and mortality related to pregnancy must focus on maternal and newborn health. The health care that a woman receives during pregnancy, at the time of delivery, and soon after delivery is important for the survival and well-being of both the mother and the child. The government of Bangladesh is committed to achieving Millennium Development Goal (MDG) 5, to improve maternal health, by reducing the maternal mortality ratio from 574 to 143 deaths per 100.000 live births by 2015 (UNDP, 2011). The MDG 4 target for Bangladesh has been set to reduce the under-5 mortality ratio from 146 per 1,000 live births in 1990 to 48 per 1,000 live births in 2015. Accordingly, the Ministry of Health and Family Welfare has developed various policies and strategies to improve maternal and newborn health. In a new Health Population and Nutrition Sector Development Programme (HPNSDP) for 2011-16, two operational plans have been implemented under the Directorate General of Health Services and the Directorate General of Family Planning. The new sector program strongly emphasizes improving access and equity in the utilization of essential maternal and neonatal health services (MOHFW, 2011).

This chapter provides information from the 2011 BDHS on several aspects of maternal and newborn health, including antenatal care, delivery, postnatal care, and newborn care. In the 2011 BDHS, women who had given birth in the five years preceding the survey were asked a number of questions about maternal and child health care. For the last live birth in that period, mothers were asked whether they had received antenatal care during pregnancy and whether they had sought postnatal care for themselves and their children. Information was also collected on the place of delivery and on attendance at birth for all births in the five years preceding the survey. In addition, questions on newborn care, such as cord care and the practice of drying, wrapping, and bathing newborns, were asked about the most recent live birth in the five years preceding the survey. Tables present findings from the most recent pregnancies and births in the

three years preceding the survey. To allow for comparison with data from previous surveys, data from the 2004 and 2007 BDHS reports have been re-tabulated to refer to births in the three years prior to the surveys. This information will assist planners and other collaborators in the health sector to formulate appropriate strategies and interventions to provide quality health services and a series of well-timed interventions that should further improve maternal and newborn health.

9.1 ANTENATAL CARE

Antenatal care (ANC) from a medically-trained provider is important to monitor the status of a pregnancy, identify the complications associated with the pregnancy, and prevent adverse pregnancy outcomes. To be most effective, there should be regular ANC throughout pregnancy. Information on ANC was assessed for women who gave birth in the three years preceding the survey. Among women with two or more live births during the three-year period, data refer to the most recent live birth only.

9.1.1 Antenatal Care Coverage

Table 9.1 shows the percent distribution of mothers with a live birth, by source of antenatal care received during pregnancy. Women were asked to report on all persons they saw for antenatal care for their last birth. However, if a woman saw more than one provider, only the provider with the highest qualifications was considered in the tabulation of results.

Sixty-eight percent of women with a birth in the three years preceding the survey received antenatal care at least once from a provider. The majority of women (55 percent) received care from a medically-trained provider, that is, a qualified doctor, nurse, midwife, paramedic, family welfare visitor (FWV), community skilled birth attendant (CSBA), medical assistant (MA), or sub-assistant community medical officer (SACMO). The likelihood of receiving ANC from a medically-trained provider declines rapidly with increasing age and birth order. For example, 57 percent of women who were younger than age 20 at their last birth received antenatal care from a medically-trained provider compared with 40 percent of women age 35 or older. The urban-rural differential in ANC coverage continues to be large: 74 percent of urban women received ANC from a medically-trained provider compared with 49 percent of rural women. Mothers in Khulna are most likely to receive antenatal care from a medically-trained provider (65 percent), while those in Sylhet are least likely to receive care (47 percent). The likelihood of receiving care from a medically-trained provider increases substantially with the mother's education level and wealth status. Twenty-six percent of mothers with no education received ANC from a trained provider compared with 88 percent of mothers with a secondary school or higher education. Similarly, the proportion of women who received ANC from a medically-trained provider is lowest among those in the lowest wealth quintile (30 percent), and increases with each wealth quintile to a high of 87 percent among women in the highest wealth quintile.

Comparable data from the 2004 and 2007 BDHS surveys show that while ANC from any provider has increased by 17 percent since 2004 (from 58 percent in 2004 to 63 percent in 2007 and to 68 percent in 2011), ANC from a medically-trained provider during the same period has increased by only 8 percent (from 51 percent in 2004 to 53 percent in 2007 and to 55 percent in 2011). Inequity in the use of maternal health services is a concern in Bangladesh, and there are programs targeted to reduce the gap. In 2007 and 2011, women in the highest wealth quintile were three times more likely than women in the lowest wealth quintile to receive ANC from a medically-trained provider. The gap remains, as similar percentages of women in the lowest wealth quintile received ANC from a medically-trained provider in 2007 and 2011: 32 percent in 2007 and 30 percent in 2011. Likewise, 85 percent of women in the highest wealth quintile received ANC from a medically-trained provider in 2007 compared with 87 percent in 2011. Between 2007 and 2011, antenatal care from a trained provider has declined among women without any education, women in the lowest wealth quintile, and women in Sylhet and Khulna divisions. Figure 9.1 shows the trend in ANC utilization from a medically-trained provider by division. The changes in ANC from a medically-trained provider between 2007 and 2011 are small and go in both directions.

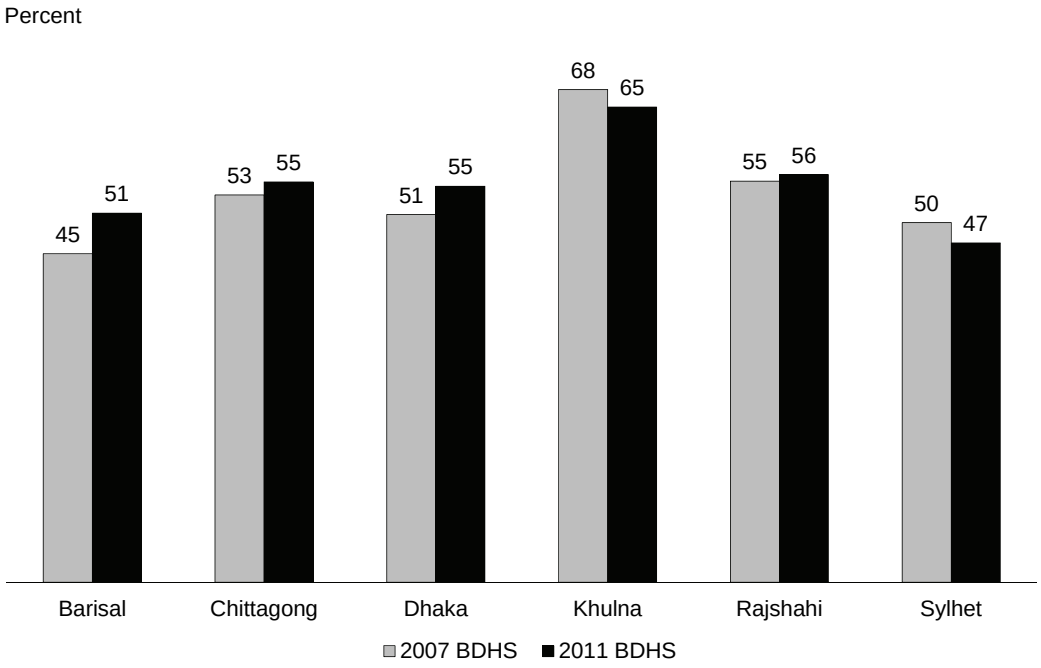
Table 9.1 Antenatal care

Percent distribution of women age 15-49 who had a live birth in the three years preceding the survey, by antenatal care (ANC) provider during pregnancy for the most recent birth, and the percentage receiving antenatal care from a skilled provider for the most recent birth, according to background characteristics, Bangladesh 2011

Background characteristic	Medically trained provider																
	Qualified doctor	Nurse/ midwife/ para-medic	FWV	CSBA	MA/ SACMO	HA/FWA	Trained birth attendant	Untrained birth attendant	Un-qualified provider	NGO worker	Other	No one	Missing	Total	Any ANC	ANC from medically trained provider[1]	Number of women
Mother's age at birth																	
<20	41.9	8.8	5.5	0.6	0.3	5.9	0.3	0.2	1.1	6.7	0.2	28.5	0.0	100.0	71.5	57.1	1,414
20-34	44.1	5.9	3.6	0.3	0.3	5.0	0.3	0.2	1.0	6.2	0.1	32.8	0.2	100.0	67.0	54.3	3,060
35-49	34.1	2.3	4.0	0.0	0.0	3.0	0.3	0.0	0.1	6.9	0.0	49.2	0.0	100.0	50.8	40.4	178
Birth order																	
1	51.2	8.8	5.2	0.4	0.4	5.4	0.2	0.2	0.9	5.6	0.2	21.4	0.0	100.0	78.6	66.1	1,681
2-3	43.1	6.0	3.8	0.2	0.3	4.6	0.3	0.2	1.1	7.1	0.1	32.9	0.2	100.0	66.9	53.4	2,174
4-5	26.8	4.3	3.8	0.9	0.2	7.2	0.4	0.0	1.2	6.0	0.0	48.8	0.5	100.0	50.7	35.9	601
6+	23.0	2.9	0.6	0.0	0.0	3.3	0.6	0.0	0.1	5.2	0.0	64.2	0.0	100.0	35.8	26.5	196
Residence																	
Urban	62.3	10.1	1.7	0.0	0.0	2.9	0.1	0.0	0.3	5.4	0.0	16.9	0.0	100.0	83.1	74.3	1,068
Rural	37.3	5.6	4.9	0.5	0.4	5.9	0.3	0.2	1.2	6.6	0.1	36.6	0.2	100.0	63.1	48.7	3,584
Division																	
Barisal	40.1	5.5	4.0	0.5	0.7	10.2	1.2	0.0	1.1	4.4	0.0	31.6	0.7	100.0	67.7	50.8	260
Chittagong	45.8	5.7	3.4	0.0	0.2	3.2	0.5	0.0	1.2	2.5	0.2	37.1	0.1	100.0	62.8	55.1	1,083
Dhaka	45.2	6.0	2.6	0.5	0.1	4.2	0.1	0.5	0.7	7.4	0.1	32.4	0.0	100.0	67.6	54.5	1,418
Khulna	47.2	10.3	6.4	0.8	0.8	5.7	0.3	0.0	0.6	4.7	0.1	23.0	0.0	100.0	77.0	65.4	441
Rajshahi	40.5	6.5	8.3	0.8	0.0	6.9	0.0	0.0	1.6	6.7	0.0	28.5	0.2	100.0	71.3	56.1	618
Rangpur	33.6	11.1	4.5	0.0	0.4	9.2	0.3	0.0	0.8	17.3	0.0	22.2	0.6	100.0	77.1	49.6	491
Sylhet	40.6	2.7	2.6	0.3	0.5	1.8	0.1	0.0	1.5	1.5	0.1	48.2	0.0	100.0	51.8	46.7	342
Education																	
No education	17.2	5.8	2.2	0.5	0.4	5.4	0.3	0.0	0.9	6.5	0.0	60.6	0.1	100.0	39.3	26.2	819
Primary incomplete	28.7	6.1	4.6	0.2	0.2	5.2	0.2	0.9	1.9	7.8	0.2	43.5	0.3	100.0	56.2	39.9	853
Primary complete[2]	33.3	4.3	3.2	0.7	0.5	8.9	0.2	0.0	1.9	10.3	0.1	36.5	0.2	100.0	63.3	41.9	545
Secondary incomplete	52.8	8.2	5.5	0.5	0.2	4.9	0.4	0.0	0.7	5.7	0.1	21.0	0.1	100.0	78.8	67.1	1,844
Secondary complete or higher[3]	78.3	6.1	3.1	0.0	0.4	2.5	0.1	0.0	0.2	2.5	0.0	6.8	0.0	100.0	93.2	87.8	591
Wealth quintile																	
Lowest	18.7	6.5	3.9	0.9	0.3	7.5	0.0	0.0	1.2	8.9	0.0	51.6	0.4	100.0	48.0	30.4	1,062
Second	27.8	6.2	5.1	0.1	0.4	5.5	0.7	0.3	1.0	8.0	0.2	44.5	0.1	100.0	55.4	39.6	920
Middle	40.4	7.1	6.1	0.3	0.3	5.9	0.2	0.6	1.1	6.0	0.1	31.8	0.1	100.0	68.1	54.2	919
Fourth	56.2	7.1	4.2	0.5	0.2	4.1	0.4	0.0	1.1	5.5	0.1	20.5	0.1	100.0	79.5	68.1	911
Highest	79.2	6.5	1.5	0.0	0.2	2.3	0.0	0.0	0.6	2.6	0.2	7.0	0.0	100.0	93.0	87.4	841
Total	43.1	6.7	4.2	0.4	0.3	5.2	0.3	0.2	1.0	6.4	0.1	32.1	0.2	100.0	67.7	54.6	4,652

Note: If more than one source of ANC was mentioned, only the provider with the highest qualifications is considered in this tabulation.
FWV = family welfare visitor; CSBA = community skilled birth attendant; MA = medical assistant; SACMO = sub-assistant community medical officer; HA = health assistant; FWA = family welfare assistant.
[1] Medically trained provider includes qualified doctor, nurse, midwife, paramedic, FWV, CSBA, and MA/SACMO.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Figure 9.1 **Trend in utilization of antenatal care from a medically-trained provider by division, 2007-2011**



Note: Rangpur was part of Rajshahi in 2007.

9.1.2 Place of Antenatal Care

The place where a woman receives ANC influences the frequency and quality of care received. Information on the ANC source also assists policymakers with decisions on how to allocate resources. Table 9.2 shows the percentage of women with a live birth in the three years preceding the survey who received ANC for the most recent birth, according to the place where they received that care. Because women may visit more than one type of facility for ANC during the same pregnancy, the categories are not mutually exclusive and do not sum to 100 percent. The private sector is the leading source for ANC (43 percent), followed by the public sector (41 percent), and the nongovernmental organization (NGO) sector (9 percent). Sixteen percent of women received ANC at home.

The place where a woman receives care varies according to age at birth. Young women under age 20 and women age 35 and older at the time of birth are more likely than other women to receive ANC from the public sector. In contrast, women with fewer than four live births (i.e., birth order of 1 to 3), women in urban areas, women who have completed secondary or higher education, and women in the highest wealth quintile are more likely to receive ANC from the private sector. For example, 61 percent of women who completed secondary or higher education received ANC from the private sector compared with 27 percent of women with no education. Women in the lower three wealth quintiles are more likely to seek ANC from the public sector than from the private sector.

Comparable data from the 2007 BDHS survey shows a decrease in the proportion of women who received ANC from the public sector and the NGO sector. In 2007 the public sector was the leading source of ANC for women (43 percent), followed by the private sector (38 percent) and the NGO sector (17 percent), while the rest of women received ANC at home.

Table 9.2 Place of antenatal care

Among women age 15-49 who had a live birth in the three years preceding the survey, the percentage who received antenatal care (ANC) during the pregnancy of the most recent birth by place of ANC care, according to background characteristics, Bangladesh 2011

Background characteristic	Place of antenatal care.					Number of women
	Home	Public sector	Private sector	NGO sector	Other	
Mother's age at birth						
<20	19.7	43.6	38.3	9.8	0.0	1,011
20-34	14.5	39.4	45.2	9.0	0.4	2,056
35-49	14.7	45.0	35.5	9.3	0.0	91
Birth order						
1	15.2	42.2	44.1	10.2	0.2	1,322
2-3	16.1	38.9	44.2	8.8	0.3	1,458
4-5	19.3	45.0	31.6	7.4	0.4	308
6+	22.8	39.2	34.9	9.7	0.0	70
Residence						
Urban	9.6	36.0	46.0	19.3	0.4	887
Rural	18.7	42.8	41.4	5.3	0.3	2,270
Division						
Barisal	15.1	50.6	36.3	7.3	0.8	178
Chittagong	6.5	36.1	55.7	7.3	0.6	681
Dhaka	19.5	37.1	43.2	10.8	0.0	959
Khulna	12.5	46.9	40.4	10.9	0.4	340
Rajshahi	18.2	47.4	38.7	5.9	0.5	442
Rangpur	31.4	45.1	20.5	13.6	0.0	381
Sylhet	5.9	33.5	58.7	6.4	0.0	177
Education						
No education	24.9	42.4	27.4	10.5	0.2	323
Primary incomplete	24.2	41.9	31.0	8.0	0.7	482
Primary complete[1]	27.1	42.2	29.0	8.7	0.0	346
Secondary incomplete	13.1	41.7	46.3	10.0	0.1	1,457
Secondary complete or higher[2]	5.2	36.3	61.1	8.2	0.7	551
Wealth quintile						
Lowest	28.9	47.0	22.0	6.5	0.3	514
Second	23.1	46.8	31.1	6.3	0.5	511
Middle	17.5	46.3	38.4	7.6	0.0	626
Fourth	13.3	38.7	49.1	11.6	0.5	724
Highest	4.9	30.7	61.4	12.3	0.2	782
Total	16.2	40.9	42.7	9.3	0.3	3,158

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

9.1.3 Number of Antenatal Visits

Under normal circumstances, the World Health Organization (WHO) recommends that a pregnant woman should have at least four ANC visits (WHO, 2007). Table 9.3 presents information on the number of antenatal visits for the most recent live birth in the three years preceding the survey. Twenty-six percent of women with a live birth in the three years before the survey made four or more ANC visits during their pregnancy. Urban women are more than twice as likely as rural women to have made four or more antenatal visits (45 percent versus 20 percent). Women residing in urban areas, on average, had 1.3 more visits than rural women.

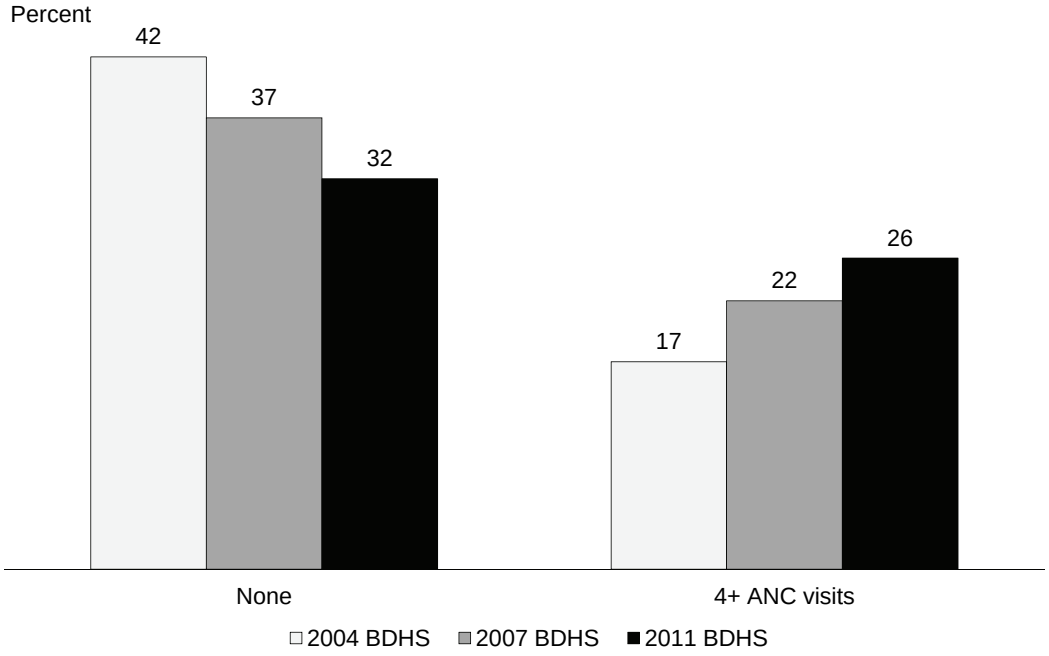
The HPNSDP 2011-2016 specifies a target of at least four antenatal care visits to be achieved by 50 percent of women who have a live birth (MOHFW, 2011). A comparison with the 2004 and 2007 BDHS surveys shows that not only are more women receiving antenatal care, but women are also receiving care more often. The percentage of women who had no ANC visit has declined from 44 percent in 2004 to 32 percent in 2011. At the same time, the percentage of pregnant women who made four or more antenatal visits has increased from 16 percent in 2004 to the current level of 26 percent (Figure 9.2).

Table 9.3 Number of antenatal care visits

Percent distribution of women age 15-49 who had a live birth in the three years preceding the survey by number of antenatal care (ANC) visits for the most recent live birth, according to residence, Bangladesh 2011

Number of ANC visits	Residence		Total
	Urban	Rural	
None	16.9	36.6	32.1
1	11.9	16.4	15.3
2	12.5	14.9	14.4
3	13.8	12.2	12.5
4+	44.7	19.8	25.5
Don't know/missing	0.2	0.1	0.1
Median number of visits (for those with ANC)	4.3	3.0	3.3
Total	100.0	100.0	100.0
Number of women	1,068	3,584	4,652

Figure 9.2 **Trend in antenatal care visits, 2004-2011**



9.1.4 Tetanus Toxoid Injections

Neonatal tetanus is a leading cause of neonatal deaths, especially in developing countries where a high proportion of deliveries are conducted at home or in places where unhygienic conditions prevail. Tetanus toxoid (TT) injections are given to pregnant women during pregnancy to prevent neonatal tetanus, which can occur when sterile procedures are not followed in cutting the umbilical cord after delivery. If a woman has received no previous TT injections, she needs two doses of TT during pregnancy for full protection. However, a woman may require only one or no TT injections during pregnancy if she has been vaccinated before, depending on the number and timing of past injections. A total of five doses is considered to provide lifetime protection.

The 2011 BDHS collected data on whether or not the women received any TT vaccinations during pregnancy and whether or not the pregnancy was protected against neonatal tetanus. Table 9.4 presents the percentage of women who had a live birth in the three years preceding the survey whose last birth was protected against neonatal tetanus. The last birth for nine out of ten mothers was protected against neonatal tetanus. In addition, 42 percent of mothers received two or more tetanus injections during their last pregnancy.

Younger mothers and women with fewer previous live births are more likely than other women to have received two or more tetanus injections during their last pregnancy. The association between education and wealth on receiving two doses of tetanus toxoid during pregnancy is not strong. However, when prior vaccination is taken into account, the proportion of women whose pregnancy was protected against TT increased with both education and wealth. For example, the percentage of women whose last birth was protected against neonatal tetanus ranges from a low of 78 percent among mothers with no education to a high of 96 percent among mothers who have completed secondary education.

Between 2007 and 2011, the percentage of mothers who received at least two tetanus toxoid injections for their last birth in the three years preceding the survey decreased by 24 percent (from 55 to 42 percent, respectively), and the percentage whose last birth was protected against neonatal tetanus has remained almost the same (91 and 90 percent, respectively).

Table 9.4 Tetanus toxoid injections

Among mothers age 15-49 with a live birth in the three years preceding the survey, the percentage receiving two or more tetanus toxoid injections (TTI) during the pregnancy for the last live birth, and the percentage whose last live birth was protected against neonatal tetanus, according to background characteristics, Bangladesh 2011

Background characteristic	Percentage receiving two or more injections during last pregnancy	Percentage whose last birth was protected against neonatal tetanus[1]	Number of mothers
Mother's age at birth			
<20	47.5	93.6	1,414
20-34	39.7	89.5	3,060
35-49	29.7	67.9	178
Birth order			
1	50.4	95.4	1,681
2-3	38.6	89.6	2,174
4-5	34.0	83.5	601
6+	24.2	66.8	196
Residence			
Urban	46.5	93.5	1,068
Rural	40.2	88.8	3,584
Division			
Barisal	55.3	88.9	260
Chittagong	40.9	88.8	1,083
Dhaka	44.5	92.4	1,418
Khulna	33.7	90.5	441
Rajshahi	42.6	87.9	618
Rangpur	42.8	92.1	491
Sylhet	29.3	83.7	342
Education			
No education	41.6	78.1	819
Primary incomplete	45.5	87.9	853
Primary complete[1]	45.8	90.8	545
Secondary incomplete	39.5	93.8	1,844
Secondary complete or higher[2]	39.3	96.3	591
Wealth quintile			
Lowest	40.3	82.2	1,062
Second	44.3	89.9	920
Middle	42.1	91.9	919
Fourth	36.4	92.4	911
Highest	45.8	94.7	841
Total	41.7	89.9	4,652

[1] Includes mothers with two injections during the pregnancy of her last birth, or two or more injections (the last within 3 years of the last live birth), or three or more injections (the last within 5 years of the last birth), or four or more injections (the last within 10 years of the last live birth), or five or more injections at any time prior to the last birth.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

9.2 DELIVERY CARE

Proper medical attention and hygienic conditions during delivery can reduce the risk of complications and infections that can cause death or serious illness for the mother or the newborn. Hence, it is important to increase the proportion of births delivered in a safe, clean environment and under the supervision of health professionals. The Bangladesh Maternal Health Strategy, which encourages women to deliver under the care of medically-trained birth attendants, promotes safe motherhood through various activities, especially delivery by skilled birth attendants (SBAs). Women interviewed in the 2011 BDHS reported on the place and type of assistance during delivery of all children born in the five years before the survey. The tables presented in this report on delivery-related services are based on all live births in the three years preceding the survey.

9.2.1 Place of Delivery

Table 9.5 presents the percent distribution of live births in the three years preceding the survey by place of delivery, according to background characteristics. Twenty-nine percent of births in Bangladesh are delivered at a health facility: 15 percent in a private facility, 12 percent in a public facility, and 2 percent in an NGO facility. Seventy-one percent of births are delivered at home.

The likelihood of delivering in a health facility is considerably lower for women age 35 and older (20 percent) compared with those who are younger (29 percent). Facility delivery decreases sharply as the number of live births by a woman increases. On the other hand, the number of antenatal care visits, education level, and wealth status have a positive relationship on the likelihood of delivering in a health facility. For example, only 11 percent of women with no education deliver in a health facility compared with 67 percent of women with completed secondary education. Among divisions, Khulna has the highest proportion of births delivered at a health facility (46 percent), while Sylhet has the lowest (21 percent).

Although still low, the proportion of births delivered at health facilities has been increasing since 2004, from 12 percent in 2004 to 17 percent in 2007 and to 29 percent in 2011. The increase since 2007 is mostly due to a sharp increase in delivery at private facilities (from 8 percent in 2007 to 15 percent in 2011) and to a less significant increase in deliveries in public facilities (from 8 percent in 2007 to 12 percent in 2011).

In the effort to achieve equity in delivery in a health facility, the HPNSDP 2011-2016 sets a ratio of less than 1 to 4 between women in the lowest and the highest quintiles (MOHFW, 2011). Bangladesh has been making progress in reducing the gap between the poorest and the richest women in the use of facilities for delivery, as shown by the BDHS findings. In the 2011 BDHS, 10 percent of births in the past three years to women in the lowest wealth quintile were delivered in a health facility compared with 60 percent of births in the highest wealth quintile (Figure 9.3). This translates to a ratio of 1 to 6. The corresponding ratios in the 2004 BDHS and the 2007 BDHS among births in the three years before the survey are 1 to 13 and 1 to 8, respectively.

9.2.2 Caesarean Section

Table 9.5 also shows the percentage of live births delivered by Caesarean section during the three years preceding the survey. The percentage of C-section births is sometimes considered to be a proxy indicator of women's access to skilled care for complicated deliveries. According to the 2011 BDHS, 17 percent of live births in the three years preceding the survey were delivered by C-section. Delivery by Caesarean section is highest among births to mothers who completed secondary education (49 percent), births to mothers in the highest wealth quintile (41 percent), births to women who live in urban areas (29 percent), and first births (24 percent). Deliveries by C-section increased from 9 percent in 2007 to 17 percent in 2011.

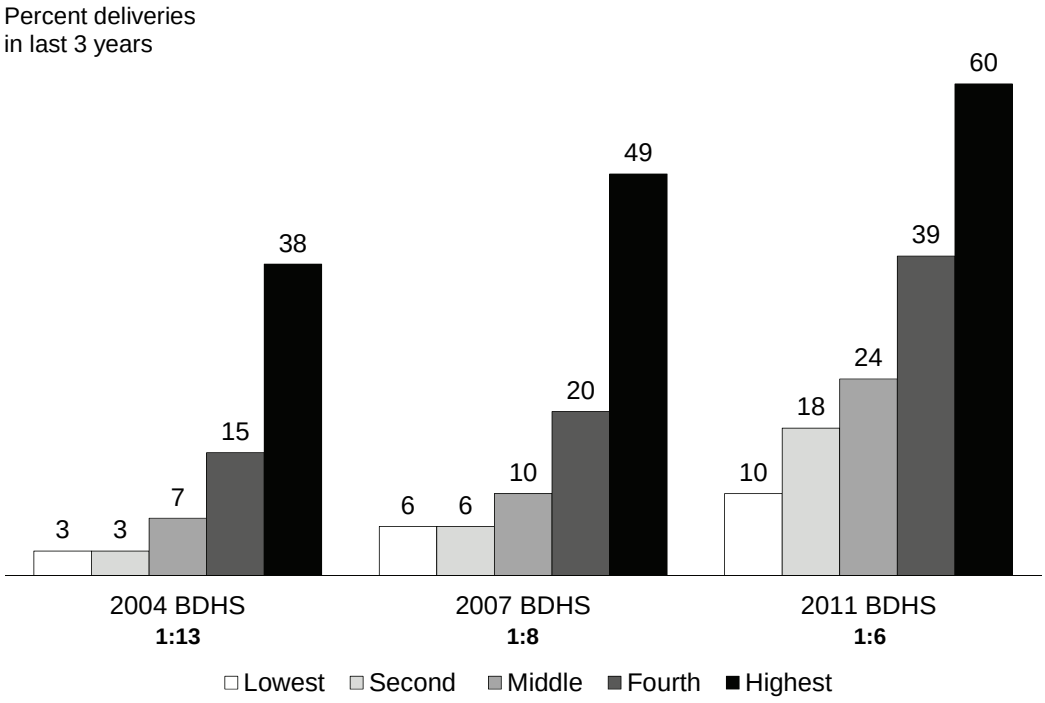
Table 9.5 Place of delivery

Percent distribution of live births in the three years preceding the survey by place of delivery, percentage delivered in a health facility, and percentage delivered by C-section, according to background characteristics, Bangladesh 2011

Background characteristic	Health facility			Home	Other/ missing	Total	Percentage delivered in a health facility	Percentage delivered by C-section	Number of births
	Public sector	Private sector	NGO						
Mother's age at birth									
<20	13.4	13.6	2.0	70.8	0.2	100.0	29.0	14.6	1,539
20-34	11.4	16.0	1.9	70.5	0.2	100.0	29.3	18.6	3,233
35-49	7.4	11.9	0.2	80.4	0.0	100.0	19.6	11.7	183
Birth order									
1	16.0	21.4	2.4	60.0	0.3	100.0	39.8	24.1	1,830
2-3	11.0	13.6	2.1	73.2	0.1	100.0	26.7	15.8	2,294
4-5	5.3	6.1	0.5	87.8	0.3	100.0	12.0	5.9	624
6+	3.9	3.2	0.0	92.9	0.0	100.0	7.1	2.9	208
Antenatal care visits[1]									
None	4.1	4.5	0.2	91.1	0.1	100.0	8.8	5.0	1,496
1-3	13.1	13.6	1.9	71.1	0.2	100.0	28.7	15.8	1,966
4+	20.0	31.0	4.1	44.6	0.3	100.0	55.1	34.7	1,188
Residence									
Urban	17.8	25.2	6.3	50.5	0.2	100.0	49.3	28.9	1,121
Rural	10.1	12.1	0.6	77.0	0.2	100.0	22.8	13.6	3,835
Division									
Barisal	9.7	11.5	1.0	77.6	0.1	100.0	22.3	13.2	273
Chittagong	11.5	12.1	1.3	75.0	0.2	100.0	24.8	14.0	1,176
Dhaka	10.8	16.2	2.9	70.0	0.1	100.0	29.9	20.2	1,510
Khulna	18.4	25.2	2.2	54.1	0.1	100.0	45.8	26.2	463
Rajshahi	9.9	19.1	0.8	69.9	0.3	100.0	29.8	17.6	646
Rangpur	15.1	10.6	1.9	71.9	0.4	100.0	27.6	11.6	513
Sylhet	9.5	9.7	1.8	78.7	0.3	100.0	21.0	12.0	375
Education									
No education	4.9	4.7	1.5	88.8	0.0	100.0	11.2	4.5	892
Primary incomplete	8.2	6.2	1.4	84.0	0.3	100.0	15.7	6.8	904
Primary complete[2]	9.8	11.0	1.1	78.0	0.1	100.0	21.9	12.8	581
Secondary incomplete	13.5	17.1	2.3	66.8	0.2	100.0	33.0	18.8	1,956
Secondary complete or higher[3]	23.8	40.3	2.5	33.1	0.4	100.0	66.6	48.5	623
Wealth quintile									
Lowest	6.9	2.8	0.3	90.1	0.0	100.0	9.9	2.7	1,135
Second	7.8	9.4	0.3	82.4	0.1	100.0	17.5	9.6	1,003
Middle	11.4	11.3	1.4	75.6	0.3	100.0	24.1	14.3	974
Fourth	15.7	20.7	3.1	60.2	0.4	100.0	39.4	22.6	963
Highest	19.1	35.6	5.1	40.0	0.2	100.0	59.8	41.1	881
Total	11.8	15.1	1.9	71.0	0.2	100.0	28.8	17.1	4,956

Note: Total includes 3 births with missing information on number of antenatal care visits.
[1] Includes only the most recent birth in the five years preceding the survey
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Figure 9.3 **Place of delivery by wealth quintile**



9.2.3 Assistance during Delivery

Obstetric care from a trained provider during delivery is critical for the reduction of maternal and neonatal mortality. Table 9.6 shows the percent distribution of all live births in the three years preceding the survey by type of assistance during delivery, according to background characteristics. Thirty-two percent of births in Bangladesh were attended by medically-trained personnel, that is, a qualified doctor, nurse, midwife, family welfare visitor (FWV), or community skilled birth attendant (CSBA)[1]. Additionally, trained traditional birth attendants assisted in 11 percent of deliveries. However, more than half of births in Bangladesh were assisted by dais or untrained traditional birth attendants (53 percent), and 4 percent of deliveries were assisted by relatives and friends.

[1] In Bangladesh, although medical assistants (MAs) and sub-assistant community medical officers (SACMOs) are considered medically-trained providers for antenatal care and postnatal care, they are not considered medically-trained providers for childbirth.

Table 9.6 Assistance during delivery

Percent distribution of live births in the three years preceding the survey by person providing assistance during delivery (skilled and unskilled) and percentage of births assisted by a skilled provider, according to background characteristics, Bangladesh 2011

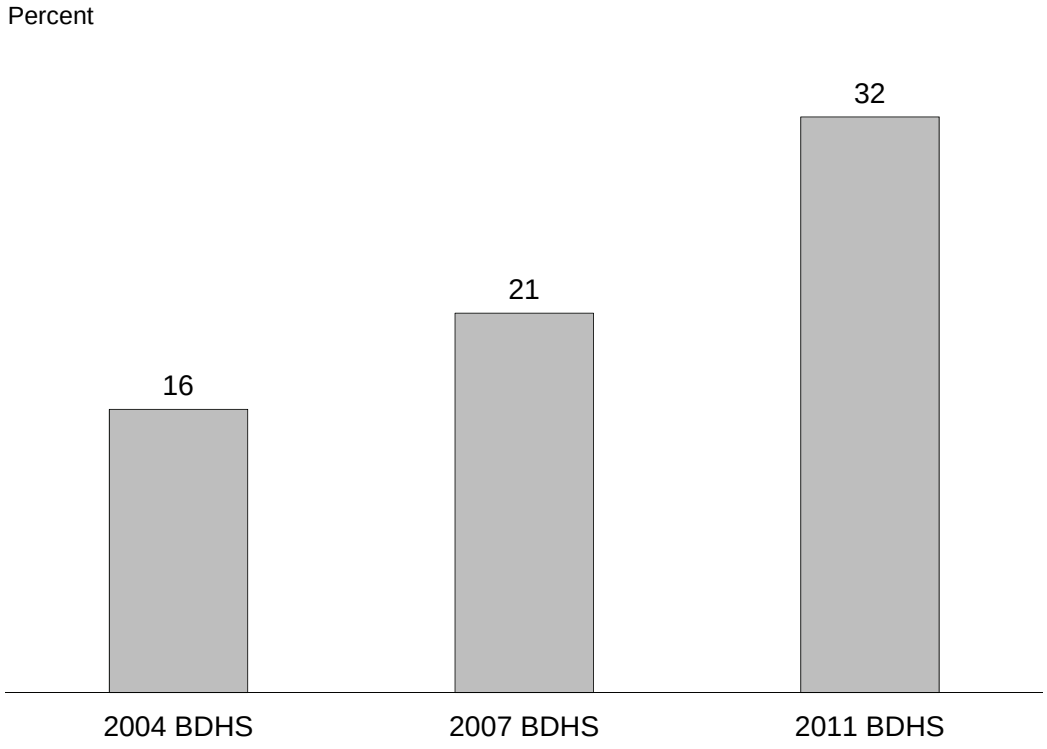
	Assistance during delivery														
Background characteristic	Qualified doctor	Nurse/ midwife/ paramedic	FWV	CSBA	HA/ FWA	Trained traditional birth attendant	Untrained traditional birth attendant	Unqualified doctor	Relatives and friends	NGO worker	No one	Missing	Total	Percentage delivered by a medically trained provider[1]	Number of births
Mother's age at birth															
<20	20.3	11.6	0.2	0.2	0.4	11.1	52.3	0.2	3.5	0.0	0.2	0.0	100.0	32.3	1,539
20-34	23.5	7.8	0.3	0.3	0.5	10.5	52.4	0.2	3.9	0.1	0.6	0.0	100.0	31.9	3,233
35-49	15.0	5.8	0.2	0.7	0.0	17.9	56.2	0.3	3.9	0.0	0.0	0.0	100.0	21.7	183
Birth order															
1	31.4	11.4	0.3	0.1	0.4	10.2	43.2	0.2	2.5	0.0	0.0	0.0	100.0	43.3	1,830
2-3	20.3	8.5	0.3	0.3	0.2	10.6	55.3	0.2	4.0	0.1	0.4	0.0	100.0	29.2	2,294
4-5	8.3	5.0	0.4	0.8	1.4	13.1	61.5	0.1	7.5	0.0	1.9	0.0	100.0	14.4	624
6+	4.0	3.2	0.0	0.6	0.0	14.4	76.3	0.3	1.3	0.0	0.0	0.0	100.0	7.8	208
Place of delivery															
Public	64.6	33.9	0.9	0.0	0.3	0.0	0.1	0.0	0.2	0.0	0.0	0.0	100.0	99.4	587
Private	88.7	11.1	0.0	0.0	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	99.8	749
NGO	46.2	41.6	0.0	0.0	0.0	1.9	0.0	0.0	7.8	2.5	0.0	0.0	100.0	87.7	94
Home	0.3	3.4	0.2	0.4	0.5	15.3	73.9	0.3	5.1	0.0	0.6	0.0	100.0	4.3	3,517
Residence															
Urban	38.4	14.9	0.4	0.1	0.1	9.8	34.0	0.1	1.8	0.2	0.2	0.1	100.0	53.7	1,121
Rural	17.5	7.2	0.3	0.4	0.5	11.3	57.9	0.2	4.4	0.0	0.5	0.0	100.0	25.2	3,835
Division															
Barisal	19.1	9.3	0.1	0.0	0.4	9.3	58.6	0.2	2.4	0.1	0.4	0.0	100.0	28.4	273
Chittagong	20.4	8.4	0.2	0.7	0.4	9.5	57.7	0.1	2.3	0.0	0.3	0.0	100.0	29.7	1,176
Dhaka	24.4	6.6	0.5	0.1	0.5	10.6	54.3	0.0	2.2	0.1	0.6	0.0	100.0	31.5	1,510
Khulna	30.6	17.7	0.3	0.4	0.2	11.7	37.4	0.2	1.5	0.1	0.0	0.0	100.0	49.0	463
Rajshahi	22.1	8.6	0.2	0.0	0.6	10.4	50.4	0.6	6.3	0.0	0.6	0.1	100.0	30.9	646
Rangpur	17.8	10.7	0.1	0.2	0.1	14.6	44.0	0.4	11.6	0.0	0.6	0.0	100.0	28.7	513
Sylhet	17.1	6.8	0.2	0.3	0.4	13.0	58.5	0.3	3.2	0.0	0.2	0.0	100.0	24.4	375
Education															
No education	6.6	5.4	0.0	0.6	0.5	9.6	70.0	0.1	6.2	0.2	0.7	0.0	100.0	12.6	892
Primary incomplete	10.4	7.0	0.1	0.1	0.4	11.3	65.6	0.1	4.1	0.0	0.7	0.1	100.0	17.6	904
Primary complete[1]	14.8	8.8	0.0	0.1	0.3	11.0	60.8	0.1	3.8	0.0	0.3	0.0	100.0	23.7	581
Secondary incomplete	24.8	11.1	0.4	0.3	0.6	11.5	47.2	0.3	3.5	0.0	0.4	0.0	100.0	36.6	1,956
Secondary complete or higher[2]	60.4	9.9	0.8	0.1	0.0	10.6	17.6	0.0	0.6	0.0	0.0	0.0	100.0	71.2	623
Wealth quintile															
Lowest	5.3	5.7	0.0	0.4	0.8	11.2	69.0	0.2	6.7	0.0	0.7	0.0	100.0	11.5	1,135
Second	11.7	6.3	0.3	0.3	0.5	11.7	63.9	0.2	4.1	0.0	0.9	0.0	100.0	18.6	1,003
Middle	18.0	9.6	0.3	0.3	0.2	12.5	54.9	0.5	3.3	0.0	0.4	0.0	100.0	28.2	974
Fourth	30.5	11.8	0.6	0.3	0.4	11.5	41.5	0.1	3.0	0.2	0.1	0.1	100.0	43.2	963
Highest	51.5	11.9	0.3	0.0	0.2	7.4	27.6	0.1	1.0	0.0	0.0	0.0	100.0	63.8	881
Total	22.2	8.9	0.3	0.3	0.4	10.9	52.5	0.2	3.8	0.0	0.4	0.0	100.0	31.7	4,956

Note: Total includes 9 women who gave birth in other type of facility. If the respondent mentioned more than one person attending during delivery, only the most qualified person is considered in this tabulation.
[1] Medically trained provider includes doctor, nurse, midwife, paramedic, FWV, CSBA, and MA/SACMO.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

The type of assistance during childbirth varies with certain background characteristics. Medically assisted births are more common among women having their first birth (43 percent), women in urban areas (54 percent), women who have completed secondary or higher education (71 percent), and women from the highest wealth quintile (64 percent). Among divisions, Khulna has the highest proportion of births assisted by medically-trained providers (49 percent), while Sylhet has the lowest (24 percent).

The HPNSDP 2011-2016 target for delivery by a medically-trained provider is set at 50 percent of deliveries, to be achieved by 2016 (MOHFW, 2011). Over the past seven years, the proportion of deliveries by medically-trained providers has doubled, from 16 percent in 2004 to 21 percent in 2007, and to 32 percent in 2011 (Figure 9.4). This is almost solely due to an increase in institutional delivery, given that the majority of births delivered at home are mostly performed by unskilled individuals (95 percent in 2011) (Table 9.6).

Figure 9.4 **Trend in skilled attendance at deliveries**



9.3 POSTNATAL CARE FOR MOTHERS AND CHILDREN

Postnatal care is a crucial component of safe motherhood. Postnatal checkups provide an opportunity to assess and treat delivery complications and to counsel mothers on how to care for themselves and their babies. A large proportion of maternal and neonatal deaths occur during the 24 hours following delivery. In addition, the first two days following delivery are critical for monitoring complications arising from the delivery.

To assess the extent of postnatal care utilization, the 2011 BDHS asked the respondent whether she and her child had received a health checkup after the delivery, the timing of the first check, and the type of health provider for the last birth in the five years preceding the survey.

9.3.1 Postnatal Checkup for Mother

Table 9.7 shows the percent distribution of last births in the three years preceding the survey for which the mothers and their newborn babies received postnatal care. The 2011 BDHS data show that 27 percent of mothers and 30 percent of children received postnatal care from a medically-trained provider within the crucial first two days of delivery. On the other hand, 71 percent of mothers and 66 percent of children did not receive a postnatal checkup from a medically-trained provider.

The percentage of mothers receiving postnatal checkup from medically-trained providers within 2 days of delivery has increased from 16 percent in 2004 to 20 percent in 2007, and 27 percent in 2011 (see Figure 9.5). However, it is still much lower than the HPNSDP 2011-2016 target of 50 percent that needs to

be achieved by 2016 (MOHFW, 2011). Similarly, the percentage of children receiving postnatal care from a medically-trained provider within two days of delivery has increased from 13 percent in 2004, to 20 percent in 2007, and to 30 percent in 2011 (Figure 9.5).

Table 9.7 Postnatal care for mothers and children

Percent distribution of last births in the three years preceding the survey for which the mothers and children received postnatal care from any provider and a medically trained provider, by timing of postnatal care, Bangladesh 2011

	Women		Children	
Timing	Any provider	Medically trained provider[1]	Any provider	Medically trained provider[1]
Within 2 days of delivery	27.6	27.1	40.5	29.6
3-6 days after delivery	0.9	0.6	2.4	1.0
7-41 days after delivery	1.6	1.2	7.0	3.5
Did not receive postnatal check up	69.5	70.6	49.9	65.8
Don't know/missing	0.4	0.4	0.2	0.2
Total	100.0	100.0	100.0	100.0
Number	4,652	4,652	4,652	4,652

Note: Women and children who received a checkup after 41 days are assumed to have not received postnatal care.
[1] Medically trained provider includes doctor, nurse, midwife, paramedic, family welfare visitor (FWV), community skilled birth attendants (CSBA) and MA/SACMO.

Figure 9.5 **Trend in utilization of postnatal care for women and children from a medically trained provider within two days of delivery, 2004-2011**

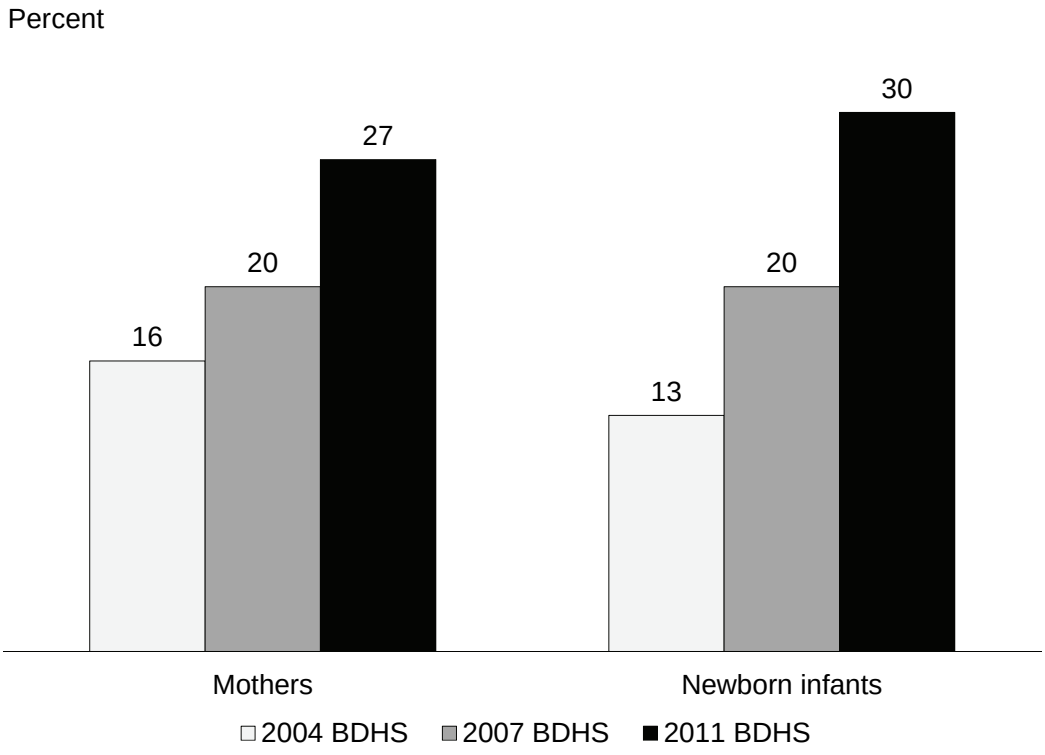


Table 9.8 shows that 29 percent of mothers who give birth in the three years preceding the survey received a postnatal checkup from a medically-trained provider within 41 days of delivery. About one in four women received a postnatal checkup within the first four hours after delivery (23 percent), 2 percent received a checkup within 4 to 23 hours, and 2 percent were seen 1 to 2 days following delivery.

Differences in receiving postnatal care from a medically-trained provider within two days of delivery by mother's age, birth order, place of delivery, residence, education, and wealth quintile are pronounced. Women who are younger than age 35 at the time of birth (27 to 28 percent), women having their first child (38 percent), urban women (46 percent), women who have completed a secondary education or higher (63 percent), and women in the highest wealth quintile (58 percent) are much more likely to receive the first postnatal checkup from a medically-trained provider in the first two days after delivery than other women. The first postnatal checkup from a trained provider within two days of delivery is most common in Khulna (42 percent) and least common in Sylhet (19 percent).

Table 9.8 Timing of first postnatal checkup for the mother

Percent distribution of women age 15-49 who give birth in the three years preceding the survey by time after delivery of the mother's first postnatal check-up for the last live birth from a medically-trained provider, according to background characteristics, Bangladesh 2011

	Time after delivery of mother's first postnatal checkup								
Background characteristic	Less than 4 hours	4-23 hours	1-2 days	3-6 days	7-41 days	Don't know/ missing	No postnatal checkup[1]	Total	Number of women
Mother's age at birth									
<20	22.0	2.7	2.3	1.0	0.9	0.3	70.8	100.0	1,414
20-34	24.0	1.9	1.7	0.4	1.3	0.4	70.2	100.0	3,060
35-49	16.1	2.1	2.0	1.0	1.9	0.3	76.6	100.0	178
Birth order									
1	31.8	3.3	2.5	0.9	0.8	0.5	60.2	100.0	1,681
2-3	21.7	1.6	1.7	0.5	1.6	0.5	72.4	100.0	2,174
4-5	9.3	1.2	1.3	0.5	1.0	0.1	86.5	100.0	601
6+	5.5	1.6	0.1	0.3	1.5	0.0	90.9	100.0	196
Place of delivery									
Health facility	78.4	7.2	5.9	0.6	0.8	1.1	6.1	100.0	1,352
Elsewhere	0.4	0.1	0.3	0.6	1.4	0.1	97.0	100.0	3,300
Residence									
Urban	40.1	2.9	3.2	0.7	1.4	0.6	51.2	100.0	1,068
Rural	18.0	2.0	1.5	0.6	1.2	0.4	76.4	100.0	3,584
Division									
Barisal	18.5	1.6	1.0	0.5	1.7	0.2	76.5	100.0	260
Chittagong	18.6	2.4	2.8	0.8	2.0	0.4	72.9	100.0	1,083
Dhaka	24.4	2.5	2.1	0.7	0.8	0.3	69.3	100.0	1,418
Khulna	37.7	2.9	1.3	0.5	0.6	0.5	56.5	100.0	441
Rajshahi	25.0	1.2	1.1	0.6	0.5	0.4	71.2	100.0	618
Rangpur	21.7	1.7	1.1	0.1	1.7	0.6	73.1	100.0	491
Sylhet	14.9	2.0	2.0	0.9	1.8	0.8	77.7	100.0	342
Education									
No education	9.0	1.0	0.4	0.0	0.4	0.1	89.1	100.0	819
Primary incomplete	12.0	1.2	1.3	0.5	0.6	0.0	84.4	100.0	853
Primary complete[2]	15.8	2.0	1.7	0.8	0.8	0.6	78.3	100.0	545
Secondary incomplete	26.4	2.2	2.5	0.8	1.5	0.6	65.9	100.0	1,844
Secondary complete or higher[3]	54.9	5.2	3.0	0.9	2.8	0.8	32.4	100.0	591
Wealth quintile									
Lowest	7.9	0.6	0.4	0.2	0.5	0.0	90.4	100.0	1,062
Second	11.9	1.7	1.1	0.6	1.1	0.5	83.0	100.0	920
Middle	20.1	2.5	0.6	0.8	1.6	0.1	74.3	100.0	919
Fourth	30.3	2.7	3.7	1.0	1.3	0.7	60.3	100.0	911
Highest	49.8	3.7	4.1	0.6	1.8	0.8	39.1	100.0	841
Total	23.1	2.2	1.9	0.6	1.2	0.4	70.6	100.0	4,652

Note: Medically trained provider includes doctor, nurse, midwife, paramedic, family welfare visitor (FWV), community skilled birth attendants (CSBA) and MA/SACMO.
[1] Includes women who received a checkup after 41 days and women who received checkup from non-medically trained providers
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

The skill of the provider who performs the first postnatal checkup has important implications for maternal and neonatal health. Table 9.9 shows that among women who gave birth in the last three years, 21 percent of women received care from a qualified doctor, and 6 percent received care from a nurse, midwife, paramedic or family welfare visitor (FWV) within two days after birth. Seventy-two percent of women who gave birth received no postnatal checkup within two days of birth.

Table 9.9 Type of provider of first postnatal checkup for the mother

Percent distribution of women age 15-49 who give birth in the three years preceding the survey by type of provider of the mother's first postnatal health check in the two days after the last live birth, and the percentage of women with a live birth in the three years preceding the survey who received a postnatal checkup from a medically-trained provider in the first two days after giving birth, according to background characteristics, Bangladesh 2011

Background characteristic	Medically-trained: Qualified doctor	Medically-trained: Nurse/ midwife/ paramedic/ FWV	Non-medically trained provider	No postnatal checkup in the first two days after birth[1]	Total	Percentage receiving checkup within 2 days of delivery from a medically-trained provider	Number of women
Mother's age at birth							
<20	18.3	8.7	0.4	72.6	100.0	27.0	1,414
20-34	22.7	4.9	0.6	71.8	100.0	27.6	3,060
35-49	14.6	5.5	0.0	79.8	100.0	20.2	178
Birth order							
1	28.4	9.2	0.5	61.8	100.0	37.6	1,681
2-3	20.2	4.9	0.4	74.6	100.0	25.1	2,174
4-5	8.8	3.0	1.0	87.2	100.0	11.8	601
6+	5.5	1.8	0.0	92.7	100.0	7.3	196
Place of delivery							
Health facility	70.6	20.8	0.8	7.8	100.0	91.4	1,352
Elsewhere	0.8	0.1	0.4	98.8	100.0	0.8	3,300
Residence							
Urban	35.8	10.3	0.9	52.9	100.0	46.2	1,068
Rural	16.6	4.8	0.4	78.1	100.0	21.5	3,584
Division							
Barisal	16.1	4.8	0.5	78.4	100.0	21.0	260
Chittagong	20.1	3.7	0.2	75.9	100.0	23.9	1,083
Dhaka	22.7	6.3	0.6	70.4	100.0	29.0	1,418
Khulna	30.6	11.4	0.4	57.6	100.0	42.0	441
Rajshahi	20.1	7.3	0.6	72.1	100.0	27.3	618
Rangpur	17.5	7.1	0.4	75.0	100.0	24.6	491
Sylhet	15.5	3.3	0.8	80.3	100.0	18.8	342
Education							
No education	6.7	3.7	0.7	88.9	100.0	10.4	819
Primary incomplete	9.0	5.5	0.7	84.9	100.0	14.4	853
Primary complete[2]	13.0	6.5	0.8	79.7	100.0	19.5	545
Secondary incomplete	24.2	6.9	0.2	68.6	100.0	31.2	1,844
Secondary complete or higher[3]	55.9	7.2	0.4	36.5	100.0	63.1	591
Wealth quintile							
Lowest	4.7	4.2	0.3	90.8	100.0	8.9	1,062
Second	9.9	4.8	1.0	84.3	100.0	14.8	920
Middle	18.0	5.2	0.1	76.7	100.0	23.2	919
Fourth	28.0	8.7	1.0	62.3	100.0	36.7	911
Highest	49.7	7.9	0.2	42.2	100.0	57.6	841
Total	21.0	6.1	0.5	72.4	100.0	27.1	4,652

Note: Medically trained provider includes doctor, nurse, midwife, paramedic, family welfare visitor (FWV), community skilled birth attendants (CSBA) and MA/SACMO.
[1] Includes women who received a checkup after 41 days and women who received a checkup from non-medically trained providers
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

9.3.2 Postnatal Checkup for the Newborn

Table 9.10 shows that 30 percent of last births in the three years preceding the survey received a postnatal checkup after birth from medically-trained providers within the first two days.

One in four newborns (25 percent) had a postnatal checkup within four hours after birth, and 27 percent of newborns had a postnatal checkup within 24 hours after birth from a medically-trained provider. Differences by mother's age, birth order, place of birth, residence, education, and wealth quintile are pronounced and are similar to patterns discussed for mothers' timing of postnatal checkups.

Table 9.10 Timing of first postnatal checkup for the children

Percent distribution of last births in the three years preceding the survey by time after birth of first postnatal checkup from a medically-trained provider, according to background characteristics, Bangladesh 2011

Background characteristic	Time after birth of newborn's first postnatal checkup							No postnatal checkup[1]	Total	Number of births
	Less than 1 hour	1-3 hours	4-23 hours	1-2 days	3-6 days	7-41 days	Don't know/ missing			
Mother's age at birth										
<20	14.9	9.5	2.4	3.3	1.0	3.6	0.0	65.3	100.0	1,414
20-34	15.3	10.6	1.9	2.0	0.9	3.5	0.3	65.4	100.0	3,060
35-49	12.8	4.9	2.1	1.4	1.2	2.1	0.0	75.5	100.0	178
Birth order										
1	19.9	14.6	3.0	3.3	1.3	4.0	0.1	53.7	100.0	1,681
2-3	14.8	8.6	1.7	2.1	0.9	3.3	0.3	68.3	100.0	2,174
4-5	6.2	4.9	1.7	1.7	0.4	2.6	0.0	82.5	100.0	601
6+	3.4	3.8	0.0	0.1	0.0	3.3	0.1	89.2	100.0	196
Place of delivery										
Health facility	47.5	30.4	5.8	4.9	1.1	1.7	0.6	8.0	100.0	1,352
Elsewhere	1.8	1.8	0.6	1.3	0.9	4.2	0.0	89.4	100.0	3,300
Residence										
Urban	26.4	16.9	3.5	3.6	1.0	4.5	0.3	44.0	100.0	1,068
Rural	11.7	8.1	1.7	2.0	1.0	3.2	0.2	72.2	100.0	3,584
Division										
Barisal	15.3	6.1	2.5	2.4	1.0	5.3	0.2	67.2	100.0	260
Chittagong	11.7	8.8	1.9	3.5	1.1	3.7	0.2	69.0	100.0	1,083
Dhaka	15.8	11.7	2.1	2.0	0.9	3.3	0.3	64.0	100.0	1,418
Khulna	22.4	19.0	3.1	2.1	0.3	1.9	0.0	51.2	100.0	441
Rajshahi	17.2	6.7	1.3	1.8	1.5	4.2	0.0	67.3	100.0	618
Rangpur	14.6	8.3	1.9	2.1	0.6	2.1	0.2	70.2	100.0	491
Sylhet	9.8	7.8	2.7	2.3	1.0	4.9	0.5	71.0	100.0	342
Mother's education										
No education	5.0	5.1	1.1	0.5	0.2	2.1	0.0	86.0	100.0	819
Primary incomplete	8.0	6.3	1.2	2.0	0.7	3.1	0.0	78.7	100.0	853
Primary complete[2]	11.1	7.9	1.6	1.4	1.2	2.9	0.6	73.3	100.0	545
Secondary incomplete	17.3	10.9	2.3	3.3	1.2	4.1	0.3	60.6	100.0	1,844
Secondary complete or higher[3]	35.8	22.0	4.6	3.5	1.3	4.3	0.2	28.2	100.0	591
Wealth quintile										
Lowest	5.9	4.3	0.6	0.6	0.2	3.1	0.0	85.3	100.0	1,062
Second	7.3	5.1	2.0	1.6	1.3	2.3	0.3	80.1	100.0	920
Middle	12.4	9.0	1.9	1.7	1.0	3.6	0.1	70.3	100.0	919
Fourth	20.0	13.2	2.3	4.4	1.6	4.1	0.3	54.0	100.0	911
Highest	32.7	20.7	4.0	4.0	0.9	4.2	0.4	33.1	100.0	841
Total	15.1	10.1	2.1	2.4	1.0	3.5	0.2	65.8	100.0	4,652

Note: Medically trained provider includes doctor, nurse, midwife, paramedic, family welfare visitor (FWV), community skilled birth attendants (CSBA) and MA/SACMO.
[1] Includes newborns who received a checkup after 41 days and newborn who received checkup from non-medically trained providers
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Table 9.11 presents the percent distribution of last births in the three years preceding the survey by type of provider of postnatal checkup for the newborn during the first two days after delivery, according to background characteristics. Among all newborns, 23 percent received their checkup from a qualified doctor, and 7 percent received a checkup from a nurse, midwife, paramedic, or FWV within the first two days after birth. Eleven percent of newborns received their first postnatal checkup from a non-medically-trained provider within the first two days after birth. Sixty percent of newborns received no postnatal checkup in the first two days after birth.

Table 9.11 Type of provider of first postnatal checkup for the newborn

Percent distribution of last births in the three years preceding the survey by type of provider of the child's first postnatal health check during the two days after birth, and the percentage of births with a postnatal checkup in the first two days after birth from a medically-trained provider, according to background characteristics, Bangladesh 2011

Background characteristic	Qualified doctor	Nurse/ midwife/ paramedic/ FWV	CSBA/ MA/ SACMO	Non-medically trained provider	No postnatal checkup in the first two days after birth	Total	Percentage receiving checkup within 2 days of delivery from a medically-trained provider	Number of births
Mother's age at birth								
<20	20.6	9.3	0.2	10.8	59.1	100.0	30.1	1,414
20-34	23.7	6.0	0.2	10.9	59.2	100.0	29.9	3,060
35-49	15.5	5.0	0.7	11.1	67.7	100.0	21.2	178
Birth order								
1	30.9	9.9	0.1	8.9	50.3	100.0	40.9	1,681
2-3	21.0	5.9	0.2	11.8	61.1	100.0	27.1	2,174
4-5	10.1	4.2	0.3	12.8	72.7	100.0	14.5	601
6+	4.8	1.9	0.6	12.0	80.7	100.0	7.4	196
Place of delivery								
Health facility	70.0	18.5	0.0	0.9	10.5	100.0	88.6	1,352
Elsewhere	3.0	2.2	0.3	14.9	79.6	100.0	5.5	3,300
Residence								
Urban	38.2	12.1	0.0	7.9	41.7	100.0	50.3	1,068
Rural	17.8	5.4	0.2	11.8	64.8	100.0	23.4	3,584
Division								
Barisal	18.9	7.0	0.3	6.4	67.3	100.0	26.3	260
Chittagong	21.5	4.2	0.3	8.9	65.1	100.0	26.0	1,083
Dhaka	24.2	7.1	0.1	10.9	57.7	100.0	31.5	1,418
Khulna	32.2	14.0	0.4	12.0	41.3	100.0	46.6	441
Rajshahi	20.2	6.8	0.0	11.2	61.8	100.0	27.0	618
Rangpur	19.0	7.7	0.2	17.2	55.9	100.0	26.9	491
Sylhet	17.2	5.2	0.2	9.5	68.0	100.0	22.6	342
Mother's education								
No education	7.4	3.9	0.3	11.9	76.4	100.0	11.7	819
Primary incomplete	11.2	6.1	0.1	12.7	69.9	100.0	17.5	853
Primary complete[1]	14.3	7.5	0.2	11.1	66.9	100.0	22.0	545
Secondary incomplete	26.0	7.6	0.2	11.0	55.2	100.0	33.8	1,844
Secondary complete or higher[2]	56.0	9.9	0.0	6.4	27.7	100.0	65.9	591
Wealth quintile								
Lowest	5.8	5.2	0.4	13.0	75.7	100.0	11.4	1,062
Second	11.3	4.6	0.2	13.1	70.8	100.0	16.1	920
Middle	18.6	6.1	0.2	9.9	65.1	100.0	24.9	919
Fourth	30.3	9.6	0.1	11.5	48.6	100.0	39.9	911
Highest	51.5	9.9	0.0	6.2	32.4	100.0	61.4	841
Total	22.5	7.0	0.2	10.9	59.5	100.0	29.6	4,652

Note: Medically trained provider includes doctor, nurse, midwife, paramedic, family welfare visitor (FWV), community skilled birth attendants (CSBA) and MA/SACMO.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

9.4 NEWBORN CARE

Newborn primary care focuses on the use of clean instruments to cut the umbilical cord, cord care, bathing delays, prevention of hypothermia, and keeping the newborn warm. The 2011 BDHS is the second DHS survey in Bangladesh to collect information on newborn care. Women who gave birth in the past three years, but who did not deliver their last-born child in a health facility, were asked about newborn care practices, including cord cutting, drying, and wrapping, and bathing of the newborn following birth.

9.4.1 Care of the Umbilical Cord

According to the 2011 BDHS, a blade is the most common instrument used to cut the umbilical cord (97 percent). Table 9.12 shows that a blade from the delivery kit was used for only 14 percent of the births, while the rest of the blades came from other sources (83 percent). The instrument used to cut the cord was boiled before use in 84 percent of noninstitutional births.

The use of a boiled instrument to cut the umbilical cord varies by background characteristics. For example, a boiled instrument was used in 88 percent of the births to women residing in urban areas compared with 83 percent in rural areas. Similarly, the use of a boiled instrument ranges from a low of 81 percent of births to mothers in the lowest quintile to a high of 89 percent in the highest quintile.

Table 9.12 Type of instrument used to cut the umbilical cord

Percent distribution of noninstitutional births that were women's most recent live birth in the three years preceding the survey by type of instrument used to cut the umbilical cord, and the percentage of instruments boiled before the cord was cut, according to background characteristics, Bangladesh 2011

Background characteristic	Instrument used to cut the umbilical cord								Percentage of births using sterile/boiled instruments for cutting the cord	Number of births
	Blade from delivery kit	Blade from other source	Bamboo strips	Scissors	Other	Cord was not cut	Don't know	Total		
Mother's age at birth										
<20	14.1	81.4	1.7	1.3	0.0	0.5	1.1	100.0	79.5	995
20-34	13.9	83.4	1.1	0.8	0.1	0.1	0.6	100.0	85.4	2,153
35-49	17.1	80.0	2.1	0.8	0.0	0.0	0.0	100.0	86.1	143
Birth order										
1	15.3	80.3	1.2	1.6	0.0	0.7	1.0	100.0	79.8	1,001
2-3	14.1	83.2	1.3	0.5	0.0	0.0	0.8	100.0	85.5	1,583
4-5	12.5	85.1	1.2	0.9	0.1	0.0	0.1	100.0	85.4	526
6+	11.9	84.1	2.7	1.4	0.0	0.0	0.0	100.0	83.1	181
Residence										
Urban	13.9	83.1	1.2	1.4	0.0	0.1	0.2	100.0	87.8	538
Rural	14.1	82.6	1.3	0.9	0.0	0.2	0.8	100.0	82.8	2,753
Division										
Barisal	10.8	85.4	1.1	1.1	0.0	0.6	1.0	100.0	80.0	203
Chittagong	9.2	86.3	2.6	1.2	0.0	0.2	0.6	100.0	84.9	806
Dhaka	11.5	86.4	0.4	0.8	0.0	0.2	0.8	100.0	82.1	988
Khulna	13.6	84.3	0.0	1.2	0.0	0.0	0.9	100.0	84.2	240
Rajshahi	15.3	80.2	1.2	2.0	0.0	0.3	1.0	100.0	78.7	431
Rangpur	29.4	69.2	0.9	0.0	0.0	0.3	0.1	100.0	88.0	356
Sylhet	18.9	76.6	3.1	0.3	0.4	0.0	0.7	100.0	89.8	268
Mother's education										
No education	10.7	86.6	1.4	0.7	0.1	0.1	0.4	100.0	82.2	723
Primary incomplete	12.4	84.0	2.0	0.3	0.0	0.2	1.1	100.0	78.9	715
Primary complete[1]	10.3	86.8	0.9	1.1	0.0	0.4	0.5	100.0	87.1	429
Secondary incomplete	15.6	80.9	1.2	1.2	0.0	0.2	0.8	100.0	85.3	1,225
Secondary complete or higher[2]	30.8	65.5	0.0	2.1	0.0	0.6	0.9	100.0	88.0	199
Wealth quintile										
Lowest	11.7	85.2	1.5	0.7	0.0	0.1	0.8	100.0	81.4	955
Second	13.1	83.4	1.8	0.6	0.1	0.5	0.7	100.0	81.8	765
Middle	15.9	80.8	1.3	1.1	0.0	0.1	0.9	100.0	83.9	690
Fourth	16.6	80.7	0.7	1.2	0.0	0.1	0.6	100.0	86.7	547
Highest	15.1	81.2	0.9	1.8	0.2	0.4	0.5	100.0	88.6	336
Total	14.1	82.7	1.3	0.9	0.0	0.2	0.7	100.0	83.6	3,291

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

The use of a blade from a delivery kit has increased from 6 percent in 2007 to 14 percent in 2011, while the use of boiled instruments has increased slightly, from 82 percent in 2007 to 84 percent in 2011 (Figure 9.6).

Figure 9.6 **Trend in use of appropriate cord care, 2007-2011**

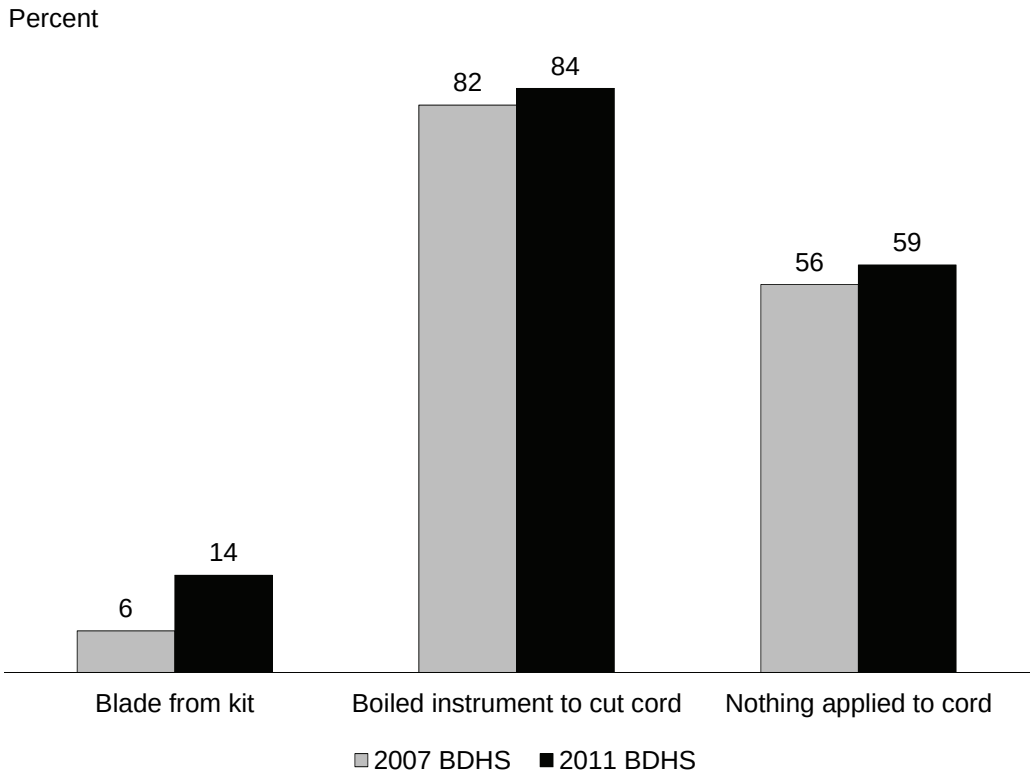


Table 9.13 shows what material was applied to the cord immediately after cutting it, according to the mother's background characteristics. In most cases (59 percent), nothing was applied to the cord after it was cut, which is the recommended practice. When something was applied to the cord, mustard oil with garlic and antibiotics were the most common materials (11 percent each), followed by antiseptics (8 percent), and boric powder (4 percent).

Table 9.13 Application of material after the umbilical cord was cut

Percentage of non-institutional births which were the mother's most recent live birth in the three years preceding the survey by material applied after cutting and tying the umbilical cord, according to background characteristics, Bangladesh 2011

Background characteristic	Anti-biotics	Anti-septic	Mustard oil with garlic	Boric powder	Other[1]	Don't know	Nothing	Number of births
Mother's age at birth								
<20	11.1	7.5	11.6	3.7	9.1	0.8	59.7	995
20-34	10.3	8.6	11.1	3.8	9.9	0.9	58.0	2,153
35-49	11.6	10.7	10.3	2.5	7.0	0.4	60.2	143
Birth order								
1	12.5	7.3	11.4	2.4	9.9	0.8	58.7	1,001
2-3	10.8	8.6	11.7	4.6	9.2	1.1	57.1	1,583
4-5	7.8	9.8	9.1	3.6	9.4	0.2	62.1	526
6+	6.9	7.8	12.2	4.1	11.3	0.5	61.0	181
Residence								
Urban	12.8	7.2	13.5	4.0	9.3	0.9	55.4	538
Rural	10.2	8.6	10.8	3.7	9.6	0.8	59.2	2,753
Division								
Barisal	9.3	8.1	29.2	2.3	14.7	1.8	40.4	203
Chittagong	6.7	6.4	19.2	1.8	10.8	0.8	57.7	806
Dhaka	11.5	7.8	7.9	6.9	9.6	0.8	58.4	988
Khulna	21.8	11.1	7.2	3.5	9.3	0.8	50.2	240
Rajshahi	7.9	9.2	5.8	3.6	9.9	1.1	64.7	431
Rangpur	13.5	9.0	5.8	1.7	1.2	0.0	70.0	356
Sylhet	10.5	11.8	4.8	2.2	12.7	1.4	58.0	268
Mother's education								
No education	7.6	8.6	13.1	2.8	10.0	0.1	60.5	723
Primary incomplete	9.9	6.8	11.1	6.2	11.7	1.5	56.8	715
Primary complete[1]	10.5	9.1	8.7	3.5	12.0	0.7	58.5	429
Secondary incomplete	12.0	8.2	11.6	3.2	7.3	1.0	59.0	1,225
Secondary complete or higher[2]	15.7	12.2	7.5	2.2	8.7	0.3	55.9	199
Wealth quintile								
Lowest	7.7	7.0	13.2	2.9	10.5	0.5	61.8	955
Second	7.3	9.0	11.0	4.9	8.5	1.0	60.2	765
Middle	12.2	10.6	11.4	4.4	10.2	0.5	54.7	690
Fourth	13.9	7.5	7.8	3.4	9.7	1.8	58.2	547
Highest	17.9	7.6	11.2	2.8	8.0	0.6	54.4	336
Total	10.6	8.4	11.2	3.7	9.6	0.8	58.6	3,291

[1] Includes spirits/alcohol, chewed rice, turmeric juice/powder, ginger juice, shidur, gentian violet (blue ink), and talcum powder, each of which were under 2 percent
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

The recommended practice of applying nothing to the umbilical cord increased slightly, from 56 percent in 2007 to 59 percent in 2011 (Figure 9.6).

9.4.2 Drying, Wrapping, and Bathing the Newborn

Newborns should be dried and wrapped within minutes after birth and should not be bathed in the first 24 hours in order to reduce the risk of hypothermia. The 2011 BDHS asked mothers with noninstitutional deliveries in the past five years about when the newborn was first dried and wrapped and when the newborn was first bathed. The tables are based on births in the past three years.

Table 9.14 shows that half of the newborns were dried within the recommended 5 minutes of birth, 77 percent of the newborns were dried within 10 minutes, and 15 percent after 10 minutes. Six percent of newborns were not dried.

There is little variation in early drying of newborns by background characteristics. Newborns in Rajshahi are more likely to be dried within five minutes of birth (58 percent) than newborns in other divisions (52 percent and lower). Early drying is most common among mothers who have completed secondary education (56 percent) and is lowest among mothers with no education or incomplete primary

education (49 percent). Early drying of newborns is also highest among newborns in the highest quintile (57 percent).

Results show that the practice of immediate drying after birth has improved considerably since 2007 when only 6 percent of newborns were dried within five minutes compared with 51 percent in 2011. On the other hand, only 6 percent of newborns were not dried or wiped in 2011 compared with 41 percent in 2007.

The practice of keeping the newborn warm is not common in Bangladesh. The general practice is to look for clothes after the baby is born, and in most cases families do not have warm clothes ready at the time of delivery. The newborn is kept naked or covered by a thin piece of cloth until the placenta is delivered or the umbilical cord is cut. Table 9.14 also shows that one-third of the newborns are wrapped immediately after birth, i.e., within 5 minutes. Sixty-nine percent of newborns are wrapped within 10 minutes, and 25 percent are wrapped 10 minutes or more after birth.

Table 9.14 Newborn care practices: Timing of drying and wrapping

Percent distribution of noninstitutional births that were women's most recent live birth in the three years preceding the survey by timing of drying and wrapping the newborn, according to background characteristics, Bangladesh 2011

	Timing of drying after delivery						Timing of wrapping after delivery						
Background characteristic	0-4 minutes	5-9 minutes	10+ minutes	Not dried	Don't know/ missing	Total	0-4 minutes	5-9 minutes	10+ minutes	Not wrapped	Don't know/ missing	Total	Number of births
Mother's age at birth													
<20	51.1	26.3	13.6	7.2	1.9	100.0	32.0	37.0	24.2	5.0	1.8	100.0	995
20-34	52.2	26.0	15.2	5.5	1.1	100.0	33.8	36.2	24.9	4.2	0.9	100.0	2,153
35-49	41.6	22.7	22.3	9.7	3.7	100.0	25.6	31.0	34.1	4.3	5.1	100.0	143
Birth order													
1	51.9	26.3	14.0	5.7	2.0	100.0	32.3	35.9	25.9	4.0	1.9	100.0	1,001
2-3	51.8	26.7	14.7	5.5	1.1	100.0	34.3	37.1	23.7	3.8	1.0	100.0	1,583
4-5	52.0	22.9	16.0	7.7	1.4	100.0	31.8	34.7	25.5	6.6	1.4	100.0	526
6+	43.8	25.6	20.0	10.2	0.5	100.0	26.6	35.1	30.9	5.9	1.5	100.0	181
Residence													
Urban	50.6	26.9	15.2	6.7	0.6	100.0	36.0	31.8	26.9	4.7	0.6	100.0	538
Rural	51.6	25.7	15.0	6.1	1.6	100.0	32.3	37.1	24.7	4.4	1.5	100.0	2,753
Division													
Barisal	47.7	26.6	17.6	5.4	2.7	100.0	28.1	40.1	24.3	4.8	2.7	100.0	203
Chittagong	51.9	23.7	17.5	6.1	0.8	100.0	32.7	35.7	26.8	3.9	1.0	100.0	806
Dhaka	52.0	26.2	13.7	6.7	1.4	100.0	34.1	34.8	25.0	4.8	1.4	100.0	988
Khulna	50.3	34.0	11.6	1.7	2.3	100.0	27.5	43.7	25.8	0.9	2.0	100.0	240
Rajshahi	57.8	23.0	15.2	2.2	1.8	100.0	44.5	33.3	19.4	1.6	1.2	100.0	431
Rangpur	49.4	31.3	14.8	3.5	1.0	100.0	31.9	40.7	23.7	2.4	1.3	100.0	356
Sylhet	44.1	21.8	13.6	19.1	1.4	100.0	20.1	32.4	31.3	14.9	1.3	100.0	268
Mother's education													
No education	48.6	26.8	14.5	9.2	0.8	100.0	31.9	35.7	24.9	5.9	1.6	100.0	723
Primary incomplete	48.5	26.9	16.8	6.0	1.8	100.0	32.3	35.0	26.6	5.1	1.1	100.0	715
Primary complete[1]	53.2	25.8	12.4	7.9	0.7	100.0	34.9	37.3	21.8	5.4	0.6	100.0	429
Secondary incomplete	53.5	24.9	15.1	4.8	1.7	100.0	33.0	36.0	25.9	3.4	1.7	100.0	1,225
Secondary complete or higher[2]	55.7	26.0	15.7	0.6	2.0	100.0	33.4	42.2	22.3	0.7	1.5	100.0	199
Wealth quintile													
Lowest	48.4	28.3	15.6	6.7	1.0	100.0	30.5	37.0	26.6	4.8	1.2	100.0	955
Second	51.8	23.5	16.5	6.7	1.5	100.0	31.8	37.7	24.5	4.5	1.5	100.0	765
Middle	54.1	24.0	13.9	6.0	2.0	100.0	34.7	35.7	23.6	4.2	1.8	100.0	690
Fourth	49.4	27.7	15.4	5.8	1.7	100.0	33.3	35.2	25.8	4.2	1.5	100.0	547
Highest	56.9	26.0	11.6	4.9	0.6	100.0	37.8	33.6	24.1	4.0	0.5	100.0	336
Total	51.4	25.9	15.0	6.2	1.4	100.0	32.9	36.2	25.1	4.4	1.4	100.0	3,291

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

The practice of immediate wrapping has also improved considerably since 2007 when only 2 percent of newborns were wrapped; that percentage is low compared with the 33 percent wrapped within five minutes in 2011. On the other hand, in 2011 only 4 percent of newborns were not wrapped compared with 38 percent in 2007.

The 2011 BDHS assessed the timing of a newborn's first bath. Table 9.15 shows that 28 percent of newborns are first bathed 72 hours or more following birth, which is the recommended practice in Bangladesh. Thirty-eight percent of the newborns are bathed within the first 6 hours of birth, while 45 percent are bathed in the first 24 hours.

Bathing 72 hours or more after birth is most common among children born to women younger than age 20 and first-order births. Among divisions, Rangpur (48 percent) has the highest proportion of newborns bathed after 72 hours of delivery, while Chittagong, Dhaka, and Khulna (23 to 24 percent) have the lowest. Waiting to give a newborn the first bath is also associated with the mother's education. Twenty-one percent of newborns of women with no education are bathed at least 72 hours after birth, compared with 35 percent of newborns whose mothers have completed secondary or higher education.

A comparison of the 2007 and 2011 BDHS findings shows considerable improvement in newborn bathing practices in Bangladesh. The recommended practice of first bathing babies at least 72 hours after birth has increased by 67 percent—from 17 percent in 2007 to 28 percent in 2011 (Figure 9.7).

Table 9.15 Newborn care practices: Timing of first bath

Percent distribution of noninstitutional births which were women's most recent live birth in the three years preceding the survey by timing of first bath, according to background characteristics, Bangladesh 2011

	Timing of first bath after delivery								
Background characteristic	0-5 hours	6-11 hours	12-23 hours	24-71 hours	72+ hours	Baby not bathed[1]	Don't know/ missing	Total	Number of births
Mother's age at birth									
<20	35.8	4.5	1.9	23.9	30.8	1.9	1.1	100.0	995
20-34	38.6	4.7	2.7	25.2	27.3	1.0	0.5	100.0	2,153
35-49	34.2	6.2	1.6	27.4	27.7	2.9	0.0	100.0	143
Birth order									
1	34.0	4.6	2.3	23.8	33.0	1.7	0.6	100.0	1,001
2-3	36.8	5.0	2.4	27.0	26.5	1.4	0.9	100.0	1,583
4-5	45.8	4.1	2.9	20.5	25.6	0.7	0.5	100.0	526
6+	40.4	4.7	2.0	24.6	27.2	1.0	0.0	100.0	181
Residence									
Urban	34.0	4.8	2.0	29.2	28.5	1.1	0.5	100.0	538
Rural	38.3	4.7	2.5	24.0	28.4	1.4	0.7	100.0	2,753
Division									
Barisal	24.3	3.4	0.7	30.2	37.3	3.4	0.7	100.0	203
Chittagong	43.3	6.3	2.5	23.4	23.3	1.0	0.2	100.0	806
Dhaka	43.4	4.4	2.6	24.8	23.6	0.6	0.7	100.0	988
Khulna	25.1	7.6	3.3	37.9	24.0	1.2	1.0	100.0	240
Rajshahi	34.3	4.5	3.5	23.1	31.2	1.9	1.6	100.0	431
Rangpur	19.3	3.5	1.6	26.2	47.6	1.5	0.4	100.0	356
Sylhet	49.9	1.4	1.8	15.0	28.3	3.0	0.5	100.0	268
Mother's education									
No education	49.4	4.3	3.0	20.5	21.3	1.4	0.2	100.0	723
Primary incomplete	41.3	4.3	3.2	23.3	25.8	1.1	1.0	100.0	715
Primary complete[2]	37.0	5.8	1.2	21.6	33.4	0.9	0.0	100.0	429
Secondary incomplete	30.0	4.7	2.2	29.4	31.3	1.5	1.1	100.0	1,225
Secondary complete or higher[3]	29.9	5.7	2.0	25.6	34.6	2.2	0.0	100.0	199
Wealth quintile									
Lowest	44.0	4.7	2.7	20.6	26.3	1.1	0.6	100.0	955
Second	36.4	4.3	2.9	25.5	28.6	1.5	0.8	100.0	765
Middle	35.0	5.7	2.0	28.8	26.3	1.8	0.5	100.0	690
Fourth	32.6	4.1	2.7	24.9	33.2	1.2	1.3	100.0	547
Highest	35.4	4.7	1.1	27.5	30.0	1.3	0.0	100.0	336
Total	37.6	4.7	2.4	24.9	28.4	1.4	0.7	100.0	3,291

[1] Majority of cases accounted for by early neonatal deaths
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

9.4.3 Essential Newborn Care

The National Neonatal Health Strategy and Guidelines for Bangladesh recommend a set of essential newborn care practices: the use of a boiled instrument to cut the cord, applying nothing to the cord, immediate (within 5 minutes) drying and wrapping of the infant, delaying bathing to 72 hours after birth, and initiating breastfeeding within 1 hour of delivery (MOHFW, 2009). To assess the extent to which newborn care practices have been followed, Table 9.16 is presented to show the percentage of nonnstitutional last live births in the three years preceding the survey by each of the essential newborn care practices and the percentage that receives all of the essential newborn care practices. All of the components of essential newborn practices have been presented in the preceding tables. The key indicator in Table 9.16 is that only 2 percent of newborns receive all the essential newborn care practices.

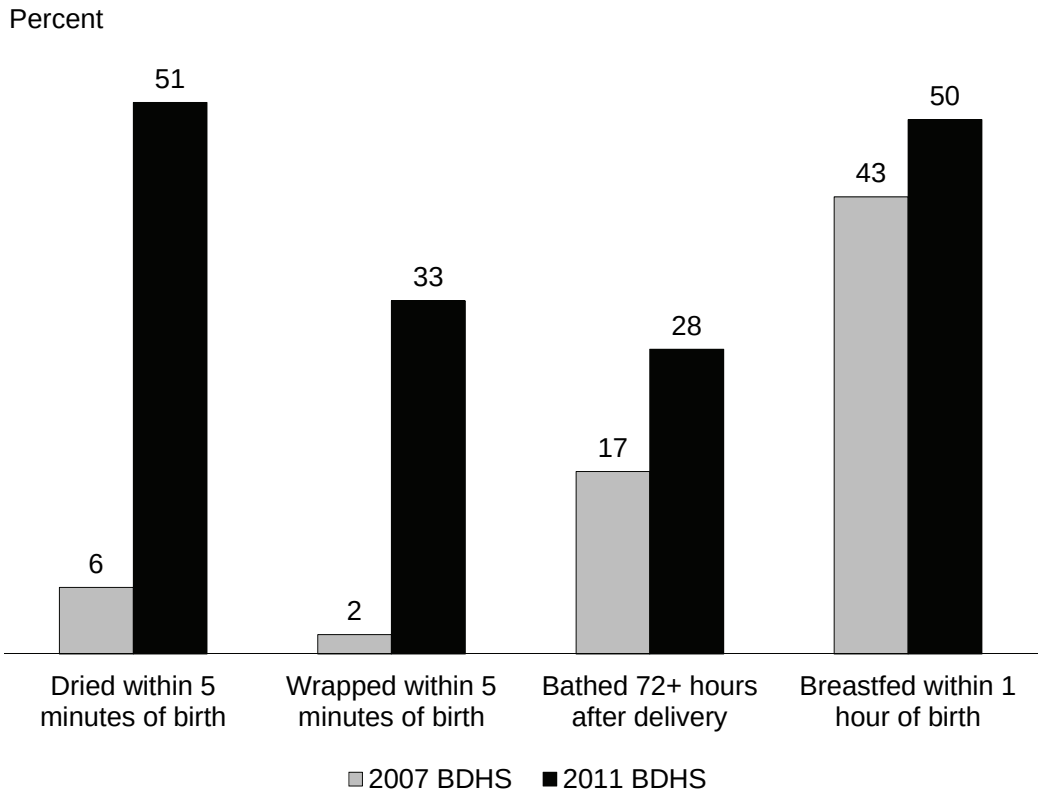
Whereas Figure 9.6 shows the trend in appropriate cord care (use blade from the kit, boil the instrument, and apply nothing to the cord), Figure 9.7 summarizes the trend in the four other practices since 2007; immediate (within 5 minutes) drying and wrapping, delay in bathing to 72 hours after birth, and initiating breastfeeding within 1 hour of delivery. For all of these indicators, the practices in 2011 have improved over those in 2007.

Table 9.16 Essential newborn care

Percentage of non-institutional births which were their mother's most recent live birth in the three years preceding the survey by essential newborn care practices, Bangladesh 2011

Essential newborn care practices	Percentage of noninstitutional births with newborn care practices
Instrument boiled before the cord was cut	83.6
Nothing applied to the umbilical cord after it was cut and tied	58.6
Dried within 0-4 minutes of birth	51.4
Wrapped within 0-4 minutes of birth	32.9
Delayed bathing (bathed 72+ hours after delivery)	28.4
Immediate breastfeeding (breastfed within 1 hour after birth)	49.8
All the essential newborn care practices	2.2
Number of noninstitutional births	3,291

Figure 9.7 **Trend in essential newborn care**



CHILD HEALTH 10

Key Findings

- The proportion of children age 12-23 months who are fully vaccinated has increased from 83 percent in 2007 to 86 percent in 2011.
- Five percent of children under age 5 had diarrhea in the two weeks preceding the survey. Of these children, 25 percent received treatment from a health facility or health provider, an increase from 20 percent in 2007, and 81 percent received oral rehydration therapy (ORT).
- Six percent of children under age 5 had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey. Thirty-five percent of these children received treatment from a health facility or health provider, a decrease from 37 percent in 2007.
- Nearly four in ten children under age 5 had a fever in the two weeks preceding the survey. Of these children, 27 percent received treatment from a health facility or health provider.
- Over six in ten children with fever who sought treatment received care from the private medical sector.

This chapter presents findings in several areas of importance to child health, including the mother's estimate of baby's size at birth, the vaccination status of children, and the prevalence and treatment of important childhood illnesses. Information on perceived size at birth is important for the design and implementation of programs aimed at reducing neonatal and infant mortality. Information on vaccination coverage focuses on children age 12-23 months. Overall coverage levels at the time of the survey, and at age 12 months, are shown for this group. In addition, the source of the information—a written vaccination card or the mother's recall—is shown. Knowing how vaccination coverage varies among subgroups of the population can aid in program planning. Information on vaccination coverage is also important for the monitoring and evaluation component of the Expanded Program on Immunization (EPI).

Examining treatment practices and contact with health services for children with the three most important childhood illnesses—diarrhea, acute respiratory infection (ARI), and fever—can help assess national programs aimed at reducing mortality from these illnesses. Information is provided on the prevalence of ARI and fever and the extent to which treatment is sought from medically trained providers, pharmacies, and traditional (unqualified) doctors. Measuring the coverage of oral rehydration therapy (ORT) and increased fluids to treat diarrheal disease can help assess the effectiveness of programs that recommend these treatments. Because the appropriate use of zinc can help reduce the severity and duration of diarrheal disease, information is also provided on this treatment.

10.1 CHILD'S SIZE AT BIRTH

A child's birth weight or size at birth is important indicator of the child's vulnerability to the risk of childhood illness and chances of survival. Children whose birth weight is less than 2.5 kilograms, i.e., low birth weight (LBW), have a higher than average risk of early childhood death. Because birth weight was not likely to be known for many babies, particularly for those born at home, the mother's estimate of the baby's size was obtained in the BDHS. A mother's report of a child being "very small" or "smaller than average", even though subjective, is considered a useful proxy for LBW.

Table 10.1 shows that according to their mother's estimate, 5 percent of children were very small at birth, 12 percent were smaller than average, and 82 percent were average or larger in size.

The likelihood of reporting very small children increases with a child's birth order, from 5 percent for first births to at least 7 percent for births of order four and higher. Among the divisions, the highest percentage of very small children is seen in Chittagong and Sylhet (7 percent) and the lowest is in Rangpur (3 percent). The highest percentages of very small children are also seen among children whose mothers have no education (6 percent) and the lowest are among children whose mothers have completed secondary or higher education (4 percent).

Table 10.1 Child's size at birth

Percent distribution of all live births in the five years preceding the survey by mother's estimate of baby's size at birth, according to background characteristics, Bangladesh 2011

Background characteristic	Percent distribution of all live births by size of child at birth					Number of births
	Very small	Smaller than average	Average or larger	Don't know/ missing	Total	
Mother's age at birth						
<20	4.6	14.6	80.6	0.1	100.0	2,815
20-34	5.7	11.1	83.2	0.0	100.0	5,586
35-49	5.1	14.0	80.9	0.0	100.0	388
Birth order						
1	4.9	13.8	81.2	0.1	100.0	3,111
2-3	4.7	11.3	84.0	0.0	100.0	4,069
4-5	7.7	12.2	80.1	0.0	100.0	1,184
6+	7.2	12.3	80.6	0.0	100.0	425
Residence						
Urban	4.2	11.3	84.3	0.2	100.0	1,955
Rural	5.6	12.7	81.7	0.0	100.0	6,833
Division						
Barisal	4.4	9.5	86.1	0.0	100.0	491
Chittagong	7.4	13.8	78.7	0.0	100.0	2,017
Dhaka	4.5	12.0	83.4	0.1	100.0	2,727
Khulna	4.0	12.1	83.8	0.1	100.0	796
Rajshahi	5.7	11.0	83.1	0.1	100.0	1,150
Rangpur	2.6	11.3	86.1	0.0	100.0	926
Sylhet	7.0	15.4	77.5	0.0	100.0	682
Mother's education						
No education	6.2	13.3	80.5	0.0	100.0	1,785
Primary incomplete	5.7	11.7	82.6	0.0	100.0	1,613
Primary complete[1]	4.4	13.9	81.6	0.1	100.0	1,094
Secondary incomplete	5.5	12.7	81.8	0.1	100.0	3,244
Secondary complete or higher[2]	3.8	8.9	87.3	0.0	100.0	1,053
Wealth quintile						
Lowest	5.7	13.6	80.6	0.0	100.0	2,068
Second	6.0	13.3	80.7	0.0	100.0	1,799
Middle	5.5	12.5	82.0	0.0	100.0	1,703
Fourth	4.4	11.2	84.2	0.1	100.0	1,685
Highest	4.7	10.5	84.7	0.1	100.0	1,533
Total	5.3	12.4	82.3	0.0	100.0	8,789

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

10.2 VACCINATION OF CHILDREN

Universal immunization of children under age 1 against major vaccine-preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, hepatitis B, hemophilus influenza type B disease, poliomyelitis, and measles) is one of the most cost-effective programs to reduce infant and child morbidity and mortality. The government of Bangladesh established the routine EPI program against six vaccine-preventable diseases in 1979: tuberculosis, DPT (diphtheria, pertussis, and tetanus), polio, and measles. Efforts intensified after 1985 when Bangladesh committed itself to reaching universal immunization by

1990 (Jamil et al., 1999). In 2003 the national EPI program incorporated the hepatitis B vaccine with support from the Global Alliance for Vaccination and Immunization (GAVI) (EPI 2004; MOHFW, 2004). The hepatitis B vaccine was initially distributed in seven districts and one city corporation, and then gradually expanded to all districts of Bangladesh by October 2005. In January 2009, the Bangladesh EPI program introduced the hemophilus influenza type B (Hib) vaccine. This was done in the form of the pentavalent vaccine that included the DPT and hepatitis B vaccines and the new Hib vaccine. By June 2009, the pentavalent vaccine had replaced the DPT and hepatitis B vaccines in the EPI program in Bangladesh. For this reason, the DPT statistics reported here include either DPT or the pentavalent vaccine.

The EPI is a priority program for the government of Bangladesh. It follows the international guidelines recommended by the World Health Organization (WHO)). According to the Bangladesh immunization guidelines, children are considered fully immunized when they have received one dose of the vaccine against tuberculosis (BCG), three doses of the vaccine against diphtheria, pertussis, and tetanus (DPT) or of the pentavalent vaccine, three doses of polio vaccine (excluding polio vaccine given at birth), and one dose of measles vaccine. One dose of BCG is given at birth or at first contact with health workers; the pentavalent or DPT and polio vaccines require three doses at approximately 6, 10, and 14 weeks; and measles vaccine is given soon after 9 months. WHO recommends giving children all of these vaccines before their first birthday and recording the vaccinations on a vaccination card given to the parents.

The 2011 BDHS collected data on childhood vaccinations for all surviving children born during the five-year period before the survey. In Bangladesh, immunizations are routinely recorded on a vaccination card. For each child, mothers were asked whether they had the vaccination card and, if so, to show the card to the interviewer. If the mother was able to show the vaccination card, the dates of vaccinations were transferred from the card to the questionnaire. If the vaccination card was not available (or a vaccination was not recorded), mothers were asked to recall whether the child had received each vaccine.

10.2.1 Vaccination Coverage

Table 10.2 presents information on vaccination coverage according to the source of information. Data are presented for children age 12-23 months, thereby including only those children who have reached the age by which they should be fully vaccinated. The first three rows show the proportions of these children vaccinated at any time before the survey. These results are presented according to the source of the information used to determine coverage, that is, a vaccination card, a mother's report, or either source. The last row shows the proportion of children who had been vaccinated by age 12 months, the age by which WHO recommends vaccination coverage should be complete.

According to information from both vaccination cards and mothers' reports, 86 percent of Bangladeshi children age 12-23 months are fully vaccinated. The level of coverage for BCG, three doses of pentavalent vaccine (tuberculosis, diphtheria, pertussis, tetanus, hepatitis B, and hemophilus influenza type B), and three doses of polio vaccine is 93 percent or higher. Coverage for measles vaccine is slightly lower (88 percent). The Health, Population, and Nutrition Sector Development Program (HPNSDP) 2011-2016 has set a target of 90 percent coverage for measles vaccine by age 12 months by 2016 (MOHFW, 2011). The 2011 BDHS shows that the coverage is 84 percent by age 12 months. The coverage for the pentavalent and polio vaccine declines with the dosage, from 98 percent for the first dose to 93 percent for the third dose. Only 2 percent of children age 12-23 months have not received any vaccinations.

Vaccinations are most effective when given at the proper age. Therefore, it is recommended that children complete the schedule of immunizations during their first year of life (i.e., by 12 months of age). Overall, 83 percent of children age 12-23 months had received all the recommended vaccinations before their first birthday.

Table 10.2 Vaccinations by source of information

Percentage of children age 12-23 months who received specific vaccines at any time before the survey, by source of information (vaccination card or mother's report), and percentage vaccinated by 12 months of age, Bangladesh 2011

Source of information	BCG	Pentavalent 1	Pentavalent 2	Pentavalent 3	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[1]	No vaccinations	Number of children
Vaccinated any time before survey											
Vaccination card	66.7	66.7	65.6	64.2	66.7	65.7	64.2	59.6	59.4	0.0	1,032
Mother's report	31.1	31.1	30.0	29.2	31.1	30.1	29.2	27.9	26.6	2.1	515
Either source	97.8	97.8	95.6	93.4	97.8	95.8	93.4	87.5	86.0	2.1	1,547
Vaccinated by 12 months[2]	97.8	97.8	95.6	93.2	97.8	95.8	93.2	84.0	82.5	2.1	1,547

Note: Data for polio vaccination were adjusted for a likely misreporting. It appears that for some children, mothers may have reported that the first polio dose took place "soon after birth," when in fact the dose was polio 1 and not polio 0. To correct for any such errors, the total number of doses of pentavalent and polio was checked, since the two vaccinations are usually given at the same time. For children reported as having received the same or fewer pentavalent doses than polio doses, the first dose of polio was assumed to be polio 1, not polio 0. For example, children who were reported by the mother to have received all three doses of pentavalent and polio 0, polio 1, and polio 2 only, it was assumed that polio 0 was in fact polio 1, polio 1 was in fact polio 2, and polio 2 was in fact polio 3.

[1] BCG, measles, and three doses each of pentavalent and polio vaccine (excluding polio vaccine given at birth).

[2] For children whose information is based on the mother's report, the proportion of vaccinations given during the first year of life was assumed to be the same as for children with a written record of vaccination.

10.2.2 Differentials in Vaccination Coverage

Table 10.3 shows that vaccination cards were seen for 67 percent of children age 12-23 months. Results indicate that vaccination coverage varies little by the sex of the child, with boys being slightly more likely than girls to have received all vaccines (87 percent compared with 85 percent). Birth order is negatively related to the likelihood of fully vaccinated; as birth order increases, vaccination coverage declines. Among administrative divisions, the highest level of coverage is seen in Khulna (94 percent) and the lowest in Sylhet (80 percent). As expected, mother's education is positively associated with children's likelihood of being fully vaccinated: 97 percent of children whose mothers completed secondary or higher education are fully vaccinated, compared with 76 percent of children whose mothers have no education. Similarly, children from households in the highest wealth quintile are more likely to be fully vaccinated (94 percent) than children in the lowest quintile (77 percent).

Table 10.3 Vaccinations by background characteristics

Percentage of children age 12-23 months who received specific vaccines at any time before the survey (according to a vaccination card or the mother's report), and percentage with a vaccination card seen by the interviewer, by background characteristics, Bangladesh 2011

Background characteristic	BCG	DPT/Penta 1	DPT/Penta 2	DPT/Penta 3	Polio 1	Polio 2	Polio 3	Measles	All basic vaccinations[1]	No vaccinations	Percentage with a vaccination card seen	Number of children
Sex												
Male	98.1	97.9	96.5	94.6	98.1	96.7	94.3	88.3	87.3	1.8	68.8	762
Female	97.6	97.7	94.7	92.3	97.5	95.0	92.5	86.8	84.7	2.3	64.6	785
Birth order												
1	98.7	98.7	96.9	94.1	98.5	97.1	93.7	89.4	87.9	1.3	63.2	553
2-3	98.1	98.1	95.7	94.4	98.2	95.9	94.4	87.9	86.4	1.7	71.0	732
4-5	97.3	97.3	94.9	92.8	97.3	95.6	93.2	86.9	85.3	2.7	65.7	191
6+	89.4	89.4	85.9	79.2	89.4	85.9	80.6	70.8	68.7	10.6	52.5	71
Residence												
Urban	98.8	98.8	96.7	93.9	98.8	96.6	93.8	87.5	86.5	1.2	64.3	375
Rural	97.5	97.5	95.3	93.2	97.5	95.6	93.3	87.6	85.8	2.3	67.5	1,172
Division												
Barisal	98.5	98.5	96.1	91.4	99.2	96.8	92.0	86.1	83.3	0.8	64.8	84
Chittagong	96.9	96.5	94.3	90.9	96.9	95.4	92.0	83.9	81.8	3.1	61.8	366
Dhaka	98.4	98.4	95.4	93.9	98.4	95.4	93.5	86.6	85.0	1.6	63.9	478
Khulna	99.1	99.1	98.5	97.2	99.1	98.5	97.2	94.2	93.5	0.9	71.9	144
Rajshahi	97.4	97.9	95.8	95.3	97.4	95.5	94.5	90.7	89.8	2.1	68.9	218
Rangpur	98.4	98.4	98.1	96.1	98.4	98.1	96.0	92.9	92.2	1.6	76.4	148
Sylhet	96.0	96.0	93.2	88.9	95.0	92.7	87.9	82.9	80.1	4.0	72.1	109
Mother's education												
No education	93.0	93.0	88.9	85.2	92.8	88.9	84.9	78.3	76.4	7.0	59.7	255
Primary incomplete	95.3	95.2	93.0	90.6	95.5	93.6	91.1	78.0	77.3	4.1	69.7	290
Primary complete[2]	99.7	99.7	97.4	93.6	99.7	97.4	93.6	85.8	84.2	0.3	69.6	182
Secondary incomplete	99.7	99.7	97.7	95.8	99.6	97.9	95.7	93.2	90.7	0.3	68.2	605
Secondary complete or higher[3]	100.0	100.0	99.9	99.9	100.0	99.9	99.9	97.2	97.2	0.0	64.2	215
Wealth quintile												
Lowest	95.7	96.0	93.1	90.3	95.8	93.7	90.3	79.2	76.8	4.0	66.6	330
Second	96.4	96.4	92.8	90.1	96.1	93.0	89.8	87.5	84.9	3.4	65.4	318
Middle	99.2	98.8	96.0	93.2	99.2	96.2	93.7	88.1	86.9	0.8	68.8	306
Fourth	98.2	98.2	97.5	96.3	98.2	97.5	96.1	90.4	89.0	1.8	65.6	312
Highest	100.0	100.0	99.3	97.8	100.0	99.3	97.8	93.6	93.5	0.0	67.2	280
Total	97.8	97.8	95.6	93.4	97.8	95.8	93.4	87.5	86.0	2.1	66.7	1,547

Note: Data for polio vaccination were adjusted for a likely misreporting. It appears that for some children, mothers may have reported that the first polio dose took place "soon after birth," when in fact the dose was polio 1 and not polio 0. To correct for any such errors, the total number of doses of DPT/Penta and polio was checked, since the two vaccinations are usually given at the same time. For children reported as having received the same or fewer DPT/Penta doses than polio doses, the first dose of polio was assumed to be polio 1, not polio 0. For example, children who were reported by the mother to have received all three doses of DPT/Penta and polio 0, polio 1, and polio 2 only, it was assumed that polio 0 was in fact polio1, polio 1 was in fact polio 2, and polio 2 was in fact polio 3.

[1] BCG, measles and three doses each of DPT and polio vaccine (excluding polio vaccine given at birth).

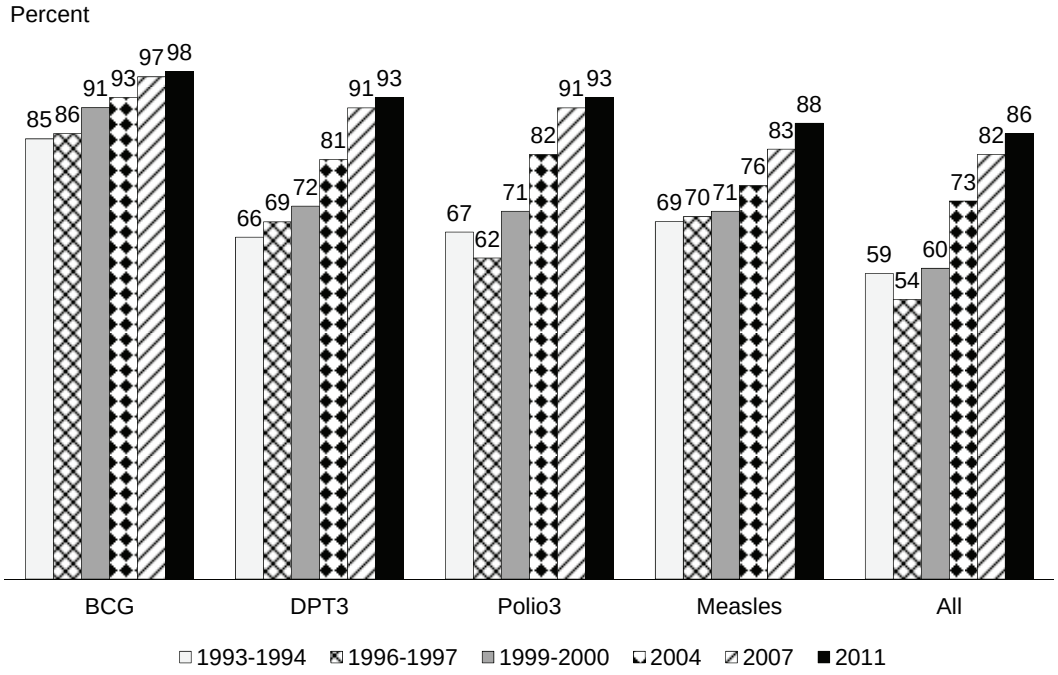
[2] Primary complete is defined as completing grade 5.

[3] Secondary complete is defined as completing grade 10.

10.2.3 Trends in Vaccination Coverage

Comparing the 2011 BDHS with previous BDHS surveys shows continued improvement in vaccination coverage (Figure 10.1). The proportion of children age 12-23 months who are fully vaccinated has increased by 13 percentage points since 2004 (from 73 percent to 86 percent). This trend is the result of increases in all of the basic vaccinations, in addition to a continued decline in dropout rates from the first to the third doses for polio and DPT (now replaced by the Pentavalent) vaccines. Improvements in vaccination coverage have occurred in all divisions except in Barisal, where the coverage has declined from 90 percent in 2007 to 83 percent in 2011(data not shown).

Figure 10.1 **Trends in vaccination coverage among children age 12-23 months**



10.3 CHILDHOOD ILLNESS AND TREATMENT

This section discusses three illnesses that are major contributors to childhood morbidity and mortality in Bangladesh: diarrhea, acute respiratory infection (ARI), and fever. Estimates of the prevalence of these illnesses as well as data concerning types of treatment and feeding practices during diarrhea are presented.

10.3.1 Childhood Diarrhea

Diarrhea remains a leading cause of childhood morbidity and mortality in developing countries. Dehydration caused by severe diarrhea is a major cause of illness among young children, although the condition can be easily treated with oral rehydration therapy (ORT). During diarrhea, the child is given a solution that can be prepared by mixing water with a commercially prepared packet of oral rehydration salts (ORS)—called *khabar*, or packet saline, in Bangladesh—or by making a homemade mixture of sugar, salt, and water—called *labon gur*. Oral rehydration packets are available through health facilities and at shops and pharmacies, many of which are supplied by the Social Marketing Company (SMC).

Research has shown that zinc provides a very effective treatment for diarrhea among children under age 5. Zinc treatment reduces the severity and duration of diarrhea as well as the likelihood of future episodes of diarrhea and the need for hospitalization. Studies conducted at the International Centre for Diarrheal Disease Research, Bangladesh (ICDDR,B) have helped to build an evidence base for integrating zinc treatment into current child health practice and policies (ICDDR,B, 2008).

The 2011 BDHS asked mothers if each child under age 5 had experienced an episode of diarrhea in the two weeks before the survey. If the child had diarrhea during this period, the mother was asked what she did to treat the diarrhea. Because the prevalence of diarrhea varies seasonally, the survey results pertain only to the period from July through December when the fieldwork took place.

Table 10.4 presents information on recent episodes of diarrhea among young children in the two weeks before the interview. Overall, 5 percent of children under age 5 were reported to have had diarrhea in the two-week period before the survey. The prevalence of diarrhea is highest at age 6-23 months, a

period during which solid foods are first introduced into the child's diet. This pattern is believed to be associated with increased exposure to illness as a result of both weaning and the greater mobility of the child, as well as the immature immune system of children in this age group. The prevalence of diarrhea is slightly higher among boys, children whose source of drinking water is not improved, children living in households with non-improved toilet facilities, children living in rural areas, and children in Chittagong and Sylhet divisions than among other children. The relationship between diarrhea prevalence with mother's education and wealth is not linear, but it is lowest among children of mothers who had completed secondary or higher education.

Table 10.4 Prevalence of diarrhea

Percentage of children under age five who had diarrhea in the two weeks preceding the survey, by background characteristics, Bangladesh 2011

Background characteristic	Diarrhea in the two weeks preceding the survey		Number of children
	All diarrhea	Diarrhea with blood	
Age in months			
<6	3.1	0.1	816
6-11	8.4	0.7	864
12-23	7.1	1.3	1,547
24-35	4.1	0.3	1,545
36-47	3.5	0.4	1,866
48-59	2.9	0.6	1,757
Sex			
Male	5.0	0.7	4,271
Female	4.2	0.5	4,124
Source of drinking water[1]			
Improved	4.6	0.6	8,275
Not improved	6.7	0.5	119
Toilet facility[2]			
Improved, not shared	4.3	0.3	2,761
Shared[3]	4.1	0.6	1,451
Non-improved	5.0	0.8	4,183
Residence			
Urban	3.7	0.5	1,871
Rural	4.9	0.6	6,524
Division			
Barisal	4.9	1.1	464
Chittagong	5.9	0.9	1,946
Dhaka	4.0	0.3	2,601
Khulna	2.6	0.2	767
Rajshahi	4.7	0.8	1,087
Rangpur	4.1	0.7	891
Sylhet	6.0	0.6	639
Mother's education			
No education	4.3	0.7	1,689
Primary incomplete	6.4	0.7	1,526
Primary complete[4]	6.5	0.5	1,050
Secondary incomplete	3.7	0.6	3,112
Secondary complete or higher[5]	3.5	0.5	1,017
Wealth quintile			
Lowest	5.5	0.9	1,965
Second	4.4	0.7	1,700
Middle	6.0	0.5	1,631
Fourth	3.0	0.5	1,617
Highest	4.0	0.3	1,481
Total	4.6	0.6	8,395

[1] See Table 2.1 for definition of categories.
[2] See Table 2.2 for definition of categories.
[3] Shared facility of an otherwise improved type.
[4] Primary complete is defined as completing grade 5.
[5] Secondary complete is defined as completing grade 10.

10.3.2 Treatment of Diarrhea

Table 10.5 shows data on the treatment of recent episodes of diarrhea among children under age 5, as reported by their mothers. Overall, one in four children with diarrhea was taken to a medically trained health provider for advice or treatment. Children age 6-11 months, children with bloody diarrhea, urban children, children living in Sylhet, children whose mothers have attended secondary education, and children from households in the highest wealth quintile are more likely than other children to visit a health professional or a health facility to treat the diarrhea.

Table 10.5 Diarrhea treatment

Among children under age 5 who had diarrhea in the two weeks preceding the survey, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage given oral rehydration therapy (ORT), the percentage given increased fluids, the percentage given ORT or increased fluids, and the percentage given other treatments, by background characteristics, Bangladesh 2011

Background characteristic	Percentage of children with diarrhea for whom advice or treatment was sought from a health facility or provider[1]	Oral rehydration therapy (ORT)			Increased fluids	ORT or increased fluids	Other treatments		No treatment	Number of children with diarrhea
		ORS packets	Recom-mended home fluids (RHF)	Either ORS or RHF			Zinc syrup	Zinc tablets		
Age in months										
<6	(43.6)	(46.1)	(0.0)	(46.1)	(1.7)	(46.1)	(13.9)	(7.2)	(41.6)	25
6-11	30.1	73.4	9.3	76.2	23.0	79.7	39.4	21.9	8.5	73
12-23	27.0	75.7	7.1	77.7	25.5	79.4	32.0	23.2	12.9	109
24-35	22.6	88.5	9.3	91.3	24.7	93.1	29.4	19.4	5.7	63
36-47	9.7	81.6	19.0	89.0	39.8	92.8	20.7	16.6	6.4	65
48-59	25.3	84.5	8.8	86.3	21.4	86.3	27.3	20.3	8.3	52
Sex										
Male	24.8	82.2	11.1	84.1	26.1	86.1	31.3	21.5	7.7	215
Female	24.9	71.9	7.8	76.3	24.1	78.5	26.7	17.6	15.2	173
Type of diarrhea										
Non-bloody	24.7	76.6	9.7	80.0	24.1	82.0	30.7	18.7	10.9	324
Bloody	29.1	83.0	11.0	84.1	31.7	85.1	21.9	29.8	12.4	50
Residence										
Urban	45.4	84.4	3.3	86.5	22.7	87.3	37.5	26.0	5.2	70
Rural	20.3	76.1	11.0	79.3	25.8	81.7	27.5	18.4	12.4	318
Division										
Barisal	(34.0)	(72.6)	(11.7)	(75.3)	(36.3)	(78.0)	(30.8)	(19.1)	(15.2)	23
Chittagong	19.8	77.4	8.0	78.2	23.9	80.5	26.6	27.7	13.6	115
Dhaka	26.2	87.6	9.4	91.4	24.5	93.9	30.8	14.4	6.1	104
Khulna	(19.3)	(67.0)	(0.0)	(67.0)	(27.1)	(69.7)	(19.1)	(21.1)	(18.7)	20
Rajshahi	(19.0)	(56.0)	(8.1)	(61.8)	(20.9)	(64.1)	(29.5)	(16.8)	(16.8)	51
Rangpur	(30.9)	(80.8)	(19.6)	(86.8)	(27.8)	(86.8)	(31.7)	(16.4)	(6.3)	37
Sylhet	35.3	84.7	11.4	87.6	26.9	89.0	34.9	17.8	7.5	38
Mother's education										
No education	19.0	78.7	10.5	83.0	22.9	86.3	28.4	19.1	11.2	73
Primary incomplete	22.3	77.4	11.8	80.1	32.2	84.7	25.6	22.2	12.7	97
Primary complete[2]	19.0	78.9	8.1	83.9	18.0	83.9	29.2	15.1	5.0	68
Secondary incomplete	29.0	73.0	7.6	75.3	21.0	76.2	35.4	19.1	14.9	114
Secondary complete or higher[3]	(41.4)	(87.8)	(11.4)	(87.8)	(38.5)	(87.8)	(21.4)	(25.8)	(5.5)	35
Wealth quintile										
Lowest	19.5	81.2	9.9	84.2	16.6	85.4	27.1	10.0	10.6	108
Second	17.2	83.4	3.6	84.3	27.8	88.4	37.2	20.2	6.0	75
Middle	21.5	71.2	10.5	74.0	24.6	77.1	24.3	28.9	15.0	97
Fourth	25.3	67.6	23.8	77.1	42.3	77.1	24.8	24.3	16.5	49
Highest	49.4	82.3	3.6	83.3	24.5	84.2	34.9	18.4	7.3	59
Total	24.8	77.6	9.6	80.6	25.2	82.7	29.3	19.8	11.1	388

Note: ORT includes solution prepared from oral rehydration salt (ORS), pre-packaged ORS packet, and recommended home fluids (RHF), such as soup, rice water, and yogurt drink. Total includes 14 children with missing information on type of diarrhea. Figures in parentheses are based on 25-49 unweighted cases.
[1] Excludes pharmacy, shop, and traditional practitioner
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Eighty-three percent of children with diarrhea were given oral rehydration therapy (ORT) or increased fluids. More than three-fourths of children with diarrhea received oral rehydration salt (ORS) packets, while one-tenth received a recommended homemade fluid. Overall, 81 percent were given either OS or a recommended homemade fluid. One in four children was given increased liquids. One in nine children was given nothing to treat the diarrhea.

The use of commercially available ORS packets has remained at the same level since 2007; it was 77 percent in 2007 and is 78 percent in 2011. The percentage of children receiving homemade fluid has decreased by half, from 20 percent in 2007 to 10 percent in 2011. At the same time, the percentage of children receiving increased fluids has also decreased from 48 percent in 2007 to 25 percent in 2011.

Zinc is another diarrheal treatment, available in the market in the form of tablets and syrup. Zinc is not a substitute for ORT, but, when taken in addition to ORT, it can reduce the severity and duration of diarrhea. Table 10.6 shows that overall, 47 percent of children under age 5 with diarrhea received ORT only, 7 percent received zinc only, and 34 percent received both ORT and zinc. The combined treatment, ORT and zinc, varies little across the child's age after age 6 months.

Male children are more likely than female children to receive ORT and zinc (37 and 31 percent, respectively). Having bloody diarrhea increases the likelihood of receiving ORT and zinc treatment. Children living in urban areas are more likely to receive both ORT and zinc (44 percent) compared with children living in rural areas (32 percent). Children in the highest wealth quintile were more likely to receive both ORT and zinc than children in the lowest wealth quintile.

Table 10.6 Diarrhea treatment with ORT and zinc

Among children under age 5 who had diarrhea in the two weeks preceding the survey, percentage who received oral rehydration therapy (ORT) but not zinc syrup or tablets, percentage who received zinc but not ORT, and percentage who received both ORT and zinc, by background characteristics, Bangladesh 2011

Background characteristic	ORT but not zinc	Zinc syrup/ tablets but not ORT	ORT and zinc	Number of children
Age in months				
<6	(37.3)	(12.3)	(8.8)	25
6-11	40.4	11.8	35.8	73
12-23	38.0	7.7	39.7	109
24-35	55.3	3.0	36.0	63
36-47	58.9	1.6	30.0	65
48-59	51.0	5.4	35.3	52
Sex				
Male	47.6	6.8	36.5	215
Female	45.1	6.6	31.2	173
Type of diarrhea				
Nonbloody	45.9	7.1	34.1	323
Bloody	45.3	3.5	39.0	51
Residence				
Urban	42.6	7.5	43.9	70
Rural	47.3	6.5	32.0	318
Division				
Barisal	(40.1)	(6.8)	(35.2)	23
Chittagong	39.3	5.9	39.0	115
Dhaka	53.2	0.0	38.2	104
Khulna	(44.8)	(11.6)	(22.2)	20
Rajshahi	(46.8)	(21.4)	(14.9)	51
Rangpur	(51.0)	(6.9)	(35.8)	37
Sylhet	49.7	4.8	37.9	38
Mother's education				
No education	49.4	4.0	33.7	73
Primary incomplete	45.7	2.5	34.4	97
Primary complete[1]	54.2	11.1	29.7	68
Secondary incomplete	40.4	9.3	34.9	114
Secondary complete or higher[2]	(47.3)	(6.7)	(40.5)	35
Wealth quintile				
Lowest	55.5	4.0	28.7	108
Second	45.7	5.5	38.6	75
Middle	41.4	9.7	32.6	97
Fourth	40.2	6.4	36.9	49
Highest	44.5	8.5	38.8	59
Total	46.5	6.7	34.1	388

Note: ORT includes solution prepared from oral rehydration salt (ORS), pre-packaged ORS packet, and recommended home fluids (RHF). Figures in parentheses are based on 25-49 unweighted cases. Total includes 14 children with missing information about type of diarrhea.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

In the 2011 BDHS, mothers who treated their children's diarrhea with oral rehydration salt (ORS) were asked the source of the ORS. Table 10.7 shows that the majority (78 percent) obtained the ORS from the private medical sector. Only 7 percent of mothers say that they obtained the ORS from the public sector, and 12 percent went to another source. There are small differences across subgroups of children.

Table 10.7 Source of ORS packets

Percent distribution of children under age 5 who had diarrhea in the two weeks preceding the survey who were given ORS packets by the source of the packets, according to background characteristics, Bangladesh 2011

Background characteristic	Public sector	NGO sector	Private medical sector	Other source	Don't know/ missing	Total	Number of children given ORS packets
Age in months							
<6	*	*	*	*	*	*	12
6-11	6.7	0.0	79.3	7.8	6.2	100.0	53
12-23	7.3	0.2	78.3	9.5	4.6	100.0	83
24-35	5.4	0.5	77.2	15.2	1.7	100.0	56
36-47	5.6	0.0	75.9	16.7	1.8	100.0	53
48-59	(4.7)	(0.0)	(81.5)	(10.7)	(3.0)	(100.0)	44
Sex							
Male	7.8	0.1	77.5	11.5	3.1	100.0	176
Female	5.7	0.1	78.4	11.8	4.0	100.0	124
Type of diarrhea							
Non-bloody	7.2	0.1	78.8	10.7	3.1	100.0	248
Bloody	(5.4)	(0.4)	(71.9)	(19.0)	(3.2)	(100.0)	42
Residence							
Urban	9.3	0.8	77.4	11.1	1.5	100.0	59
Rural	6.3	0.0	78.0	11.8	3.9	100.0	242
Division							
Barisal	(12.5)	(0.0)	(72.5)	(15.0)	(0.0)	(100.0)	17
Chittagong	3.3	0.0	81.0	9.0	6.7	100.0	89
Dhaka	(4.1)	(0.0)	(87.3)	(5.9)	(2.8)	(100.0)	91
Khulna	*	*	*	*	*	*	13
Rajshahi	*	*	*	*	*	*	28
Rangpur	(10.7)	(0.0)	(70.8)	(15.3)	(3.3)	(100.0)	30
Sylhet	7.4	1.4	80.0	11.1	0.0	100.0	33
Mother's education							
No education	5.0	0.0	78.7	16.3	0.0	100.0	58
Primary incomplete	6.3	0.0	78.0	5.9	9.8	100.0	75
Primary complete[1]	4.6	0.3	84.1	11.0	0.0	100.0	54
Secondary incomplete	9.4	0.0	74.9	14.5	1.1	100.0	83
Secondary complete or higher[2]	(9.3)	(0.8)	(72.7)	(10.5)	(6.7)	(100.0)	31
Wealth quintile							
Lowest	7.5	0.0	77.9	13.1	1.5	100.0	88
Second	5.6	0.0	71.5	14.6	8.3	100.0	63
Middle	6.9	0.0	85.1	6.7	1.2	100.0	69
Fourth	(10.7)	(0.0)	(71.9)	(14.5)	(2.9)	(100.0)	33
Highest	4.9	0.9	79.6	10.3	4.3	100.0	48
Total	6.9	0.1	77.8	11.7	3.5	100.0	301

Note: Total includes 12 children with missing information on type of diarrhea. Figures in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

10.3.3 Feeding Practices during Diarrhea

Mothers are encouraged to continue feeding children with diarrhea normally and to increase the amount of fluids they offer. The 2011 BDHS asked mothers who had a child under age 5 with a recent episode of diarrhea how much they gave the child to drink and eat during the diarrheal episode compared with usual practice. Table 10.8 shows that only 25 percent of children with diarrhea received more fluids than usual, while 51 percent were given the same amount of fluids as usual. About one in four mothers still engages in the dangerous practice of curtailing fluid intake when her child has diarrhea. The percentage of children with diarrhea receiving more liquids than usual has declined from 48 percent in 2007 to 25 percent in 2011.

Table 10.8 Feeding practices during diarrhea

Percent distribution of children under age 5 who had diarrhea in the two weeks preceding the survey by amount of liquids and food offered compared with normal practice, the percentage of children given increased fluids and continued feeding during the diarrheal episode, and the percentage of children who continued feeding and were given ORT and/or increased fluids during the diarrheal episode, by background characteristics, Bangladesh 2011

Background characteristic	Amount of liquids given						Amount of food given							Percentage given increased fluids and continued feeding[1]	Percentage who continued feeding and were given ORT and/or increased fluids[1]	Number of children with diarrhea
	More	Same as usual	Some-what less	Much less	None	Total	More	Same as usual	Some-what less	Much less	None	Never gave food	Total			
Age in months																
<6	(1.7)	(71.9)	(16.5)	(5.3)	(4.6)	100.0	(0.0)	(50.1)	(16.5)	(5.3)	(7.7)	(20.4)	100.0	(1.7)	(29.7)	25
6-11	23.0	44.5	25.1	7.0	0.4	100.0	14.9	40.0	29.4	9.3	1.1	5.3	100.0	21.1	68.1	73
12-23	25.5	50.3	21.8	2.4	0.0	100.0	12.5	54.7	23.8	4.4	4.5	0.2	100.0	23.6	72.9	109
24-35	24.7	49.1	26.2	0.0	0.0	100.0	12.4	59.8	21.9	5.9	0.0	0.0	100.0	23.1	88.3	63
36-47	39.8	42.3	17.8	0.0	0.0	100.0	11.8	55.5	30.7	2.0	0.0	0.0	100.0	39.8	90.7	65
48-59	21.4	63.3	11.6	3.7	0.0	100.0	5.4	66.4	20.9	2.7	2.7	1.9	100.0	19.6	79.1	52
Sex																
Male	26.1	46.1	23.7	3.9	0.3	100.0	7.4	55.3	26.9	6.3	1.2	2.9	100.0	24.6	78.1	215
Female	24.1	56.7	17.2	1.6	0.5	100.0	15.6	52.7	22.2	3.3	3.8	2.3	100.0	22.9	72.4	173
Type of diarrhea																
Non-bloody	24.1	50.9	22.3	2.2	0.4	100.0	10.1	54.1	25.7	4.6	2.5	3.1	100.0	22.5	74.7	324
Bloody	31.7	55.0	10.1	3.2	0.0	100.0	16.5	54.5	18.7	7.8	2.1	0.4	100.0	31.7	78.0	50
Residence																
Urban	22.7	65.1	10.7	1.2	0.4	100.0	10.8	65.4	15.7	5.4	1.7	1.0	100.0	21.4	81.4	70
Rural	25.8	47.7	23.0	3.2	0.4	100.0	11.1	51.7	26.8	4.9	2.5	3.0	100.0	24.4	74.2	318
Division																
Barisal	(36.3)	(46.4)	(13.4)	(0.0)	(3.9)	(100.0)	(17.9)	(47.4)	(20.3)	(7.9)	(3.9)	(2.7)	(100.0)	(36.3)	(70.1)	23
Chittagong	23.9	55.3	18.5	2.3	0.0	100.0	13.9	51.7	21.4	8.7	4.3	0.0	100.0	21.9	70.5	115
Dhaka	24.5	51.4	18.8	5.3	0.0	100.0	10.9	59.9	23.6	3.5	0.0	2.2	100.0	24.5	88.2	104
Khulna	(27.1)	(60.5)	(12.4)	(0.0)	(0.0)	(100.0)	(0.0)	(72.2)	(25.2)	(0.0)	(0.0)	(2.6)	(100.0)	(27.1)	(67.0)	20
Rajshahi	(20.9)	(42.8)	(32.3)	(4.0)	(0.0)	(100.0)	(5.1)	(57.4)	(26.6)	(1.0)	(2.3)	(7.6)	(100.0)	(18.7)	(61.8)	51
Rangpur	(27.8)	(49.2)	(23.0)	(0.0)	(0.0)	(100.0)	(12.0)	(39.5)	(37.6)	(5.4)	(2.9)	(2.7)	(100.0)	(22.5)	(78.8)	37
Sylhet	26.9	45.5	24.1	2.1	1.4	100.0	11.8	50.3	26.5	3.7	2.8	4.9	100.0	26.9	79.0	38
Mother's education																
No education	22.9	52.0	21.8	3.2	0.0	100.0	5.8	38.1	42.0	5.6	7.5	1.0	100.0	21.7	72.2	73
Primary incomplete	32.2	41.3	21.8	4.7	0.0	100.0	12.2	58.2	19.0	6.8	0.6	3.2	100.0	29.8	77.2	97
Primary complete[2]	18.0	52.4	25.6	4.1	0.0	100.0	15.2	50.1	27.3	4.0	0.0	3.4	100.0	18.0	79.9	68
Secondary incomplete	21.0	55.1	21.5	1.2	1.3	100.0	9.1	59.3	21.6	4.3	2.7	3.0	100.0	20.0	71.2	114
Secondary complete or higher[3]	(38.5)	(57.5)	(4.1)	(0.0)	(0.0)	(100.0)	(17.2)	(67.8)	(10.8)	(2.7)	(0.0)	(1.5)	(100.0)	(35.7)	(83.5)	35
Wealth quintile																
Lowest	16.6	53.5	26.6	2.2	1.1	100.0	11.2	44.4	34.3	4.1	3.9	2.1	100.0	15.8	77.4	108
Second	27.8	49.2	18.4	4.3	0.4	100.0	14.1	48.1	22.6	4.3	4.3	6.6	100.0	26.5	76.6	75
Middle	24.6	44.8	25.2	5.4	0.0	100.0	7.6	63.7	20.4	6.1	0.6	1.6	100.0	24.6	71.8	97
Fourth	42.3	40.6	16.6	0.5	0.0	100.0	14.2	53.0	24.6	7.0	0.0	1.3	100.0	39.5	72.7	49
Highest	24.5	66.4	9.1	0.0	0.0	100.0	10.0	65.0	17.9	3.9	2.0	1.2	100.0	20.9	79.3	59
Total	25.2	50.8	20.8	2.8	0.4	100.0	11.1	54.1	24.8	5.0	2.4	2.6	100.0	23.8	75.5	388

Note: It is recommended that children should be given more liquids to drink during diarrhea and food should not be reduced. Total includes 14 children with missing information on type of diarrhea. Figures in parentheses are based on 25-49 unweighted cases.
[1] Continued feeding includes children who were given more, same as usual, or somewhat less food during the diarrhea episode.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

10.3.4 Acute Respiratory Infections (ARI)

Acute respiratory infections (ARI), primarily pneumonia, are a leading cause of childhood morbidity and mortality throughout the world. Early diagnosis and treatment with antibiotics can reduce the number of deaths caused by ARIs, particularly deaths resulting from pneumonia. The 2011 BDHS estimated the prevalence of ARIs by asking mothers whether their children under age 5 had been ill in the two weeks preceding the survey with a cough accompanied by short, rapid breathing or by difficulty in breathing that the mother considered to be chest-related. These symptoms are considered to be a proxy for pneumonia.

Table 10.9 shows that 6 percent of children under age 5 had symptoms of an ARI, that is, cough accompanied by short, rapid breathing and/or by difficult breathing which was chest-related, at some time in the two weeks preceding the survey. The prevalence of ARIs decreases slightly with the increasing age of the child. Children living in rural areas are more likely to suffer from ARIs than children living in urban areas. A higher proportion of children living in Chittagong and Barisal divisions have symptoms of ARIs than those in other divisions.

Table 10.9 Prevalence and treatment of symptoms of ARI

Among children under age 5, the percentage who had symptoms of acute respiratory infection (ARI) in the two weeks preceding the survey and among children with symptoms of ARI, the percentage for whom advice or treatment was sought from a health facility or provider and the percentage who received antibiotics as treatment, according to background characteristics, Bangladesh 2011

Background characteristic	Among children under age 5:		Among children under age 5 with symptoms of ARI:						
	Percentage with symptoms of ARI[1]	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[2]	Pharmacy	Traditional doctor	Other	No one	Percentage who received antibiotics	Number of children
Age in months									
<6	6.2	816	(39.8)	(16.7)	(47.1)	(0.0)	(4.1)	(69.1)	51
6-11	7.4	864	42.8	22.6	32.3	3.0	11.8	81.8	64
12-23	6.9	1,547	41.4	25.5	24.8	0.6	8.7	78.0	106
24-35	6.1	1,545	36.1	15.4	25.3	0.0	26.6	62.4	95
36-47	4.9	1,866	29.8	27.6	29.1	2.4	18.8	76.1	91
48-59	4.5	1,757	22.7	22.6	27.2	0.0	27.6	61.0	78
Sex									
Male	6.6	4,271	39.5	19.2	30.6	0.7	14.6	75.7	281
Female	5.0	4,124	29.3	26.3	27.8	1.4	20.4	65.6	205
Residence									
Urban	4.8	1,871	54.3	21.0	17.9	0.7	8.6	77.5	89
Rural	6.1	6,524	30.9	22.4	32.0	1.0	19.0	70.1	397
Division									
Barisal	7.0	464	40.1	36.6	23.2	0.0	19.7	69.8	33
Chittagong	7.4	1,946	24.3	25.5	31.6	2.0	18.8	69.5	144
Dhaka	4.6	2,601	38.0	23.0	25.9	1.6	17.8	72.2	121
Khulna	6.4	767	45.4	7.0	40.7	0.0	11.6	73.5	49
Rajshahi	5.5	1,087	31.1	23.5	28.1	0.0	21.3	73.6	59
Rangpur	5.4	891	46.6	14.0	30.5	0.0	11.0	71.0	48
Sylhet	4.9	639	43.2	22.0	22.8	0.0	13.7	72.3	32
Mother's education									
No education	6.9	1,689	25.4	17.2	38.1	0.0	21.2	63.4	116
Primary incomplete	6.4	1,526	28.6	32.1	27.6	2.0	17.1	76.3	98
Primary complete[3]	5.4	1,050	31.5	34.4	21.4	0.0	19.3	78.7	57
Secondary incomplete	5.2	3,112	39.7	17.0	31.2	1.4	16.4	70.6	161
Secondary complete or higher[4]	5.4	1,017	58.4	17.3	17.6	1.1	8.0	74.7	55
Wealth quintile									
Lowest	7.3	1,965	24.7	24.3	33.1	0.0	21.9	69.4	143
Second	5.4	1,700	30.3	27.0	36.5	0.0	12.5	73.9	92
Middle	5.9	1,631	28.8	16.7	32.0	4.3	23.9	66.0	97
Fourth	4.8	1,617	46.2	18.2	27.2	0.0	15.1	67.4	77
Highest	5.1	1,481	57.9	23.3	12.9	0.8	7.0	83.3	76
Total	5.8	8,395	35.2	22.2	29.4	1.0	17.1	71.4	486

Note: Numbers in parentheses are based on 25-49 unweighted cases.
[1] Symptoms of ARI (cough accompanied by short, rapid breathing which was chest-related and/or by difficult breathing which was chest-related) is considered a proxy for pneumonia.
[2] Excludes pharmacy, shop, and traditional practitioner
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

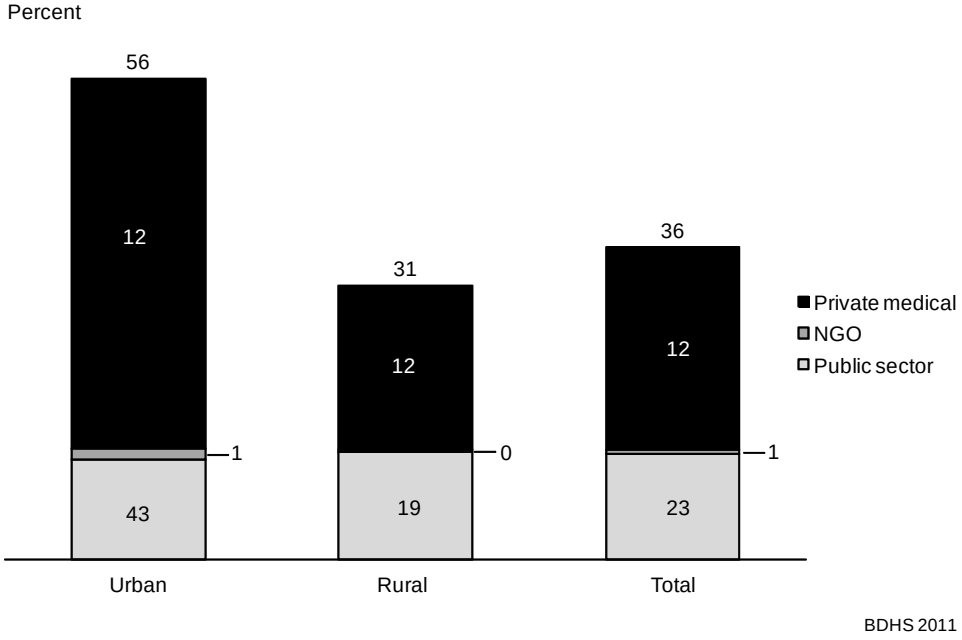
Thirty-five percent of children with symptoms of ARI were taken to a health facility or a medically trained provider for treatment. This is slightly lower than that recorded in the 2007 BDHS (37 percent). Boys are more likely than girls to be taken to a health facility or trained provider when ill with ARI (40 percent versus 29 percent). Urban children are more likely than rural children to receive treatment at a health facility or from a medically trained provider (54 percent versus 31 percent).

Table 10.9 also shows that 71 percent of children with symptoms of ARI received antibiotics. This already far exceeds the HPNSDP 2011-2016 target of 50 percent of children under age 5 with pneumonia receiving antibiotics (MOHFW, 2011). Children age 6-11 months, male children, children living in urban areas, and children living in households in the highest wealth quintile are more likely to receive antibiotics for symptoms of ARI.

The BDHS results indicate that most children with ARI symptoms for whom treatment was sought from a health provider received antibiotics. Overall, 79 percent of the children seeing a provider were prescribed antibiotics, 90 percent in urban areas and 77 percent in rural areas (data not shown).

Figure 10.2 shows the percentage of children with ARI symptoms receiving a prescribed antibiotic according to the type of provider prescribing the antibiotic. Overall, around one in three children with ARI symptoms saw a provider and were prescribed an antibiotic; children receiving a prescribed antibiotic from a provider were twice as likely to have been treated by a provider in the public sector as a public sector provider. Urban children were more likely to have received a prescribed antibiotic than rural children; more than half of urban children received a prescribed antibiotic compared to around three in ten rural children. Among the urban children receiving a prescribed antibiotic, around three-quarters were prescribed the antibiotic by a private sector provider. Rural children were somewhat less likely to have had the antibiotic prescribed by a private provider; around three in five children prescribed an antibiotic by a health provider were prescribed the antibiotic by a private provider.

Figure 10.2 **Source of antibiotics**



10.4 FEVER

Table 10.10 shows the percentage of children under age 5 who had a fever during the two weeks preceding the survey and their treatments. Nearly two in five children under age 5 had a fever in the two weeks before the survey. The prevalence of fever varies by age, with children age 6-23 months being more likely to have a fever than either younger or older children. The prevalence of fever is highest among children residing in Chittagong division (44 percent) and lowest in Dhaka (32 percent).

children in other divisions to receive this kind of treatment. The likelihood of being taken to a health facility or provider for treatment increases with a mother's education and wealth. For example, 23 percent of children in the lowest wealth quintile were taken to a health facility or a medically-trained provider for treatment of their fever, compared with 43 percent of children in the highest quintile.

Table 10.10 also shows that 66 percent of children with fever received antibiotics. Children age 12-23 months, male children, and children living in Khulna division are more likely than other children to receive antibiotic treatment. Furthermore, children of mothers who have completed secondary or higher education and those living in households in the highest wealth quintile are more likely to receive antibiotics for fever than their counterparts. Less than 1 percent of children received antimalarial drugs. The percentage of children with fever for whom medical care is sought from a health facility or provider has increased slightly over the past four years, from 24 percent in 2007 to 27 percent in 2011.

Table 10.10 Prevalence and treatment of fever

Among children under age 5, the percentage who had a fever in the two weeks preceding the survey; and among children with fever, the percentage for whom advice or treatment was sought from a health facility or provider, the percentage who took antimalarial drugs, and the percentage who received antibiotics as treatment, and among children with fever who were treated with antibiotic drugs, the percentage for whom the drug was prescribed by a health professional, by background characteristics, Bangladesh 2011

	Among children under age 5:		Among children under age 5 with fever:				Among children under age 5 with fever who were treated with antibiotic drugs:	
Background characteristic	Percentage with fever	Number of children	Percentage for whom advice or treatment was sought from a health facility or provider[1]	Percentage who took antimalarial drugs	Percentage who took antibiotic drugs	Number of children with fever	Percentage prescribed by a health professional/ worker	Number of children who took antibiotic drugs
Age in months								
<6	35.1	816	36.0	1.8	54.3	286	50.9	155
6-11	49.2	864	32.8	0.1	66.9	425	40.1	284
12-23	42.6	1,547	29.0	0.9	70.7	659	35.8	466
24-35	37.7	1,545	25.7	0.1	64.2	582	30.2	373
36-47	33.3	1,866	21.7	0.8	67.7	622	28.0	421
48-59	27.9	1,757	22.2	0.1	62.9	491	29.1	309
Sex								
Male	36.5	4,271	29.7	0.6	66.5	1,559	35.9	1,036
Female	36.5	4,124	24.2	0.6	64.5	1,506	31.7	972
Residence								
Urban	31.8	1,871	38.6	0.8	66.3	595	48.5	394
Rural	37.9	6,524	24.2	0.5	65.4	2,469	30.3	1,614
Division								
Barisal	40.0	464	27.1	0.6	59.7	185	36.5	111
Chittagong	43.5	1,946	25.4	1.1	67.6	846	29.8	572
Dhaka	31.6	2,601	27.3	0.2	66.1	821	34.1	543
Khulna	34.0	767	31.6	0.0	69.3	261	43.1	181
Rajshahi	36.3	1,087	23.6	1.3	59.8	394	27.4	236
Rangpur	35.5	891	29.9	0.0	64.0	317	40.3	203
Sylhet	37.6	639	28.2	0.2	68.2	240	36.6	164
Mother's education								
No education	36.1	1,689	22.1	0.1	60.9	610	28.5	372
Primary incomplete	39.4	1,526	21.3	0.4	64.9	601	25.7	390
Primary complete[2]	39.3	1,050	26.6	0.3	66.8	412	31.6	276
Secondary incomplete	36.8	3,112	30.1	0.8	66.1	1,145	39.4	757
Secondary complete or higher[3]	29.0	1,017	37.2	1.7	72.4	295	41.5	214
Wealth quintile								
Lowest	40.7	1,965	22.3	0.0	58.9	800	29.4	472
Second	36.4	1,700	21.0	0.9	67.0	618	25.0	415
Middle	37.8	1,631	25.6	0.2	66.3	617	30.5	409
Fourth	37.1	1,617	29.5	1.3	68.0	600	38.8	408
Highest	29.0	1,481	42.8	0.8	71.2	429	50.8	306
Total	36.5	8,395	27.0	0.6	65.5	3,064	33.9	2,008

[1] Excludes pharmacy, shop, and traditional practitioner
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

One in three children with fever who were given antibiotic drugs had the drug prescribed by a health professional. Children of younger mothers, boys, and those living in urban areas and in Khulna are more likely than other children to receive prescribed medication. Children whose mothers have secondary or higher education and those with mothers in the highest wealth quintile are most likely to take a prescribed antibiotic compared with children whose mothers had less education and were in the lowest quintile.

In the 2011 BDHS, mothers of children with fever in the two weeks preceding the survey were asked to report in chronological order where they sought advice or treatment for their child. Table 10.11 shows the first source of treatment. The private medical sector is the predominant first source of treatment of fever (65 percent). Only 8 percent received their first treatment from the public sector, and for 24 percent of children with fever, no treatment was sought.

Table 10.11 First source of treatment of fever

Percent distribution of children under age 5 who had fever in the two weeks preceding the survey by the first source of treatment, according to background characteristics, Bangladesh 2011

Background characteristic	Public sector	NGO sector	Private medical sector	Other source	Missing	No treatment sought	Total	Number of children with fever
Age in months								
<6	9.4	0.1	69.9	1.3	0.2	19.1	100.0	286
6-11	10.6	0.9	67.6	1.6	0.0	19.3	100.0	425
12-23	7.3	1.0	68.2	0.8	0.2	22.5	100.0	659
24-35	9.3	0.3	61.6	1.0	0.4	27.4	100.0	582
36-47	6.0	0.5	64.6	1.2	0.0	27.8	100.0	622
48-59	8.3	0.8	62.8	1.1	0.4	26.6	100.0	491
Sex								
Male	8.9	0.8	66.0	1.1	0.1	23.1	100.0	1,559
Female	7.5	0.4	64.8	1.1	0.4	25.8	100.0	1,506
Residence								
Urban	10.3	0.9	64.7	0.5	0.1	23.5	100.0	595
Rural	7.8	0.6	65.6	1.2	0.2	24.6	100.0	2,469
Division								
Barisal	10.1	0.0	63.2	0.3	0.0	26.4	100.0	185
Chittagong	6.0	0.2	70.7	1.4	0.3	21.5	100.0	846
Dhaka	7.1	0.7	63.1	0.5	0.0	28.6	100.0	821
Khulna	12.1	0.7	66.7	1.8	0.0	18.7	100.0	261
Rajshahi	8.2	0.5	59.9	1.0	0.7	29.7	100.0	394
Rangpur	11.9	2.1	64.9	1.7	0.0	19.4	100.0	317
Sylhet	9.5	0.4	64.7	1.6	0.7	23.0	100.0	240
Mother's education								
No education	7.1	0.6	64.4	0.2	0.0	27.7	100.0	610
Primary incomplete	8.1	0.0	66.5	0.7	0.0	24.7	100.0	601
Primary complete[1]	10.1	1.4	61.6	0.1	0.0	26.8	100.0	412
Secondary incomplete	8.1	0.6	66.2	1.8	0.6	22.7	100.0	1,145
Secondary complete or higher[2]	8.9	0.7	67.9	2.4	0.0	20.1	100.0	295
Wealth quintile								
Lowest	8.1	0.4	61.5	0.5	0.3	29.2	100.0	800
Second	7.5	1.0	67.9	0.4	0.0	23.2	100.0	618
Middle	10.0	0.5	65.1	1.5	0.3	22.6	100.0	617
Fourth	7.4	0.4	66.4	2.1	0.2	23.5	100.0	600
Highest	8.2	1.1	68.2	1.2	0.1	21.2	100.0	429
Total	8.2	0.6	65.4	1.1	0.2	24.4	100.0	3,064

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

NUTRITION OF CHILDREN AND ADULTS 11

Key Findings

- Forty-one percent of children under age 5 are stunted, 16 percent are wasted, and 36 percent are underweight.
- Breastfeeding is nearly universal in Bangladesh: 90 percent of children are breastfed until age 2, as recommended.
- Sixty-four percent of children less than age 6 months are exclusively breastfed, and the median duration of exclusive breastfeeding is 3.5 months.
- Complementary foods are not introduced in a timely fashion for all children. Only 67 percent of breastfed children age 6-9 months receive complementary foods.
- Overall, only 21 percent of children age 6-23 months are fed appropriately based on recommended infant and young child feeding (IYCF) practices.
- Fifty-one percent of children age 6-59 months are anemic, 29 percent are mildly anemic, 21 percent are moderately anemic, and less than 1 percent are severely anemic.
- Twenty-four percent of ever-married women age 15-49 are undernourished (BMI <18.5), and 17 percent are overweight or obese (BMI ≥25.0). Women's nutritional status has improved only slightly over the years.
- Forty-two percent of ever-married women age 15-49 are anemic, 36 percent are mildly anemic, 7 percent are moderately anemic, and less than 1 percent are severely anemic.
- Overall, 65 percent of ever-married women age 15-49 live in a food-secure environment. However, only 35 percent of women in the lowest wealth quintile are food secure compared with 90 percent of women in the highest wealth quintile.

Good nutrition is a prerequisite for the national development of countries and for the well-being of individuals. Although problems related to poor nutrition affect the entire population, women and children are especially vulnerable because of their unique physiology and socioeconomic characteristics. The period from birth to age 2 is especially important for optimal growth, health, and development. Unfortunately, this period is often marked by protein-energy and micronutrient deficiencies that interfere with optimal physical growth and cognitive development. Common illnesses such as diarrhea and acute respiratory infections are also common in young children (Black et al., 2008). Malnutrition in adults results in reduced productivity, increased susceptibility to infections, slow recovery from illness, and for women, increased risk of adverse pregnancy outcomes (Cesar et al., 2008). A woman of poor nutritional status (indicated by a low body mass index, short stature, anemia, or other micronutrient deficiencies), has a heightened risk of obstructed labor, having a baby with low birth weight, producing low quality breast milk, and dying from postpartum hemorrhage. Morbidity, in general, is high for both the woman and her baby.

Poor nutritional status is a key health problem in Bangladesh. Young children and women of reproductive age are especially vulnerable to nutritional deficits and micronutrient deficiencies. At the individual level, inadequate or inappropriate feeding patterns lead to malnutrition. Numerous socioeconomic and cultural factors influence patterns of feeding and nutritional status.

As in past DHS surveys in Bangladesh, the 2011 survey measured height and weight of children under age 5 and of ever-married women of reproductive age. The 2011 BDHS also collected data on feeding practices for infants and young children, including breastfeeding, the feeding of solid and semisolid foods, diversity of foods, and frequency of feeding. Information was also collected on the feeding of micronutrients—vitamin A and iron—and vitamin A supplementation among children and women.

For the first time in DHS history in Bangladesh, the 2011 survey measured the hemoglobin level of children and ever-married women and the height and weight of men. The 2011 BDHS also asked eligible women questions intended to gauge food security.

11.1 NUTRITIONAL STATUS OF CHILDREN

The 2011 BDHS collected data on the nutritional status of children by measuring the height and weight of all children under age 5 in the selected households. The nutritional status assessment helps to identify subgroups of the child population that face increased risk of faltered growth and contributes data for comparison with previous surveys in trend analyses.

11.1.1 Measurement of Nutritional Status among Young Children

The nutritional status of children in the survey population is compared with the World Health Organization (WHO) Child Growth Standards, which are based on an international sample of ethnically, culturally, and genetically diverse healthy children living under optimum conditions that are conducive to achieving a child's full genetic growth potential (WHO, 2006). The WHO Child Growth Standards identify breastfed children as the normative model for growth and development and document how children should grow under optimum conditions and with optimum infant feeding and child health practices. Use of the WHO Child Growth Standards is based on the finding that well-nourished children of all population groups for which data exist follow very similar growth patterns before puberty. These standards can therefore be used to assess the nutritional status of children all over the world, regardless of ethnicity, social and economic influences, and feeding practices.

Three standard indices of physical growth that describe the nutritional status of children are:

- Height-for-age (stunting)
- Weight-for-height (wasting)
- Weight-for-age (underweight)

Each of these indices provides different information about growth and body composition that can be used to assess nutritional status.

Height-for-age measures linear growth. A child who is more than two standard deviations below the median (-2 SD) of the WHO reference population in terms of height-for-age is considered short for his or her age, or stunted. This condition reflects the cumulative effect of chronic malnutrition. If a child is below three standard deviations (-3 SD) from the reference median, then he or she is considered to be severely stunted. Stunting reflects a failure to receive adequate nutrition over a long period of time and is worsened by recurrent and chronic illness. Height-for-age, therefore, reflects the long-term effects of malnutrition in a population and does not vary appreciably according to recent dietary intake.

Weight-for-height describes current nutritional status. A child who is more than two standard deviations below (-2 SD) the reference median for weight-for-height is considered to be too thin for his or her height, or wasted. This condition reflects acute or recent nutritional deficit. As with stunting, wasting is considered severe if the child is more than three standard deviations below the reference median. Severe wasting is closely linked to mortality risk.

Weight-for-age is a composite index of weight-for-height and height-for-age. Thus, it does not distinguish between acute malnutrition (wasting) and chronic malnutrition (stunting). A child can be underweight for his age because he or she is stunted, because he or she is wasted, or both. Children whose weight-for-age is below two standard deviations (-2 SD) from the median of the reference population are classified as underweight. Children whose weight-for-age is below three standard deviations (-3 SD) from the median of the reference population are considered severely underweight. Weight-for-age is an overall indicator of a population's nutritional health.

Z-score means are also calculated as summary statistics representing the nutritional status of children in a population. These mean scores describe the nutritional status of the entire population without the use of a cut off. A mean Z-score of less than 0 (i.e., a negative mean value for stunting, wasting, or underweight) suggests that the distribution of an index has shifted downward and that most if not all children in the population suffer from undernutrition relative to the reference population.

11.1.2 Data Collection

All children listed in the household questionnaire who were born in January 2006 or later were eligible for height and weight measurement. Thus, height and weight measurements were collected from children whose mothers may not have been interviewed in the survey. Each interviewing team carried two scales and two height boards. Weight was measured using lightweight SECA scales with digital screens, designed and manufactured under the authority of the United Nations Children's Fund (UNICEF). The height/length boards were specially produced by Shorr Productions for use in survey settings. Recumbent length was recorded for children under age 2 or shorter than 85 centimeters. Standing height was measured for all other children.

Table 11.1 Nutritional status of children

Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age, by background characteristics, Bangladesh 2011

	Height-for-age[1]			Weight-for-height				Weight-for-age				
Background characteristic	Percent-age below -3 SD	Percent-age below -2 SD[2]	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Percent-age below -3 SD	Percent-age below -2 SD[2]	Percent-age above +2 SD	Mean Z-score (SD)	Number of children
Age in months												
<6	4.6	18.0	-0.7	6.3	16.0	4.6	-0.6	4.4	16.5	0.7	-1.0	695
6-8	5.4	17.4	-0.9	4.3	14.8	2.5	-0.7	5.7	23.2	0.0	-1.2	403
9-11	11.6	27.8	-1.3	3.9	13.9	3.4	-0.6	7.6	24.4	0.4	-1.2	412
12-17	15.6	46.4	-1.8	3.8	15.0	1.8	-0.8	9.2	33.6	0.5	-1.5	786
18-23	21.9	52.1	-2.0	4.9	16.9	1.0	-0.9	12.8	38.6	0.6	-1.7	671
24-35	18.8	47.6	-1.9	3.4	14.9	0.9	-1.0	11.5	39.8	0.3	-1.7	1,450
36-47	18.1	47.0	-1.9	4.1	15.9	0.8	-1.1	13.4	42.9	0.3	-1.8	1,763
48-59	14.3	41.9	-1.8	3.0	16.2	0.9	-1.1	10.3	41.4	0.2	-1.8	1,679
Sex												
Male	14.7	40.6	-1.7	4.1	16.0	1.4	-0.9	9.4	34.3	0.4	-1.6	3,974
Female	15.9	42.0	-1.7	3.8	15.2	1.7	-0.9	11.4	38.5	0.3	-1.7	3,887
Birth interval in months[3]												
First birth[4]	12.6	37.6	-1.6	3.7	14.8	1.5	-0.9	8.3	32.7	0.4	-1.5	2,665
<24	23.7	50.6	-2.0	4.1	15.6	2.0	-0.9	13.0	44.1	0.6	-1.8	563
24-47	19.3	47.5	-1.9	4.1	17.2	1.3	-1.0	13.9	41.6	0.2	-1.8	1,945
48+	12.6	38.0	-1.6	3.9	15.1	1.7	-0.9	8.9	34.1	0.4	-1.5	2,459
Size at birth[3]												
Very small	25.1	53.6	-2.1	7.6	26.9	2.7	-1.2	25.4	57.5	0.6	-2.1	371
Small	21.2	52.1	-2.0	5.3	23.2	0.4	-1.2	16.9	52.2	0.0	-2.0	928
Average or larger	13.7	38.9	-1.6	3.4	13.8	1.7	-0.9	8.4	32.7	0.4	-1.5	6,321
Mother's interview status												
Interviewed	15.1	41.2	-1.7	3.9	15.6	1.6	-0.9	10.3	36.3	0.4	-1.6	7,632
Not interviewed[5]	20.2	44.0	-1.8	6.9	17.2	1.0	-1.2	14.8	40.4	0.0	-1.8	229
Residence												
Urban	13.0	36.2	-1.4	3.5	14.0	2.2	-0.7	7.4	28.0	0.8	-1.3	1,709
Rural	15.9	42.7	-1.7	4.1	16.0	1.4	-1.0	11.2	38.7	0.2	-1.7	6,152

Continued…

Table 11.1—*Continued*

Background characteristic	Height-for-age[1]			Weight-for-height				Weight-for-age				Number of children
	Percentage below -3 SD	Percentage below -2 SD[2]	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	
Division												
Barisal	20.3	45.1	-1.8	2.7	15.2	1.6	-0.9	11.0	40.0	0.2	-1.7	433
Chittagong	16.0	41.3	-1.7	3.8	15.9	1.3	-1.0	10.2	37.4	0.5	-1.6	1,773
Dhaka	15.9	43.3	-1.7	4.3	15.7	1.9	-0.9	11.2	36.6	0.5	-1.6	2,469
Khulna	11.2	34.1	-1.5	3.5	14.6	1.3	-0.8	6.8	29.1	0.2	-1.4	744
Rajshahi	8.8	33.7	-1.5	5.2	16.4	1.0	-1.1	10.1	34.2	0.2	-1.6	986
Rangpur	16.0	42.9	-1.8	2.9	13.2	1.5	-0.9	9.2	34.5	0.2	-1.6	859
Sylhet	22.0	49.3	-1.9	4.1	18.4	1.8	-1.1	14.4	44.9	0.2	-1.9	596
Mother's education[6]												
No education	22.1	51.1	-2.0	4.7	17.7	0.8	-1.1	14.5	48.8	0.1	-1.9	1,532
Primary incomplete	20.0	48.6	-1.9	3.9	17.3	1.1	-1.1	14.2	43.7	0.0	-1.8	1,400
Primary complete[7]	15.1	44.5	-1.8	4.6	19.4	0.9	-1.1	12.4	40.2	0.1	-1.8	944
Secondary incomplete	12.1	37.1	-1.6	3.4	13.7	1.8	-0.8	7.5	30.4	0.4	-1.5	2,841
Secondary complete or higher[8]	5.6	22.9	-1.0	3.2	11.1	3.4	-0.6	3.5	17.8	1.5	-1.0	916
Wealth quintile												
Lowest	24.5	53.7	-2.1	4.5	17.5	0.9	-1.1	16.6	50.3	0.1	-2.0	1,883
Second	16.9	45.4	-1.8	4.1	16.2	1.0	-1.1	11.3	41.6	0.1	-1.8	1,616
Middle	14.1	40.7	-1.7	3.9	17.7	1.6	-1.0	11.5	36.0	0.3	-1.6	1,531
Fourth	11.2	35.9	-1.5	3.4	13.6	1.7	-0.8	6.3	27.5	0.1	-1.4	1,478
Highest	6.4	25.7	-1.1	3.7	12.1	2.9	-0.6	3.9	20.9	1.2	-1.1	1,352
Total	15.3	41.3	-1.7	4.0	15.6	1.5	-0.9	10.4	36.4	0.3	-1.6	7,861

Note: Table is based on children who spent the night before the interview in the household. Each of the indices is expressed in standard deviation (SD) units from the median of the WHO Child Growth Standards adopted in 2006. The indices in this table are NOT comparable to those based on the previously used 1977 NCHS/CDC/WHO reference. Total includes three children with missing information on size at birth. Table is based on children with valid dates of birth (month and year) and valid measurement of both height and weight.

[1] Recumbent length is measured for children under age 2, or in the few cases when the age of the child is unknown and the child is less than 85 cm; standing height is measured for all other children.

[2] Includes children who are below -3 standard deviations (SD) from the WHO Child Growth standards population median

[3] Excludes children whose mothers were not interviewed

[4] First-born twins (triplets, etc.) are counted as first births because they do not have a previous birth interval.

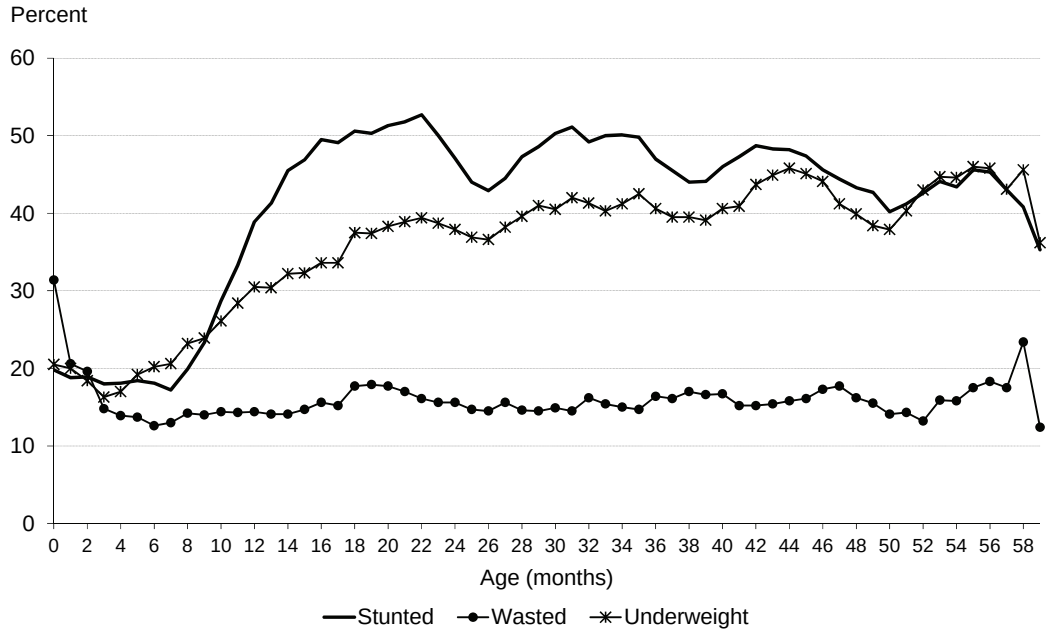
[5] Includes children whose mothers are deceased and those not in the household

[6] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.

[7] Primary complete is defined as completing grade 5.

[8] Secondary complete is defined as completing grade 10.

Figure 11.1 **Nutritional status of children by age**



Note: *Stunting* reflects chronic malnutrition; *wasting* reflects acute malnutrition; *underweight* reflects chronic or acute malnutrition or a combination of both. Plotted values are smoothed by a five-month moving average.

BDHS 2011

11.1.3 Levels of Child Malnutrition

Table 11.1 shows the percentage of children under age 5 classified as malnourished according to the three anthropometric indices of nutritional status (height-for-age, weight-for-height, and weight-for-age) by various background characteristics. A total of 8,550 children under age 5 (unweighted) in the BDHS sample households were eligible for anthropometric measurements. The following analysis focuses on the 7,826 children (92 percent) for whom complete and credible anthropometric and age data are available.

Height-for-age (stunting)

At the national level, 41 percent of children under age 5 are stunted, and 15 percent are severely stunted. Analysis by age group shows that stunting is highest (52 percent) in children age 18-23 months and lowest (17 percent) in children age 6-8 months (Figure 11.1). Severe stunting shows a similar pattern, with the highest proportion of severe stunting in children age 18-23 months (22 percent). Stunting is slightly higher among female children (42 percent) than among male children (41 percent). Stunting is highest among children with a preceding birth interval of less than 24 months (51 percent), followed by children with a preceding birth interval of 24-47 months (48 percent).

The 2011 BDHS asked mothers their perception of their child's birth size: average or larger, small, or very small. The perceived birth size is used as a proxy for birth weight because the majority of deliveries in Bangladesh occur at home and newborns are not weighed at birth. Table 11.1 shows that more than half of the children perceived by their mothers to be very small or small are stunted. A previous study in Bangladesh has shown similar results: that children's birth weight is an important determinant of their nutritional status (Rahman and Chowdhury, 2007).

Children in rural areas are more likely to be stunted (43 percent) compared with those in urban areas (36 percent). Stunting is lowest in Khulna and Rajshahi divisions (34 percent). In other divisions, stunting varies from 41 percent in Chittagong to 49 percent in Sylhet. Mother's level of education has an inverse relationship with stunting levels. Children of mothers with no education are more than twice as

likely to be stunted (51 percent) when compared with children of mothers who have completed secondary and higher education (23 percent). A similarly large differential exists by wealth quintiles; as wealth increases, the extent of stunting among children decreases. Children from the lowest wealth quintile are two times more likely to be stunted than children from the highest wealth quintile (54 percent in the lowest compared with 26 percent in the highest quintile).

Weight-for-height (wasting)

Overall, 16 percent of children in Bangladesh are wasted. Analysis by age group shows that wasting is highest (17 percent) in children age 18-23 months and lowest (14 percent) in children age 9-11 months. Male children are slightly more likely to be wasted (16 percent) than female children (15 percent). Wasting is not strongly correlated with the length of the preceding birth interval. Children who are very small at birth are almost twice as likely to be wasted as children who are of average size or larger at birth. Children residing in urban areas are less likely to be wasted (14 percent) than children living in rural areas (16 percent). By division, wasting in children ranges from 13 percent in Rangpur to 18 percent in Sylhet. Wasting prevalence does not show a linear relationship with mother's education and wealth quintile, as indicated by the highest prevalence of wasting among children of women with completed primary education (19 percent) and among children of women from the lowest and middle wealth quintiles (18 percent).

Weight-for-age (underweight)

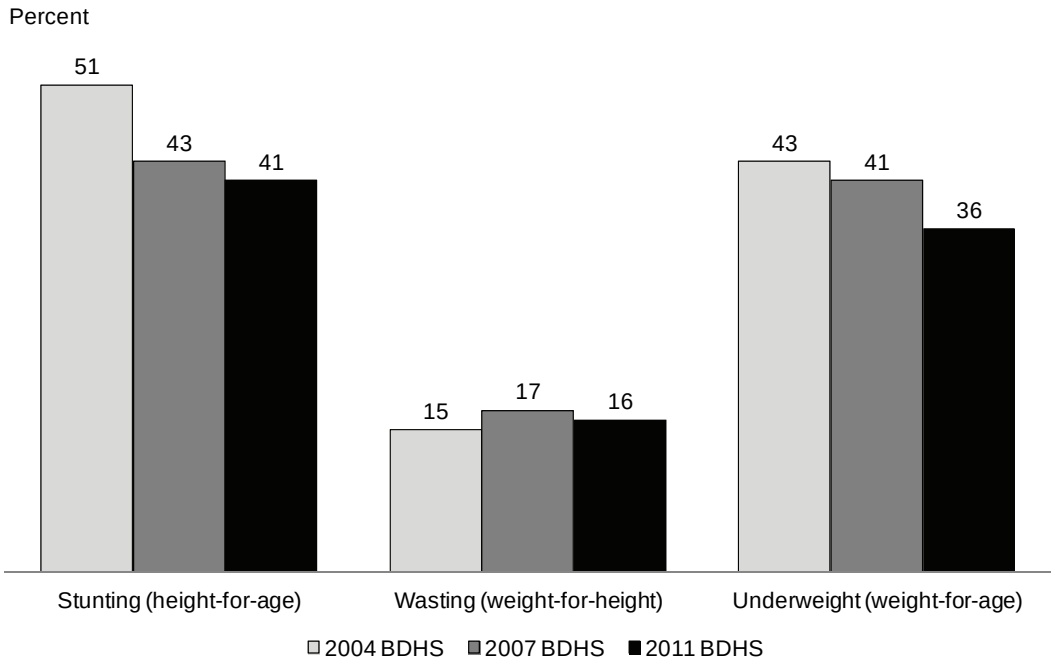
Table 11.1 shows that 36 percent of children under age 5 are underweight and 10 percent are severely underweight. The proportion of underweight children is highest (43 percent) among children age 36-47 months and lowest (17 percent) among children under 6 months. Female children are more likely to be underweight (39 percent) than male children (34 percent). The data show a strong correlation between underweight children and their perceived birth size. Babies perceived by mothers as very small and small at birth are much more likely to be underweight (58 percent for very small and 52 percent for small) than those perceived as average or larger at birth (33 percent).

Rural children are more likely to be underweight (39 percent) than urban children (28 percent). Sylhet has the highest proportion (45 percent) of underweight children, while among the other divisions the proportion ranges from 29 percent in Khulna to 40 percent in Barisal. As with wasting and stunting, mother's education is associated with underweight, with the percentage of children who are underweight being lowest among children of mothers with a secondary and higher education (18 percent) and highest among children of mothers with no education (49 percent). A similar negative relationship is observed between household wealth and the percentage of underweight children; children in the poorest households are more than two times more likely to be underweight (50 percent) compared with children in the wealthiest households (21percent).

11.1.4 Trends in Children's Nutritional Status

Figure 11.2 shows that children's nutritional status has improved somewhat since 2004. The level of stunting has declined from 51 percent in 2004 to 41 percent in 2011. The proportion of underweight children has declined from 43 percent in 2004 to 36 percent in 2011. The pattern and change in wasting has been small and inconsistent. Wasting increased from 15 percent in 2004 to 17 percent in 2007, and declined to 16 percent in 2011. The MDG target for nutrition in Bangladesh is to reduce underweight among children under age 5 to 33 percent (General Economic Division/Bangladesh Planning Commission, 2012). If the current pace of decline is sustained, the target can be achieved.

Figure 11.2 **Trends in nutritional status of children under age 5, 2004, 2007, and 2011**



Note: The data for all three surveys are based on the WHO Child Growth standards adopted in 2006.

11.2 BREASTFEEDING AND COMPLEMENTARY FEEDING

Feeding practices play a pivotal role in determining the optimal growth and development of infants. Poor breastfeeding and infant feeding practices have adverse consequences for the health and nutritional status of children. These consequences, in turn, affect their mental and physical development. Breastfeeding also affects mothers by physiologically suppressing the return of fertility, thereby lengthening the interval between pregnancies.

UNICEF and WHO recommend that children be exclusively breastfed (that is, given no other liquid or solid food or plain water) for the first six months of life and that children be given solid or semisolid complementary foods beginning in the seventh month of life. The standard indicator of exclusive breastfeeding is the percentage of children under age 6 months who are exclusively breastfeeding. The standard indicator of timely complementary feeding is the percentage of children age 6-8 months who receive solid, semisolid, or soft foods. WHO recommends that breastfeeding continue through the second year of life. Use of bottles with nipples is not recommended for feeding at any age (WHO, 2008).

11.2.1 Initiation of Breastfeeding

Early initiation of breastfeeding is important for both the mother and the child. There are a number of reasons to encourage early breastfeeding. Mothers benefit from early suckling because it stimulates breast milk production and facilitates the release of oxytocin, which helps to contract the uterus and reduce postpartum blood loss. The first breast milk contains colostrum, which is highly nutritious and has antibodies that protect the newborn from diseases. Early initiation of breastfeeding also encourages bonding between the mother and her newborn.

Table 11.2 presents by background characteristics the breastfeeding status of all last-born children born in the two years preceding the survey. The table shows the percentage of children according to whether they were ever breastfed, when they started breastfeeding, and whether they were fed anything other than breast milk prior to the commencement of breastfeeding. Breastfeeding is almost universal in

Bangladesh; 99 percent of last-born children who were born in the two years preceding the survey were breastfed at some point in their life, almost the same proportion as in the 2007 BDHS. There are no marked differences by background characteristics in the proportion of children ever breastfed.

Overall, 47 percent of children are breastfed within one hour after birth, and 90 percent are breastfed within one day after delivery. These results are not directly comparable to those of the 2007 BDHS because the results for the 2011 BDHS are for last-born children born in the two years preceding the survey whereas the 2007 BDHS results were based on last-born children born in the five years preceding the survey. For comparison purposes, the 2007 BDHS data have been reanalyzed for the same time period of two years (data not shown). Compared with data for 2007, the percentage of children who were breastfed within one hour of birth has increased by three percentage points (from 44 to 47 percent). The percentage of children who started breastfeeding within one day of birth was similar in 2007 and 2011 (89 percent to 90 percent).

Table 11.2 indicates no marked differences in the timing of initial breastfeeding within one hour of birth, either by the sex of the child or by urban-rural residence. Notable variations, however, can be seen by geographic division. The proportion of children breastfed within one hour of birth is highest in Sylhet division (54 percent) and lowest in Dhaka (43 percent).

The timing of initiation of breastfeeding varies by other background characteristics. Less likely to begin breastfeeding within one hour of birth are children born in a health facility, children attended by a health professional at delivery, children of mothers who completed secondary or higher education, and children from households in the highest wealth quintile. Similar patterns were also reported in the 2007 BDHS. This finding merits further investigation and appropriate program response.

Prelacteal feeding is the practice of giving other liquids to a child during the first three days of life. The practice of prelacteal feeding is discouraged because it limits the frequency of suckling by the infant and exposes the child to the risk of gastrointestinal infection. Thirty-nine percent of Bangladeshi children receive a prelacteal feed. The likelihood of receiving a prelacteal feed is higher for births assisted by traditional birth attendants and for births delivered at home.

Prelacteal feeding is more common in Dhaka (50 percent), Khulna (45 percent), and Rajshahi (42 percent) than in other divisions. Children of mothers with limited education and less wealth are more likely to receive prelacteal feeds. The 2011 BDHS did not collect information on whether the child received the first milk (colostrum). However, the 2007 BDHS reported that 92 percent of last-born children in the five years preceding the survey who were ever breastfed received colostrum (NIPORT et al., 2009).

Table 11.2 Initial breastfeeding

Among last-born children who were born in the two years preceding the survey, the percentage who were ever breastfed and the percentages who started breastfeeding within one hour and within one day of birth; and among last-born children born in the two years preceding the survey who were ever breastfed, the percentage who received a prelacteal feed, by background characteristics, Bangladesh 2011

	Among last-born children born in the past two years:				Among last-born children born in the past two years who were ever breastfed:	
Background characteristic	Percentage ever breastfed	Percentage who started breastfeeding within 1 hour of birth	Percentage who started breastfeeding within 1 day of birth[1]	Number of last-born children	Percentage who received a prelacteal feed[2]	Number of last-born children ever breastfed
Sex						
Male	98.4	48.0	90.0	1,673	39.4	1,646
Female	98.8	46.1	90.8	1,592	37.7	1,573
Assistance at delivery						
Health professional[3]	97.9	39.3	86.1	1,078	35.9	1,056
Traditional birth attendant	99.0	50.5	92.5	2,025	40.3	2,006
Other	98.1	55.5	91.6	151	34.9	148
Place of delivery						
Health facility	97.9	38.9	85.6	997	36.1	976
At home	98.9	50.7	92.5	2,259	39.7	2,235
Residence						
Urban	98.3	44.3	90.6	738	37.9	726
Rural	98.7	47.9	90.3	2,526	38.8	2,493
Division						
Barisal	97.4	43.6	89.5	177	36.8	172
Chittagong	98.9	46.2	91.3	783	28.8	775
Dhaka	98.5	43.0	89.1	988	49.5	972
Khulna	98.9	45.7	88.1	305	44.5	302
Rajshahi	98.5	53.5	88.3	439	42.2	432
Rangpur	99.2	50.8	93.7	334	27.0	331
Sylhet	98.2	54.0	95.6	238	29.0	234
Mother's education						
No education	98.8	46.9	89.7	551	41.1	545
Primary incomplete	98.3	50.3	92.0	587	41.6	577
Primary complete[4]	98.0	46.9	88.7	384	40.0	376
Secondary incomplete	99.2	47.9	90.6	1,328	36.5	1,317
Secondary complete or higher[5]	97.7	40.2	89.6	414	36.5	405
Wealth quintile						
Lowest	98.9	49.9	91.3	718	43.0	710
Second	98.6	46.6	91.7	652	39.6	643
Middle	99.2	49.1	91.5	646	37.6	641
Fourth	98.2	48.0	88.9	673	34.6	661
Highest	98.1	40.6	88.1	576	37.6	565
Total	98.6	47.1	90.4	3,264	38.6	3,219

Note: Table is based on children born in the two years preceding the survey regardless of whether the children are living or dead at the time of interview. Total includes 11 last-born children with no assistance at delivery and 8 children with other place of delivery.

[1] Includes children who started breastfeeding within one hour of birth

[2] Children given something other than breast milk during the first three days of life

[3] Doctor, nurse/midwife, auxiliary midwife, skilled birth attendant, or family welfare visitor

[4] Primary complete is defined as completing grade 5.

[5] Secondary complete is defined as completing grade 10.

11.3 BREASTFEEDING STATUS BY AGE

Breast milk contains all the nutrients needed by children in the first six months of life. It is recommended that during the first six months of life a child should not be given any complementary liquid or solid food or plain water. Giving complementary foods to children is discouraged because it increases the likelihood of contamination and may increase the risk of diarrhea. When the child reaches age 6 months, solid or semisolid complementary foods should be added to the diet with continued breastfeeding.

The 2011 BDHS collected data on infant and young child feeding for all last-born children under age 2 living with their mothers, using a 24-hour recall method. As shown in Table 11.3 and Figure 11.3, almost all Bangladeshi children are breastfed during the first year of life, and breastfeeding continues through the second year for 90 percent of the children. However, supplementing breast milk with other liquids or foods starts at an early age in Bangladesh. Contrary to the recommendation that children under age 6 months should be exclusively breastfed, 10 percent of the children consume plain water, 3 percent consume non-milk liquids, 16 percent consume other milk, and 6 percent consume complementary foods in addition to breast milk.

Table 11.3 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother, by breastfeeding status and the percentage currently breastfeeding; and the percentage of all children under age 2 using a bottle with a nipple, according to age in months, Bangladesh 2011

	Breastfeeding status										
Age in months	Not breast-feeding	Exclusively breastfed	Breast-feeding and consuming plain water only	Breast-feeding and consuming non-milk liquids[1]	Breast-feeding and consuming other milk	Breast-feeding and consuming comple-mentary foods	Total	Percentage currently breast-feeding	Number of youngest child under two years living with their mother	Percentage using a bottle with a nipple	Number of all children under age 2
0-1	0.0	84.5	5.9	0.0	8.6	1.1	100.0	100.0	265	5.6	266
2-3	0.6	71.0	9.5	3.0	13.7	2.1	100.0	99.4	281	12.9	282
4-5	1.9	36.3	14.3	5.3	27.1	15.1	100.0	98.1	264	29.8	267
6-8	3.6	7.3	15.3	3.9	9.6	60.4	100.0	96.4	416	21.5	423
9-11	3.7	0.6	6.8	1.1	1.1	86.7	100.0	96.3	436	16.4	441
12-17	5.5	0.9	4.7	1.0	1.5	86.4	100.0	94.5	820	16.0	833
18-23	8.5	0.5	2.6	0.4	0.1	87.9	100.0	91.5	686	11.6	714
0-3	0.3	77.5	7.7	1.5	11.2	1.6	100.0	99.7	546	9.4	549
0-5	0.8	64.1	9.9	2.8	16.4	6.0	100.0	99.2	810	16.1	816
6-9	3.4	5.4	13.4	3.6	7.2	67.1	100.0	96.6	561	20.4	568
12-15	5.0	1.0	4.4	1.3	1.9	86.5	100.0	95.0	552	15.9	559
12-23	6.9	0.7	3.7	0.7	0.9	87.1	100.0	93.1	1,506	14.0	1,547
20-23	10.4	0.2	2.0	0.6	0.1	86.7	100.0	89.6	451	10.7	471

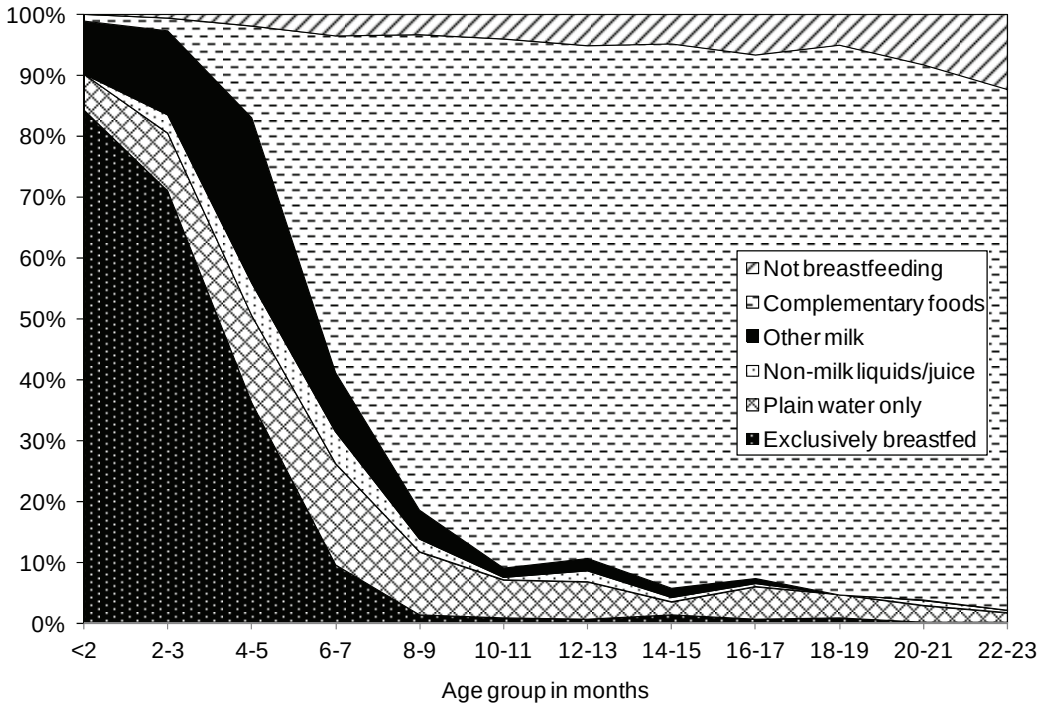
Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children who are classified as "breastfeeding and consuming plain water only" consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfed, and breastfeeding and consuming plain water, non-milk liquids, other milk, and complementary foods (solids and semisolids) are hierarchical and mutually exclusive, and their percentages add to 100 percent. Thus children who receive breast milk and non-milk liquids and who do not receive other milk and who do not receive complementary foods are classified in the non-milk liquid category even though they may also get plain water. Any children who get complementary food are classified in that category as long as they are breastfeeding as well.

[1] Non-milk liquids include juice, juice drinks, clear broth, or other liquids.

Table 11.3 also presents the percentage of children using a bottle with a nipple. Use of bottle feeding is highest among children age 4-5 months (30 percent). At age 6-8 months, 22 percent of children are bottle fed, and 11 percent of children age 20-23 months use bottles with nipples.

For the purpose of comparison, the 2007 BDHS data were reanalyzed for the same reference period as in the 2011 BDHS (data not shown). After remaining stagnant at around 40 percent for almost a decade, the rate of exclusive breastfeeding during the first 6 months of life increased by 21 percentage points, from 43 percent in the 2007 BDHS to 64 percent in the 2011 BDHS.

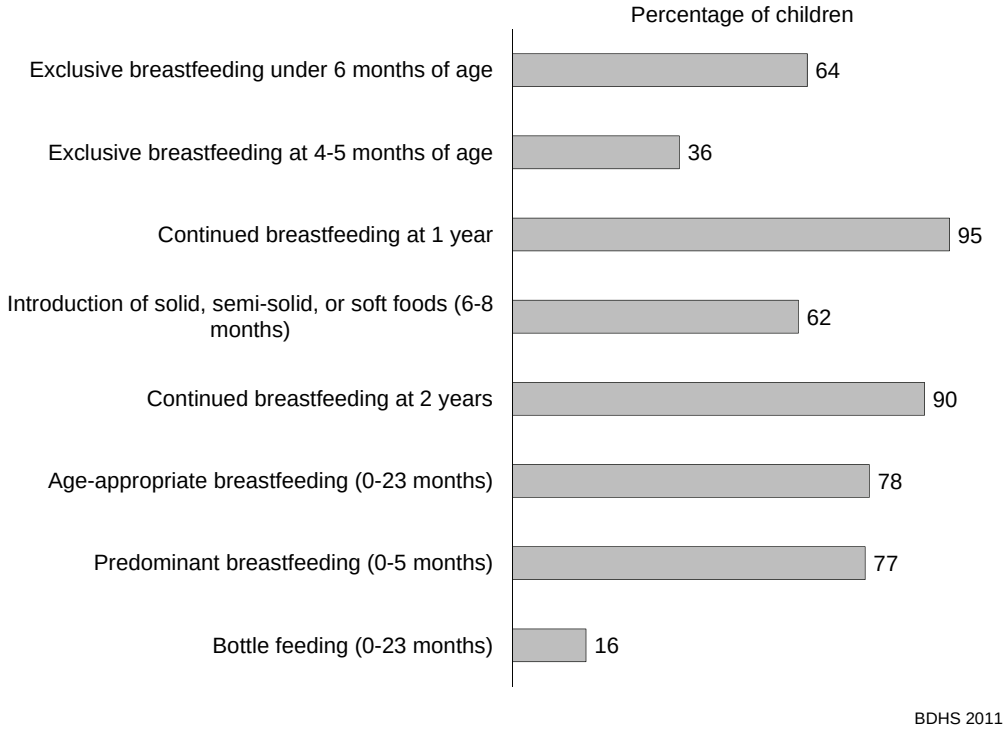
Figure 11.3 **Infant feeding practices by age**



The dramatic increase in the level of exclusive breastfeeding between 2007 and 2011 can be explained in part by an increase in the proportion of infants age 0-3 months in the 2011 sample (67 percent) compared with that in the 2007 sample (56 percent). Another explanation is the intensive mass media campaigns that focused on maternal health, newborn care, and child health one or two years prior to the survey. However, an evaluation of a community-based program to improve infant and young child feeding in Bangladesh has reported that only 50 percent of children under age 2 are being exclusively breastfed (Saha et al., 2011). Nevertheless, to confirm this large increase in exclusive breastfeeding, further rigorous investigation should be undertaken. If the current level of exclusive breastfeeding of 36 percent at 4-5 months is true and sustainable, the HPNSDP 2011–2016 target of 50 percent of infants up to six months of age being exclusively breastfed can be achieved (MOHFW, 2011).

Figure 11.4 shows the 2011 BDHS results for key infant and young child feeding (IYCF) practices on breastfeeding for youngest children under age 2 who are living with their mothers. Although 64 percent of all children under age 6 months are exclusively breastfed, only 36 percent of those age 4-5 months are exclusively breastfed. Almost all children (95 percent) continue breastfeeding at age 1, and 90 percent continue to breastfeed until age 2. Sixty-two percent of children are introduced to complementary foods at an appropriate age. Seventy-eight percent of children 0-23 months are breastfed appropriately for their age, i.e., exclusive breastfeeding for children 0-5 months and continued breastfeeding along with complementary foods for children age 6-23 months. Predominant breastfeeding (receiving breastmilk and only plain water or non-milk liquids such as juice, clear broth, and other liquids) is prevalent in 77 percent of the children; 16 percent of children under age 2 are bottle fed.

Figure 11.4 **IYCF indicators on breastfeeding status**



11.4 DURATION OF BREASTFEEDING

Table 11.4 shows the median duration and frequency of breastfeeding by selected background characteristics. The estimates of median and mean duration of breastfeeding are based on current status data, that is, the proportion of children born in the three years preceding the survey who were being breastfed at the time of the survey.

The median duration of any breastfeeding among Bangladeshi children in 2011 is 31.2 months. The median duration of exclusive breastfeeding is estimated at 3.5 months, while the median duration of predominant breastfeeding is 4.9 months. The mean duration of any breastfeeding is 28.6 months, while the mean duration of exclusive breastfeeding is 4.4 months and of predominant breastfeeding 6.4 months. The median duration of exclusive breastfeeding and predominant breastfeeding has increased since 2007 (data for the same reference period, not shown). The median duration of exclusive breastfeeding increased from 1.8 months to 3.5 months, and the median duration of predominant breastfeeding increased from 3.2 months to 4.9 months.

The median durations of any, exclusive, and predominant breastfeeding do not vary much across the background characteristics. The median duration of any breastfeeding is 3 months shorter in urban areas than in rural areas. Duration of exclusive breastfeeding increases slightly with mother's education. Similarly, the median duration of exclusive breastfeeding generally increases as the household wealth increases. Differentials in exclusive breastfeeding and predominant breastfeeding across subgroups of children are smaller than for any breastfeeding.

Table 11.4 Median duration of breastfeeding

Median duration of any breastfeeding, exclusive breastfeeding, and predominant breastfeeding among children born in the three years preceding the survey, by background characteristics, Bangladesh 2011

Background characteristic	Median duration (months) of breastfeeding among children born in the past three years[1]		
	Any breastfeeding	Exclusive breastfeeding	Predominant breastfeeding[2]
Sex			
Male	30.9	3.4	4.6
Female	31.4	3.5	5.3
Residence			
Urban	29.1	3.5	4.9
Rural	32.3	3.5	4.9
Division			
Barisal	31.5	2.3	5.2
Chittagong	25.3	4.0	6.1
Dhaka	32.1	3.0	4.1
Khulna	na	4.0	5.2
Rajshahi	na	2.9	3.8
Rangpur	na	4.1	4.8
Sylhet	29.9	3.9	6.2
Mother's education			
No education	na	2.9	4.7
Primary incomplete	34.1	2.9	5.2
Primary complete[3]	31.1	3.6	4.2
Secondary incomplete	30.7	3.7	5.0
Secondary complete or higher[4]	28.1	4.4	5.0
Wealth quintile			
Lowest	na	3.0	5.3
Second	34.0	3.2	4.4
Middle	29.8	3.6	5.1
Fourth	31.5	4.2	5.0
Highest	27.1	3.5	4.7
Total	31.2	3.5	4.9
Mean for all children	28.6	4.4	6.4

Note: Median and mean durations are calculated from the distributions of the proportion of children fitting the criteria at the time of the survey by months since birth. Includes children living and deceased at the time of the survey.
na = Median durations of more than 36 months
[1] It is assumed that non-last-born children and last-born children not currently living with the mother are not currently breastfeeding.
[2] Either exclusively breastfed or received breast milk and plain water, and/or non-milk liquids only
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

11.5 TYPES OF COMPLEMENTARY FOODS

As mentioned above, it is recommended that complementary feeding (giving solid or semi-solid foods to infants in addition to breast milk) start at age 6 months, because at this age breast milk is no longer sufficient to maintain the child's growth (WHO, 2008). Children should be fed small quantities of solid and semisolid foods while continuing to breastfeed. The amount of food is increased gradually from 6 to 23 months, which is the period of transition to eating the regular family diet.

In the 2011 BDHS, women who had at least one child living with them who was born in 2009 or later were asked questions about the types of liquids and foods the child had consumed during the day or night preceding the interview. Mothers who had more than one child born in 2009 or later were asked questions about the youngest child living with them. Specifically, mothers were asked about the number of times the child had eaten solid or semi-solid food during the period.

The results are subject to a number of limitations. The dietary data on children are subject to recall errors on the mother's part. In addition, a mother may not be able to report fully on a child's intake of food

and liquids if the child was fed by other individuals during the period. Unlike previous BDHS surveys, the information in Table 11.5 is restricted to the youngest children under age 2[1] living with the mother at the time of the survey. Despite these limitations, the information collected in the 2011 BDHS on the types of foods and liquids consumed by young children is useful in assessing timely and appropriate complementary feeding.

For many breastfeeding children, liquids other than breast milk are introduced earlier than the recommended age of 6 months. Seven percent of breastfeeding children under age 2 months are given infant formula and 2 percent receive other milk in addition to breast milk. One percent of breastfeeding children under 2 months is given solid or semisolid food.

Table 11.5 Foods and liquids consumed by children in the day or night preceding the interview

Percentage of youngest children under age 2 who are living with the mother by type of foods consumed in the day or night preceding the interview, according to breastfeeding status and age, Bangladesh 2011

	Liquids			Solid or semi-solid foods										
Age in months	Infant formula	Other milk[1]	Other liquids[2]	Fortified baby foods	Food made from grains[3]	Fruits and vege-tables rich in vitamin A[4]	Other fruits and vege-tables	Food made from roots and tubers	Food made from legumes and nuts	Meat, fish, poultry	Eggs	Cheese, yogurt, other milk product	Any solid or semi-solid food	Number of children
BREASTFEEDING CHILDREN														
0-1	6.6	2.4	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.6	0.0	0.2	1.1	265
2-3	10.8	4.8	5.2	0.0	0.6	0.6	0.8	0.6	0.0	0.6	0.0	0.7	2.2	279
4-5	15.1	18.5	11.9	2.4	2.3	2.9	0.0	2.2	0.0	2.1	1.3	3.2	15.4	259
6-8	9.3	16.5	21.9	6.2	40.9	13.9	5.3	18.5	4.0	12.0	12.8	4.2	62.6	401
9-11	6.0	21.9	21.8	8.0	72.7	30.6	14.7	37.3	3.2	36.0	22.2	5.8	90.0	420
12-17	4.6	23.8	22.4	3.8	81.3	41.2	18.8	45.1	6.9	48.3	30.4	5.6	91.4	775
18-23	3.7	29.3	22.6	2.4	90.4	49.2	27.5	52.6	6.8	60.7	27.9	8.1	96.1	628
6-23	5.4	23.7	22.2	4.6	75.0	36.5	18.0	40.9	5.7	42.9	25.0	6.1	87.3	2,223
Total	6.9	19.6	17.8	3.6	55.4	27.2	13.3	30.3	4.2	31.8	18.5	4.8	65.7	3,026
NONBREASTFEEDING CHILDREN														
12-17	(33.8)	(32.5)	(50.0)	(12.9)	(78.3)	(26.7)	(17.3)	(45.7)	(6.6)	(59.6)	(16.7)	(16.5)	88.5	45
18-23	5.2	46.8	31.1	15.2	88.4	56.7	24.1	53.0	10.9	66.8	42.8	15.1	96.4	59
6-23	20.5	42.6	37.2	16.8	76.8	41.1	18.8	43.8	9.8	54.2	28.2	15.0	87.9	135
Total	23.5	41.0	35.4	16.0	73.1	39.1	17.9	41.7	9.3	51.6	27.6	14.6	84.9	141

Note: Breastfeeding status and food consumed refer to a "24-hour" period (yesterday and last night). Figures in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Other milk includes fresh, tinned, and powdered cow or other animal milk.
[2] Other liquids doesn't include plain water but does include juice, juice drinks, clear broth, or other non-milk liquids.
[3] Includes fortified baby food
[4] Includes ripe jackfruit, orange, pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, dark green leafy vegetables (such as poi sag, methi, kolmi, kochu, spinach), ripe mangoes, ripe papayas, and any other locally grown fruits and vegetables that are rich in vitamin A

By age 9 months, every child is expected to be receiving at least one daily feeding of solid or semi-solid foods. However, Table 11.5 indicates that 10 percent of breastfeeding children ages 9-11 months did not receive any solid or semi-solid food on the day before the interview.

Overall, three in four breastfeeding children age 6-23 months consume foods made from grains (including fortified baby foods), 37 percent consume vitamin A-rich fruits and vegetables, 43 percent have meat, fish, or poultry, and 25 percent consume eggs. In addition to being breastfed, 5 percent of these children also receive infant formula, 24 percent receive other milk, and 6 percent receive cheese, yogurt, or other milk products.

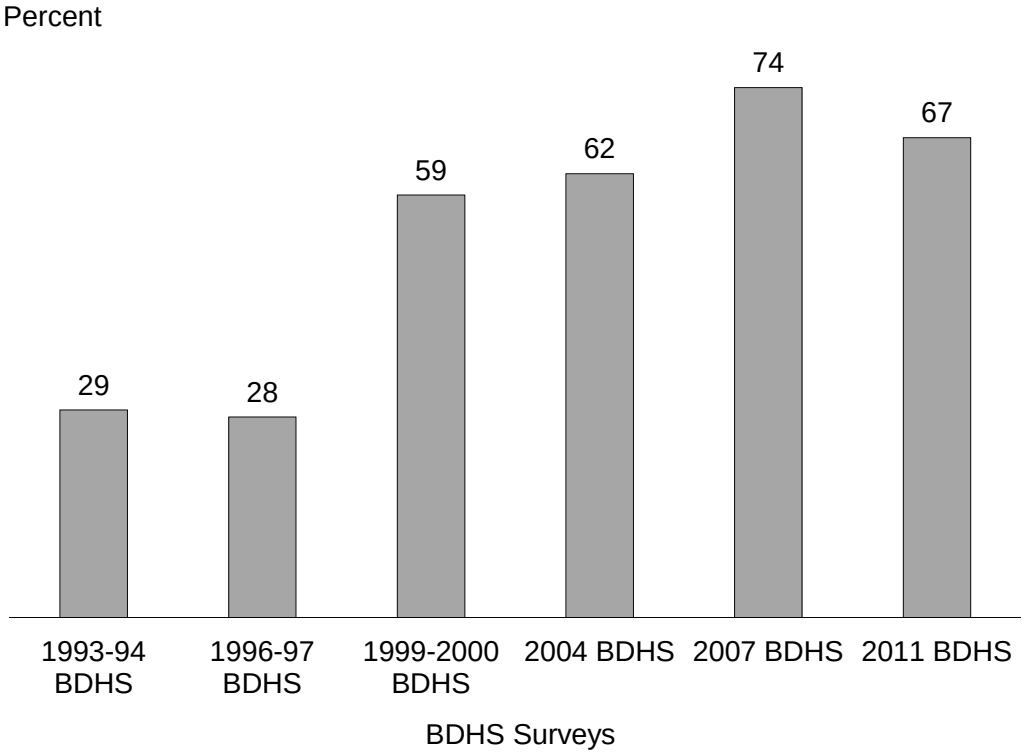
As expected, nonbreastfed children age 6-23 months are more likely than breastfed children to receive the different types of liquids and solid and semisolid foods. The difference in the consumption of solid and semisolid food between breastfed and nonbreastfed children is especially marked in the consumption of fortified baby foods, meat, fish or poultry, and cheese, yogurt, or other milk products.

[1] To allow comparison with data in the 2011 BDHS, the 2007 data were retabulated for children under age 2 instead of age 3.

However, caution should be exercised while interpreting these results because the number of nonbreastfed children is small compared with the number of breastfed children.

Figure 11.5 presents the trends in the consumption of solid and semisolid or soft foods by children age 6-9 months since 1993-94. The trends in complementary feeding indicate an increase in the timely introduction of solid or semisolid foods, with a slight decrease occurring since 2007.

Figure 11.5 **Trends in complementary feeding for breastfeeding children 6-9 months**



11.6 INFANT AND YOUNG CHILD FEEDING PRACTICES

Infant and young child feeding (IYCF) practices include initiating timely feeding of solid or semisolid foods at age 6 months and increasing the amount and variety of foods and frequency of feeding as the child gets older, while maintaining frequent breastfeeding. Guidelines have been established for IYCF practices for children age 0-23 months (PAHO/WHO, 2003; WHO, 2005; WHO, 2008). Although breastfeeding is recommended for infants up to age 2, there are infants who have stopped breastfeeding before reaching age 2 because their mothers are HIV-positive, have died, or for some other reason do not breastfeed (WHO, 2005).

Minimum dietary diversity means feeding the child food from at least four food groups. This cut-off was selected because it is associated with better-quality diets for both breastfed and nonbreastfed children. Studies have shown that plant-based complementary foods by themselves are insufficient to meet the needs for certain micronutrients (WHO and UNICEF, 1998). Therefore it is recommended that meat, poultry, fish, or eggs be eaten daily or as often as possible. Vegetarian diets may not meet children's nutrient requirements unless supplements or fortified products are used. Vitamin A-rich fruits and vegetables should be consumed daily. Children's diets should include an adequate fat content, because fat provides essential fatty acids, facilitates absorption of fat-soluble vitamins (such as vitamin A), and enhances dietary energy density and palatability. Consumption of food from at least four food groups means that the child has a high likelihood of consuming at least one animal source of food and at least one fruit or vegetable in addition to a staple food (grains, roots, or tubers) (WHO, 2008). The four food groups should come from a list of seven food groups: grains, roots, and tubers; legumes and nuts; dairy products

(milk yogurt, cheese); flesh foods (meat, fish, poultry, and liver/organ meat); eggs; vitamin A-rich fruits and vegetables; and other fruits and vegetables.

The minimum dietary diversity may be reported separately for breastfed and nonbreastfed children. However, diversity scores for breastfed and nonbreastfed children should not be directly compared, because breast milk is not counted in any of the above stated food groups. The recommended number of feedings is as follows:

- Breastfed infants 6-8 months should be fed meals of complementary foods two to three times per day, with one to two snacks as desired; breastfed children 9-23 months should be fed meals three to four times per day, with one to two snacks.

- Nonbreastfed children 6-23 months should receive milk products at least twice a day to ensure their calcium needs are met. In addition, they need animal-source foods and vitamin A-rich fruits and vegetables. Therefore, four food groups are considered a minimum acceptable number of food groups for nonbreastfed young children. Nonbreastfed children should be fed meals four to five times per day, with one to two snacks as desired (WHO, 2005). Meal frequency is considered a proxy for energy intake from foods other than breast milk, therefore, the feeding frequency indicator for nonbreastfed children includes both milk feeds and solid/semi-solid feeds (WHO, 2008). The minimum feeding frequencies are based on the energy needs from complementary foods estimated from age-specific total daily energy requirements. Infants with low breast milk intake would need to be fed more frequently. However, overly frequent feeding may lead to the displacement of breast milk (PAHO and WHO, 2003).

Table 11.6 shows the IYCF practices for the youngest children age 6-23 months living with the mother. The recommendations take into account children for whom feeding practices meet minimum standards with respect to:

- Food diversity (the number of food groups consumed)
- Feeding frequency (the number of times the child is fed)
- Consumption of breast milk or other types of milk or milk products

It is important to note that data from the 2011 BDHS are not comparable with data from previous BDHS reports because of changes in the definition of IYCF indicators and the data collection tool in 2011.

The results presented in Table 11.6 show that 24 percent of breastfed children age 6-23 months are fed foods from four or more food groups, and 64 percent are fed the minimum number of times. Because 95 percent of children age 6-23 months are still breastfed, the number of nonbreastfed children is too small to come to any meaningful conclusions.

Table 11.6 shows that nearly all breastfed and nonbreastfed children age 6-23 months are given breast milk or other milk products (97 percent). Overall, only one of four children receives the appropriately diverse diet, and 65 percent of children are fed the recommended number of times with solid or semisolid foods. One in five children (21 percent) complies with the IYCF recommendations of consuming breastmilk or other milk products, having the minimum dietary diversity, and having the minimum meal frequency.

The proportion of all children 6-23 months who are fed according to all 3 IYCF recommendations increases with the child's age, from 6 percent for children 6-8 months to 31 percent for children 18-23 months. Feeding practices do not vary between boys and girls, but there are differences across other background characteristics. Children living in urban areas (28 percent) are more likely to be fed according to the recommendation than their rural counterparts (19 percent). Children living in Sylhet Division are the least likely to be fed according to all IYCF practices (11 percent), while in other divisions the proportion ranges from 17 percent in Chittagong to 28 percent in Khulna. There is a positive relationship between infant and child feeding practices and mother's education and household wealth status.

Table 11.6 Infant and young child feeding (IYCF) practices

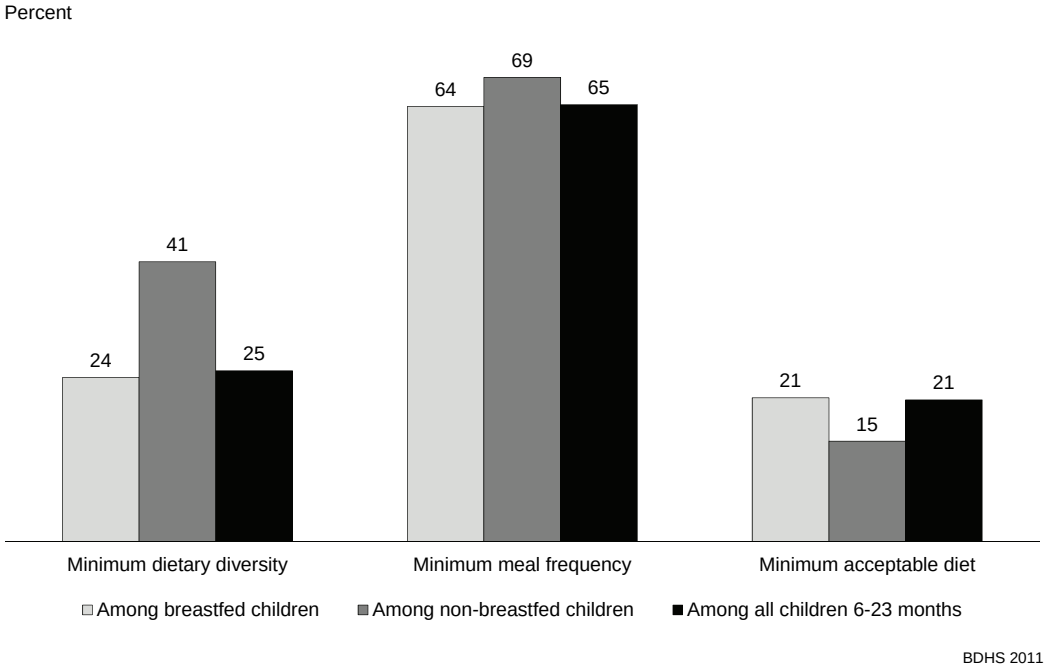
Percentage of youngest children age 6-23 months living with their mother who are fed according to three IYCF feeding practices based on breastfeeding status, number of food groups, and times they are fed during the day or night preceding the survey, by background characteristics, Bangladesh 2011

	Among breastfed children 6-23 months, percentage fed:				Among nonbreastfed children 6-23 months, percentage fed:					Among all children 6-23 months, percentage fed:				
Background characteristic	4+ food groups[1]	Minimum times or more[2]	Both 4+ food groups and minimum times or more	Number of breast-fed children 6-23 months	Milk or milk products[3]	4+ food groups	4+ times or more	With 3 IYCF practices[4]	Number of non-breast-fed children 6-23 months	Breast milk, milk, or milk products[3]	4+ food groups	Minimum times or more[5]	With 3 IYCF practices[4]	Number of all children 6-23 months
Age in months														
6-8	5.9	51.4	5.8	401	*	*	*	*	15	99.2	5.9	52.0	5.6	416
9-11	17.9	58.0	14.5	420	*	*	*	*	16	98.9	19.2	58.3	14.7	436
12-17	27.7	64.8	24.1	775	(56.6)	(31.7)	(64.8)	(16.9)	45	97.6	27.9	64.8	23.7	820
18-23	35.8	75.9	32.0	628	44.9	54.1	72.3	15.2	59	95.3	37.3	75.6	30.6	686
Sex														
Male	23.8	65.1	20.9	1,135	52.0	41.7	64.3	20.8	55	97.8	24.6	65.1	20.9	1,190
Female	24.6	63.3	21.6	1,088	57.6	41.0	71.4	10.6	80	97.1	25.7	63.9	20.8	1,167
Residence														
Urban	33.1	66.9	28.3	476	63.8	49.6	75.7	24.5	57	96.1	34.9	67.8	27.9	533
Rural	21.8	63.5	19.3	1,747	49.1	35.2	63.2	7.7	78	97.8	22.3	63.5	18.8	1,825
Division														
Barisal	22.1	61.2	17.5	125	*	*	*	*	6	97.5	24.1	62.0	17.5	132
Chittagong	20.0	55.2	16.9	516	50.2	43.2	66.1	15.1	52	95.4	22.1	56.2	16.8	568
Dhaka	25.3	65.2	23.6	662	*	*	*	*	43	97.9	26.2	65.7	23.3	705
Khulna	30.7	82.2	28.4	206	*	*	*	*	7	99.1	31.4	82.7	28.2	213
Rajshahi	29.7	63.5	24.8	310	*	*	*	*	9	99.1	30.4	63.8	24.6	319
Rangpur	25.3	73.2	21.7	240	*	*	*	*	8	98.2	25.2	72.4	20.9	248
Sylhet	14.3	57.1	11.5	164	*	*	*	*	9	96.0	14.7	55.9	10.9	173
Mother's education														
No education	11.8	52.9	10.3	376	*	*	*	*	18	96.1	12.3	51.9	9.8	394
Primary incomplete	19.4	60.5	17.9	421	*	*	*	*	19	96.8	19.0	59.7	17.2	440
Primary complete[6]	20.8	58.2	17.7	261	*	*	*	*	11	97.8	21.9	58.2	18.0	273
Secondary incomplete	27.6	68.4	23.5	902	(61.0)	(43.6)	(73.8)	(15.2)	42	98.3	28.3	68.6	23.1	944
Secondary complete or higher[7]	41.4	78.3	37.8	262	(80.7)	(58.9)	(92.9)	(24.3)	44	97.2	43.9	80.4	35.9	306
Wealth quintile														
Lowest	13.0	54.0	11.5	513	*	*	*	*	15	97.8	12.9	53.5	11.2	528
Second	17.9	64.3	15.3	450	*	*	*	*	25	96.4	18.2	64.1	14.7	475
Middle	26.3	69.7	23.7	448	*	*	*	*	15	98.4	26.8	69.5	23.3	463
Fourth	32.0	65.1	28.1	444	(56.3)	(50.0)	(67.9)	(16.2)	34	96.9	33.3	65.3	27.2	477
Highest	35.6	70.7	30.7	368	80.7	53.8	86.4	26.6	46	97.9	37.6	72.5	30.3	414
Total	24.2	64.2	21.2	2,223	55.3	41.3	68.5	14.8	135	97.4	25.2	64.5	20.9	2,358

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
[1] Food groups: a. infant formula, milk other than breast milk, cheese, or yogurt or other milk products; b. foods made from grains, roots, and tubers, including porridge and fortified baby food from grains; c. vitamin A-rich fruits and vegetables (and red palm oil); d. other fruits and vegetables; e. eggs; f. meat, poultry, fish, and shellfish (and organ meats); g. legumes and nuts.
[2] At least twice a day for breastfed infants 6-8 months and at least three times a day for breastfed children 9-23 months
[3] Includes two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt
[4] Non-breastfed children ages 6-23 months are considered to be fed with a minimum standard of three Infant and young child feeding practices if they receive other milk or milk products and are fed at least the minimum number of times per day with at least the minimum number of food groups.
[5] Fed solid or semi-solid food at least twice a day for infants 6-8 months, 3+ times for other breastfed children, and 4+ times for non-breastfed children
[6] Primary complete is defined as completing grade 5.
[7] Secondary complete is defined as completing grade 10.

Figure 11.6 shows IYCF practices according to breastfeeding status. In terms of dietary diversity, a higher proportion of nonbreastfed children meet the minimum requirements (41 percent) than breastfed children (24 percent). There are smaller differences between breastfed and nonbreastfed children in meeting the minimum meal frequency criteria.

Figure 11.6 **Percentage fed according to minimum standard of acceptable feeding practices**



BDHS 2011

11.7 PREVALENCE OF ANEMIA IN CHILDREN

Anemia, characterized by a low level of hemoglobin in the blood, is a major health problem in Bangladesh, especially among young children and pregnant women. Anemia may be an underlying cause of maternal mortality, spontaneous abortions, premature births, and low birth weight. The most common cause of anemia is inadequate dietary intake of nutrients necessary for synthesis of hemoglobin, such as iron, folic acid, and vitamin B12. Anemia also results from sickle cell disease, malaria, and parasitic infections (Benoist et al., 2008). A number of interventions have been put in place to address anemia in children in Bangladesh. These include expanded distribution of iron supplements and deworming medication to children age 1-5 every six months.

The measurement of hemoglobin (Hb) is the standardized method of screening for anemia. The 2011 BDHS used HemoCue rapid testing methodology to measure Hb. The HemoCue system consists of a battery-operated photometer and a disposable microcuvette, a small transparent laboratory vessel coated with a dried reagent that serves as the blood collection device. For the test, a drop of capillary blood is taken from a child's fingertip or heel and is drawn into the microcuvette. The blood in the microcuvette is analyzed using the photometer, which displays the hemoglobin concentration. Given that hemoglobin requirements differ substantially depending on altitude, an adjustment to sea-level equivalents was made using CDC formulas before classifying children according to level of anemia (CDC, 1998).

Hemoglobin testing was carried out among children age 6-59 months in every third household in the BDHS sample, i.e., those households that were selected for interviews with ever-married men. Hemoglobin levels were successfully measured for 92 percent of the children eligible for the testing.

Table 11.7 Prevalence of anemia in children

Percentage of children age 6-59 months classified as having anemia, by background characteristics, Bangladesh 2011

Background characteristic	Anemia status by hemoglobin level				
	Any anemia (<11.0 g/dl)	Mild anemia (10.0-10.9 g/dl)	Moderate anemia (7.0-9.9 g/dl)	Severe anemia (<7.0 g/dl)	Number of children
Age in months					
6-8	67.6	27.4	38.3	1.9	136
9-11	78.7	29.1	48.1	1.5	132
12-17	76.4	32.4	42.6	1.4	259
18-23	62.5	35.4	25.8	1.3	238
24-35	46.9	32.0	14.4	0.5	458
36-47	41.8	27.2	14.0	0.6	562
48-59	38.0	25.2	12.7	0.1	568
Sex					
Male	52.8	28.8	23.3	0.7	1,197
Female	49.8	29.5	19.5	0.8	1,155
Mother's interview status					
Interviewed	51.9	29.7	21.5	0.7	2,263
Not interviewed	36.2	16.2	18.3	1.7	90
Residence					
Urban	46.3	26.7	18.5	1.1	498
Rural	52.7	29.9	22.2	0.6	1,855
Division					
Barisal	59.6	32.1	26.3	1.1	136
Chittagong	51.6	27.6	23.4	0.7	509
Dhaka	47.7	27.4	19.5	0.9	738
Khulna	54.2	33.9	19.4	0.9	225
Rajshahi	49.3	29.3	19.6	0.4	293
Rangpur	57.7	33.0	24.7	0.0	268
Sylhet	49.5	27.2	20.7	1.6	185
Mother's education[1]					
No education	51.9	27.3	23.6	1.1	444
Primary incomplete	53.8	33.3	19.5	1.1	464
Primary complete[2]	54.6	28.8	25.5	0.3	284
Secondary incomplete	53.6	31.1	21.8	0.7	809
Secondary complete or higher[3]	40.7	24.0	16.6	0.0	262
Wealth quintile					
Lowest	56.1	31.2	24.2	0.7	591
Second	58.7	30.6	26.9	1.2	487
Middle	51.1	31.4	19.2	0.5	431
Fourth	44.2	26.7	17.4	0.2	444
Highest	43.5	25.0	17.4	1.2	400
Total	51.3	29.2	21.4	0.7	2,353

Note: Table is based on children who spent the night before the interview in the household. Prevalence of anemia, based on hemoglobin levels, is adjusted for altitude using formulas in CDC, 1998. Hemoglobin is measured in grams per deciliter (g/dl).
[1] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Table 11.7 shows the anemia status of children 6-59 months according to selected background characteristics. Half (51 percent) of children age 6-59 months suffer from some level of anemia (Hb <11.0 g/dl), 29 percent of children have mild anemia (Hb 10.0-10.9 g/dl), and 21 percent have moderate anemia (Hb 7.0-9.9 g/dl). Less than 1 percent of children age 6-59 months has severe anemia (Hb <7.0 g/dl).

The prevalence of anemia peaks at 9-17 months (76-79 percent). Female children and children residing in urban areas are less likely to be anemic. The prevalence of any anemia in children varies across divisions, ranging from 48 percent in Dhaka to 60 percent in Barisal. There seems to be no marked linear association between anemia prevalence and mother's education status or wealth status. However, children with the lowest percentage anemic are those whose mothers have completed secondary education (41 percent) and those from the highest wealth quintiles (44 percent).

Moderate anemia is most prevalent among children 9-11 months (48 percent). Across divisions, the level of moderate anemia ranges from 19 percent in Khulna to 26 percent in Barisal.

11.8 MICRONUTRIENT INTAKE AMONG CHILDREN

Micronutrient deficiency is a major contributor to childhood morbidity and mortality. Children can receive micronutrients from foods, fortified food, and direct supplementation. The 2011 BDHS collected information on consumption of foods rich in vitamin A and iron, vitamin A and iron supplementation, and deworming status for children age 6-59 months. Household salt samples were also tested for iodine levels.

Table 11.8 presents data regarding the intake of key micronutrients among children age 6-59 months. The table shows, by background characteristics, the percentage of youngest children age 6-23 months who are living with their mother and who consumed foods rich in vitamin A and iron in the day or night preceding the survey. In addition, the table shows the proportion of all children age 6-59 months who had received vitamin A supplements or deworming medication in the six months preceding the survey and iron supplements in the week before the survey. The table also presents information on children age 6-59 months who live in households with iodized salt.

11.8.1 Consumption of Micronutrient-rich Foods

Table 11.8 shows that 64 percent of the youngest children, age 6-23 months, who were living with their mothers consumed foods rich in vitamin A in the day or night preceding the survey. The proportion of children consuming vitamin A-rich foods increases with age, from 28 percent among children age 6-8 months to 81 percent among children age 18-23 months. Consumption of vitamin A-rich foods is similar among male and female children. Urban children are more likely to consume vitamin A-rich foods (67 percent) compared with children in rural areas (63 percent). The proportion of children consuming vitamin A-rich foods is highest in Khulna Division (75 percent) and lowest in Sylhet Division (51 percent). Mother's educational status and household wealth correlate positively with the consumption of vitamin A-rich foods. Seventy-eight percent of children of mothers with secondary or higher education consumed vitamin A-rich foods compared with 54 percent of children whose mothers are not educated or have incomplete primary education. Similarly, 70 percent of children in the highest wealth quintile consumed vitamin A-rich foods compared with 53 percent of children in the lowest wealth quintile.

Overall, the consumption of vitamin A-rich foods in children age 6-23 months has declined from 70 percent in 2007 to 64 percent in 2011. However, these results should be interpreted with caution because the instruments used to collect the dietary data were not similar in the two surveys. Also, the 2007 and 2011 surveys were fielded at different times of the year, which can influence the consumption of locally-available foods rich in vitamin A.

At the national level, 54 percent of children age 6-23 months consumed foods rich in iron (Table 11.8). Differences in the intake of iron-rich foods by background characteristics are largely similar to the consumption of vitamin A-rich foods. The consumption of iron-rich foods increases with mother's education.

The consumption of iron-rich foods among children age 6-23 months has increased from 48 percent in 2007 (data reanalyzed for this age group) to 54 percent in 2011. As mentioned above, these data should be interpreted with caution because of the differences in data collection instruments and seasonality issues.

Table 11.8 Micronutrient intake among children

Among youngest children age 6-23 months who are living with their mother, the percentages who consumed vitamin A-rich and iron-rich foods in the day or night preceding the survey, and among all children age 6-59 months, the percentages who were given vitamin A supplements in the six months preceding the survey, who were given iron supplements in the past seven days, and who were given deworming medication in the six months preceding the survey, and among all children age 6-59 months who live in households that were tested for iodized salt, the percentage who live in households with iodized salt, by background characteristics, Bangladesh 2011

	Among youngest children age 6-23 months living with the mother:			Among all children age 6-59 months:				Among children age 6-59 months living in households tested for iodized salt:	
Background characteristic	Percentage who consumed foods rich in vitamin A in last 24 hours[1]	Percentage who consumed foods rich in iron in last 24 hours[2]	Number of children	Percentage given vitamin A supplements in last 6 months	Percentage given iron supplements in last 7 days	Percentage given deworming medication in last 6 months[3]	Number of children	Percentage living in households with iodized salt[4]	Number of children
Age in months									
6-8	27.8	20.4	416	23.2	1.6	1.8	423	81.5	415
9-11	60.1	46.6	436	46.2	3.0	6.0	441	79.8	430
12-17	69.8	59.6	820	59.6	2.7	23.8	833	82.9	821
18-23	81.0	71.0	686	61.8	1.6	37.5	714	80.1	700
24-35	na	na	0	61.8	2.6	58.2	1,545	80.6	1,527
36-47	na	na	0	64.5	2.8	66.4	1,866	82.0	1,834
48-59	na	na	0	63.2	1.6	66.2	1,757	83.2	1,734
Sex									
Male	64.0	54.3	1,190	59.0	2.3	50.0	3,846	82.7	3,792
Female	63.6	52.9	1,167	60.0	2.3	50.4	3,732	80.8	3,669
Breastfeeding status									
Breastfeeding	63.5	52.9	2,223	54.9	2.3	36.0	3,705	81.0	3,647
Not breastfeeding	70.6	66.5	130	63.9	2.3	63.8	3,840	82.6	3,782
Mother's age at birth									
15-19	69.8	59.3	498	49.4	2.8	35.4	911	82.6	893
20-29	63.2	53.7	1,454	60.8	2.5	51.0	4,871	81.5	4,793
30-39	59.1	46.8	373	61.6	1.8	55.5	1,576	82.3	1,557
40-49	(55.2)	(42.8)	33	57.9	0.3	55.3	221	79.7	219
Residence									
Urban	67.3	59.9	533	57.5	2.6	50.3	1,683	92.4	1,653
Rural	62.8	51.8	1,825	60.1	2.2	50.2	5,896	78.7	5,808
Division									
Barisal	65.8	51.9	132	71.5	3.3	51.7	427	87.5	420
Chittagong	60.5	50.1	568	66.3	2.4	54.2	1,741	76.2	1,715
Dhaka	60.9	50.0	705	49.3	2.2	51.0	2,353	85.9	2,318
Khulna	75.4	68.1	213	56.4	1.2	40.2	681	93.8	675
Rajshahi	68.8	61.7	319	66.1	2.9	47.3	978	72.6	960
Rangpur	71.0	60.4	248	56.0	2.2	48.3	814	75.6	805
Sylhet	51.3	38.7	173	69.1	2.5	52.9	585	87.2	569
Mother's education									
No education	53.7	41.8	394	52.6	1.5	48.6	1,548	71.6	1,519
Primary incomplete	53.5	44.2	440	55.4	2.0	47.0	1,394	78.3	1,364
Primary complete[5]	59.3	49.0	273	63.8	2.3	51.8	954	81.8	938
Secondary incomplete	69.6	59.2	944	62.4	2.5	50.4	2,760	85.6	2,729
Secondary complete or higher[6]	78.1	69.1	306	63.9	3.6	55.1	923	92.5	911
Wealth quintile									
Lowest	53.2	41.2	528	55.2	1.8	47.3	1,796	69.8	1,766
Second	60.6	50.7	475	56.5	2.2	49.7	1,545	77.7	1,518
Middle	69.6	55.5	463	60.8	2.6	52.6	1,465	81.9	1,436
Fourth	68.3	62.3	477	64.1	2.1	51.3	1,443	88.7	1,424
Highest	69.6	60.7	414	62.3	3.1	50.7	1,330	94.9	1,318
Total	63.8	53.6	2,358	59.5	2.3	50.2	7,579	81.8	7,462

Note: Information on vitamin A is based on both mother's recall and the immunization card (where available). Information on iron supplements and deworming medication is based on the mother's recall. Total includes children with missing information on breastfeeding status.

na = Not applicable

[1] Includes meat (and organ meat), fish, poultry, eggs, pumpkin, red or yellow yams or squash, carrots, red sweet potatoes, dark green leafy vegetables, mango, papaya, and other locally grown fruits and vegetables that are rich in vitamin A

[2] Includes meat (including organ meat), fish, poultry, and eggs

[3] Deworming for intestinal parasites is commonly done for helminthes and for schistosomiasis.

[4] Excludes children in households in which salt was not tested.

[5] Primary complete is defined as completing grade 5.

[6] Secondary complete is defined as completing grade 10.

11.8.2 Micronutrient Supplementation

Sixty percent of children age 6-59 months received a vitamin A supplement in the six months preceding the survey. Children age 36-47 months are the most likely to have received vitamin A supplements (65 percent). Across divisions, the proportion of children who received vitamin A supplements ranges from 49 percent in Dhaka to 72 percent in Barisal. In general, the likelihood of a child being given vitamin A supplements increases with mother's education and with wealth quintile.

In 2007, the coverage of vitamin A supplementation among children age 6-59 months was 84 percent (the 2007 BDHS data were retabulated for this age group). The substantial decline in coverage of vitamin A supplementation raises concern because the HPNSDP 2011-2016 target of 90 percent by 2016 had seemed very achievable based on the 2007 BDHS results.

In the 2011 BDHS, mothers were asked if their children under age 5 had taken an iron tablet in the seven days prior to the survey. Table 11.8 shows that only two percent of children age 6-59 months received iron supplements in this period. The iron supplementation varies little by the child's background characteristics.

Fortified salt that contains 15 parts of iodine per million of salt (15 ppm) is considered adequate for the prevention of iodine deficiency (ICCIDD, UNICEF, and WHO, 2001). To assess the use of iodized salt in Bangladesh, the 2011 BDHS included salt testing at the household level using the MBI rapid test kit. The MBI rapid test kit provides a good qualitative indication of the presence or absence of iodine. Interviewers asked households to provide a teaspoon of salt used for cooking. A recheck solution was used when the salt showed no change in color. Table 11.8 presents information about all children age 6-59 months who live in households that use iodized salt.

At the national level, 82 percent of children live in households that use iodized salt: 92 percent in urban and 79 percent in rural areas. The percentage of children living in households that use iodized salt ranges from 73 percent in Rajshahi division to 94 percent in Khulna division. Mother's education and household wealth are positively associated with the likelihood of children living in households that use iodized salt.

11.8.3 Deworming

Certain types of intestinal parasites can cause anemia. Periodic deworming for organisms such as helminthes can improve children's micronutrient status. The 2011 BDHS asked mothers if their children under age 5 had taken deworming medication in the six months prior to the survey. At the national level, 50 percent of children age 6-59 months received deworming medication in this period (Table 11.8). The percentage of children who received deworming medication increases with age, ranging from 2 percent of children age 6-8 months to 66 percent of children age 36-59 months. Breastfed children are less likely than nonbreastfed children to receive deworming medication (36 percent and 64 percent, respectively). There is no difference between urban and rural areas, but the coverage of deworming medication varies across divisions, ranging from 40 percent in Khulna to 54 percent in Chittagong. Mother's education and household wealth have positive associations with children's likelihood of receiving deworming medication.

11.9 HOUSEHOLD IODIZED SALT CONSUMPTION

Salt used in the household is the most common vehicle for iodine fortification to prevent the public health concerns of iodine deficiency disorders. In Bangladesh, the compound used for fortification of salt is potassium iodate (KIO_3). According to the World Health Organization, a country's salt iodization program is considered to be on a good track to eliminate iodine deficiency when 90 percent of households use iodized salt.

Table 11.9 Presence of iodized salt in household

Among all households, the percentage with salt tested for iodine content and the percentage with no salt in the household; and among households with salt tested, the percentage, with iodized salt, according to background characteristics, Bangladesh 2011

	Among all households, the percentage:			Among households with tested salt:	
Background characteristic	With salt tested	With no salt in the household	Number of households	Percentage with iodized salt	Number of households
Residence					
Urban	98.8	1.2	4,305	92.9	4,254
Rural	98.3	1.7	12,836	78.7	12,620
Division					
Barisal	98.3	1.7	1,014	89.1	997
Chittagong	98.6	1.4	2,939	77.4	2,899
Dhaka	98.4	1.6	5,599	85.9	5,507
Khulna	99.1	0.9	2,024	92.7	2,005
Rajshahi	98.1	1.9	2,572	73.7	2,524
Rangpur	98.4	1.6	2,079	73.5	2,045
Sylhet	98.0	2.0	914	89.8	896
Wealth quintile					
Lowest	98.0	2.0	3,756	70.9	3,681
Second	98.4	1.6	3,481	76.0	3,424
Middle	97.9	2.1	3,325	82.6	3,256
Fourth	98.5	1.5	3,283	87.8	3,234
Highest	99.5	0.5	3,296	96.1	3,279
Total	98.4	1.6	17,141	82.3	16,874

Table 11.9 shows the proportion of households with iodized salt according to background characteristics. Overall, salt was tested in 98 percent of households and 82 percent of the tested households were found to use salt with iodine. This result is similar to the results of a national survey in 2004-05 on iodine deficiency disorders and universal salt iodization, which reported 81 percent of households as using iodized salt (INFS et al., 2007).

Urban households are more likely to consume iodized salt compared with their rural counterparts (93 percent and 79 percent, respectively). Khulna has the highest proportion of households consuming iodized salt (93 percent), while Rangpur and Rajshahi have the lowest (74 percent each). The percentage of households with iodized salt increases with wealth.

11.10 ADULT NUTRITIONAL STATUS

11.10.1 Nutritional Status of Women

Low pre-pregnancy body mass index (BMI) and short stature of women are known risk factors for poor maternal and birth outcomes. In developing countries, maternal underweight is a leading risk factor for preventable death and diseases. The prevalence of overweight women and men is also a growing concern in developing countries. Overweight individuals are predisposed to a wide range of health problems such as diabetes and heart disease as well as poor birth outcomes for women. In many countries, though, chronic energy deficiency, characterized by a BMI of less than 18.5 among adults remains the predominant problem, leading to low work productivity and reduced resistance to illness.

The 2011 BDHS measured the height and weight of ever-married women age 12-49. Because there were only 90 ever-married women age 12-14 (less than one percent), these women were removed from the data set and the weights were recalculated for the 15-49 age group. Therefore, the subsequent nutritional status table includes data from ever-married women age 15-49. The data are used to derive two measures of nutritional status: height and body mass index (BMI). Given the relationship between maternal stature and pelvic size, women's height can be useful in predicting the risk of difficulties in delivery. The risk of giving birth to low-weight babies is also higher among women of small stature. The cut-off point at which mothers are considered at risk because of short stature normally falls between 140 and 150

centimeters. The BMI is used to measure thinness or obesity. It is defined as weight in kilograms divided by height in meters squared (kg/m2). A BMI of less than 18.5 is used to define thinness or acute undernutrition. A BMI of 25 or above usually indicates overweight, and a BMI of 30 or above indicates obesity.

Table 11.10.1 Nutritional status of ever-married women

Among ever-married women age 15-49, the percentage with height under 145 cm, mean Body Mass Index (BMI), and the percentage with specific BMI levels, by background characteristics, Bangladesh 2011

	Height		Body Mass Index[1]								
Background characteristic	Percent-age below 145 cm	Number of women	Mean Body Mass Index (BMI)	18.5-24.9 (Total normal)	<18.5 (Total thin)	17.0-18.4 (Mildly thin)	<17 (Moder-ately and severely thin)	≥25.0 (Total over-weight or obese)	25.0-29.9 (Over-weight)	≥30.0 (Obese)	Number of women
Age											
15-19	13.0	108	20.9	63.7	25.4	17.0	8.3	10.9	9.2	1.8	102
20-29	13.7	3,760	21.4	60.6	23.4	14.1	9.4	16.0	13.0	3.0	3,477
30-39	13.2	5,659	21.4	59.1	24.2	14.8	9.4	16.7	13.8	2.9	5,236
40-49	13.4	5,280	21.4	58.3	24.9	14.2	10.7	16.8	13.9	2.8	4,878
Residence											
Urban	12.7	4,482	23.0	57.6	13.5	8.7	4.8	28.9	22.5	6.4	4,194
Rural	13.6	12,830	20.8	59.9	28.0	16.4	11.6	12.1	10.5	1.7	11,831
Division											
Barisal	13.4	945	20.9	60.4	27.0	15.9	11.1	12.6	10.8	1.8	873
Chittagong	11.5	3,134	21.6	59.6	22.4	14.3	8.1	17.9	14.7	3.2	2,868
Dhaka	14.9	5,585	21.6	58.2	23.6	13.3	10.3	18.3	14.6	3.6	5,166
Khulna	9.8	2,109	21.9	61.2	19.0	12.1	6.9	19.8	16.6	3.2	1,989
Rajshahi	13.1	2,576	21.3	59.7	24.8	14.4	10.4	15.5	13.1	2.5	2,408
Rangpur	15.5	2,019	20.7	62.4	27.1	16.5	10.6	10.5	9.1	1.4	1,884
Sylhet	14.1	944	20.6	51.6	35.2	19.7	15.5	13.1	10.9	2.2	837
Educational attainment											
No education	16.8	4,808	20.7	59.1	29.8	17.2	12.5	11.1	9.3	1.8	4,611
Primary incomplete	16.0	3,194	20.9	60.3	26.9	15.6	11.3	12.8	11.0	1.7	2,995
Primary complete[2]	15.5	2,012	21.2	58.8	26.1	14.8	11.3	15.1	12.4	2.7	1,823
Secondary incomplete	10.2	5,267	21.6	59.9	22.1	13.5	8.6	18.0	14.6	3.4	4,729
Secondary complete or higher[3]	7.0	2,031	23.5	57.2	9.5	6.8	2.6	33.3	27.0	6.4	1,867
Wealth quintile											
Lowest	17.2	3,185	19.6	54.9	40.1	22.0	18.1	5.0	4.6	0.3	2,929
Second	15.6	3,407	20.2	63.2	30.2	17.9	12.3	6.7	6.1	0.6	3,122
Middle	13.7	3,486	20.9	63.1	25.6	15.4	10.2	11.2	10.0	1.3	3,205
Fourth	10.8	3,572	21.9	60.2	19.5	12.3	7.2	20.3	17.4	2.9	3,335
Highest	10.0	3,661	23.9	55.1	8.4	5.5	2.9	36.5	27.8	8.7	3,434
Food security status											
Food secure	11.6	11,196	21.9	59.6	20.3	12.4	7.9	20.1	16.3	3.8	10,315
Mild food insecurity	15.9	4,338	20.7	59.7	29.3	17.0	12.3	11.0	9.5	1.5	4,012
Moderate food insecurity	17.3	1,463	19.9	56.7	35.9	19.2	16.6	7.4	7.0	0.4	1,394
Severe food insecurity	20.5	280	20.0	53.5	38.9	24.1	14.9	7.6	7.5	0.1	269
Total	13.3	17,312	21.4	59.3	24.2	14.3	9.8	16.5	13.6	2.9	16,024

Note: The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2).
[1] Excludes pregnant women and women with a birth in the preceding 2 months
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

In the 2011 BDHS, height and weight measurements were obtained for 17,640 ever-married women age 15-49 who were present in the sample households at the time of the survey[2]. Table 11.10.1 presents the height analysis based on 17,312 ever-married women age 15-49 years, while the analysis of BMI is based on 16,024 women. The table excludes women for whom there was no information on height and/or weight and women for whom a BMI could not be estimated because they were pregnant or had given birth in the preceding two months.

[2] In the 2011 BDHS height and weight information was also collected for never-married women age 35 and older. However, to keep the data comparable with the previous surveys, never-married women age 35 and older are not included in Table 11.10.1. These women are included in Chapter 15 on Adult Health Issues.

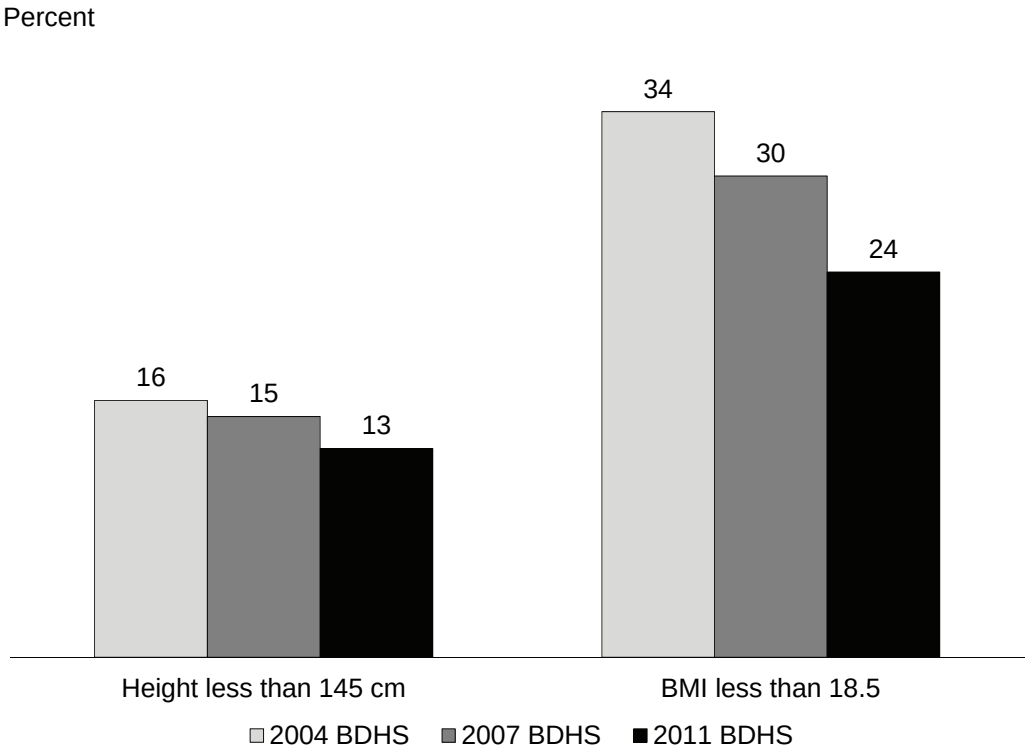
Overall, 13 percent of ever-married women fall below the cut-off of 145 centimeters in height. The proportion below the cut-off for women's height does not vary much by age group. Urban women and women from Khulna division tend to be taller than other women. Woman's educational status and household wealth are positively associated with height. For example, 17 percent of uneducated women and women in the lowest wealth quintile are below 145 centimeters, compared with 7 percent of women who have completed secondary education and 10 percent of women in the highest wealth quintile. A woman's height and food security[3] status show a positive linear correlation. Twenty-one percent of ever-married women living in an environment of severe food insecurity are less than 145 centimeters tall, which is 7 percentage points higher than the national average of 13 percent.

The mean BMI for ever-married women age 15-49 years is 21.4 (Table 11.10.1), which falls in the normal BMI classification. About six in ten ever-married women (59 percent) have a normal BMI, 24 percent are undernourished or thin (BMI less than 18.5), and 17 percent are overweight or obese (BMI 25 or higher). Variations are apparent by background characteristics. Ever-married women age 15-19 and age 40-49 are slightly more likely to be thin or undernourished than women in other age cohorts (25 percent in both age groups). The proportion of overweight women increases with age. Rural women are two times more likely to be undernourished than urban women (28 percent and 14 percent, respectively), whereas urban women are more than twice as likely to be overweight or obese when compared with rural women (29 percent and 12 percent, respectively). Among the divisions, the proportion of undernourished women ranges from 19 percent in Khulna to 35 percent in Sylhet. As educational attainment and household wealth rise, the proportion of women who are undernourished declines sharply, while the proportion of overweight or obese women increases. Bangladeshi women from the highest wealth quintile are seven times more likely to be overweight or obese compared with women from the lowest wealth quintile. Ever-married women from households with food insecurity are much more likely to be thin than those from households in which food is more secure.

Anthropometric measurements of ever-married women age 15-49 were collected in the 2004, 2007, and 2011 BDHS surveys. Comparisons of data from the three surveys indicate a slight improvement in the proportion of women whose height is less than 145 cm, from 16 percent in 2004 to 13 percent in 2011. At the same time, the mean BMI has increased from 20.2 in 2004 to 21.4 in 2011 (NIPORT et al., 2009). Consequently, the proportion of women with a BMI below 18.5 has decreased from 34 percent in 2004 to 24 percent in 2011 (Figure 11.7). Moreover, the proportion of women who are overweight or obese has almost doubled, increasing from 9 percent in 2004 to 17 percent in 2011 (data not shown).

[3] Refer to Section 11.4 for the detailed information about the food security indicators.

Figure 11.7 **Trends in nutritional status of ever-married women**



11.10.2 Nutritional Status of Men

For the first time in a BDHS, height and weight measurements were collected from men in a third of the BDHS sample households. The anthropometric data were collected for all men age 15 and older except for never-married men age 15-34. Table 11.10.2 presents the nutritional status of ever-married men age 15-34, and Table 11.10.3 presents the same data for men age 35 and older.

Ever-married men age 15-34

Although height and weight measurements were obtained for 1,452 ever-married men age 15-34, Table 11.10.2 presents data for only 1,393 men (96 percent) for whom complete and credible data were available.

The mean BMI for ever-married men age 15-34 is 20.5 (Table 11.10.2). About seven in ten men (67 percent) have a normal BMI, 27 percent are undernourished or thin (BMI less than 18.5), and 6 percent are overweight or obese (BMI 25 or higher). There are large variations in BMI by background characteristics. Younger ever-married men age 20-29 are more likely to be thin or undernourished than men age 30-34 (29 percent compared with 22 percent). Rural men are more likely to be undernourished than urban men (29 percent and 20 percent, respectively), while urban men are almost three times more likely to be overweight or obese than rural men (11 percent and 4 percent, respectively). Among the divisions, Barisal and Sylhet have the highest proportion of men who are undernourished (35 percent), while Rangpur has the lowest proportion (22 percent). There is a distinct contrast in BMI by educational attainment and household wealth; the proportion of undernourished men declines sharply whereas the proportion of overweight or obese men increases dramatically as education and wealth increase. For example, although less than 1 percent of men in the lowest wealth quintile are overweight or obese, the corresponding proportion for men in the highest quintile is 17 percent.

Table 11.10.2 Nutritional status of ever-married men age 15-34

Among ever-married men age 15-34, mean Body Mass Index (BMI), and the percentage with specific BMI levels, by background characteristics, Bangladesh 2011

Background characteristic	Body Mass Index								
	Mean Body Mass Index (BMI)	18.5-24.9 (Total normal)	<18.5 (Total thin)	17.0-18.4 (Mildly thin)	<17 (Moder-ately and severely thin)	≥25.0 (Total over-weight or obese)	25.0-29.9 (Over-weight)	≥30.0 (Obese)	Number of men
Age									
15-19	*	*	*	*	*	*	*	*	21
20-29	20.3	65.2	29.4	21.5	8.0	5.3	4.6	0.7	798
30-34	20.8	70.1	22.3	15.5	6.8	7.6	6.9	0.7	574
Residence									
Urban	21.2	68.8	20.2	14.0	6.2	11.0	10.0	1.0	401
Rural	20.2	66.4	29.3	21.1	8.2	4.3	3.7	0.6	991
Division									
Barisal	19.7	60.9	35.3	22.3	13.0	3.8	3.8	0.0	65
Chittagong	20.7	65.5	24.5	17.7	6.8	10.0	8.5	1.5	225
Dhaka	20.5	68.5	26.7	17.8	8.8	4.8	4.3	0.4	461
Khulna	20.7	69.0	24.6	20.9	3.7	6.3	6.3	0.0	174
Rajshahi	20.3	63.0	30.2	20.4	9.7	6.9	5.7	1.1	212
Rangpur	20.8	72.4	21.7	17.8	3.9	5.9	4.9	1.0	195
Sylhet	19.8	60.0	35.2	24.0	11.2	4.8	4.8	0.0	61
Educational attainment									
No education	19.5	59.1	38.7	26.2	12.5	2.2	1.7	0.5	284
Primary incomplete	20.0	65.1	31.0	21.3	9.7	3.9	3.1	0.9	364
Primary complete[1]	19.9	68.2	27.7	14.9	12.8	4.1	4.1	0.0	165
Secondary incomplete	20.8	72.1	21.9	18.7	3.2	5.9	5.2	0.7	366
Secondary complete or higher[2]	22.4	71.6	10.6	9.5	1.1	17.8	16.6	1.2	214
Wealth quintile									
Lowest	19.5	64.6	34.6	24.8	9.8	0.7	0.4	0.4	263
Second	19.7	64.2	33.8	26.0	7.8	2.0	1.3	0.8	294
Middle	20.2	68.2	28.3	17.2	11.1	3.5	3.5	0.0	269
Fourth	20.8	69.0	22.7	15.7	7.0	8.3	7.5	0.8	302
Highest	22.3	69.5	13.7	11.4	2.3	16.8	15.3	1.5	265
Total 15-34	20.5	67.1	26.7	19.1	7.6	6.2	5.5	0.7	1,392

Note: The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2).
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Men 35 and older

Table 11.10.3 presents data on the nutritional status of 3,781 men age 35 and older. The mean BMI of men 35 and older is 20.5. Overall, 62 percent of men age 35 and older have a normal BMI, 29 percent are thin, and 9 percent are overweight or obese. Men age 70 and older are two times more likely to be thin than men ages 35–39 and 40-44. As expected, men from rural areas are more likely to be undernourished (32 percent) compared with men from urban areas (18 percent). Barisal and Sylhet have the highest proportion of undernourished men (33 percent each) compared with men in other divisions. Differentials in BMI by education and wealth quintile among men age 35 and older are similar to those among ever-married men age 15-34.

Table 11.10.3 Nutritional status of men age 35 and older

Among all men age 35 and older, mean Body Mass Index (BMI), and the percentage with specific BMI levels, by background characteristics, Bangladesh 2011

Background characteristic	Body Mass Index								
	Mean Body Mass Index (BMI)	18.5-24.9 (Total normal)	<18.5 (Total thin)	17.0-18.4 (Mildly thin)	<17 (Moder-ately and severely thin)	≥25.0 (Total over-weight or obese)	25.0-29.9 (Over-weight)	≥30.0 (Obese)	Number of men
Age									
35-39	21.2	67.4	20.1	14.6	5.5	12.5	12.0	0.5	655
40-44	20.9	68.5	21.3	14.7	6.6	10.2	9.9	0.3	617
45-49	20.8	63.1	25.2	17.1	8.1	11.7	10.7	1.0	581
50-54	20.2	57.7	33.9	19.1	14.8	8.4	7.4	1.0	605
55-59	20.9	65.3	24.2	13.8	10.4	10.5	9.7	0.8	294
60-69	20.0	60.5	33.1	18.2	14.9	6.4	5.7	0.8	550
70+	19.1	49.7	47.1	20.6	26.5	3.2	2.7	0.5	478
Residence									
Urban	21.9	62.9	17.7	11.0	6.7	19.3	17.7	1.7	900
Rural	20.0	61.7	32.4	18.8	13.6	6.0	5.6	0.4	2,881
Division									
Barisal	20.1	62.2	32.7	23.5	9.2	5.1	4.5	0.5	221
Chittagong	20.6	59.1	29.8	16.9	12.9	11.0	10.4	0.7	589
Dhaka	20.5	63.8	27.6	15.0	12.6	8.6	7.9	0.7	1,222
Khulna	20.8	64.6	24.7	14.0	10.7	10.6	9.9	0.7	509
Rajshahi	20.5	60.4	29.3	18.4	10.9	10.3	9.4	0.9	544
Rangpur	20.2	61.1	31.8	20.8	11.0	7.1	6.7	0.5	480
Sylhet	20.3	58.4	32.5	15.8	16.8	9.1	8.0	1.0	216
Education									
No education	19.4	58.5	39.0	22.2	16.7	2.5	2.4	0.2	1,369
Primary incomplete	20.0	62.6	31.5	17.7	13.8	6.0	5.6	0.4	946
Primary complete[1]	20.8	62.6	26.1	16.3	9.8	11.4	10.9	0.4	446
Secondary incomplete	21.6	64.6	19.2	12.6	6.6	16.2	14.8	1.4	569
Secondary complete or higher[2]	23.0	67.2	8.0	5.5	2.5	24.7	22.4	2.3	451
Wealth quintile									
Lowest	18.9	55.3	43.9	22.9	21.0	0.9	0.9	0.0	746
Second	19.5	60.7	36.7	22.6	14.2	2.6	2.6	0.0	741
Middle	20.0	62.6	31.6	17.8	13.8	5.8	5.6	0.1	742
Fourth	21.2	66.6	21.9	13.9	8.0	11.6	10.4	1.2	768
Highest	22.7	64.4	11.6	8.1	3.4	24.0	21.9	2.1	785
Total	20.5	62.0	28.9	16.9	12.0	9.1	8.4	0.7	3,781

Note: The Body Mass Index (BMI) is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2).
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

11.11 PREVALENCE OF ANEMIA IN WOMEN

Anemia is a key health status indicator for maternal nutrition. It is estimated that one-fifth of perinatal mortality and one–tenth of maternal mortality are attributable to iron deficiency anemia. Anemia also results in an increased risk of premature delivery and low birth weight. Iron deficiency, a major cause of anemia, is one of the top 10 risk factors in developing countries for "lost years of healthy life" (Benoist et al., 2008). Information on the prevalence of anemia can be useful for the development of health intervention programs designed to prevent and control anemia, such as iron supplementation and fortification programs. Iron supplementation of women during pregnancy protects mother and infant.

In Bangladesh, a number of interventions have been put in place to address anemia in women. These include supplementation of iron with folic acid tablets for pregnant women from the second trimester to 45 days following delivery and deworming of pregnant women after completion of the first trimester.

Anemia among ever-married Bangladeshi women age 15-49 was measured in a third of the eligible households (households selected for male interviews) using a procedure similar to that used for children, except that capillary blood was collected exclusively from a finger prick. Anemia measurements were obtained from 5,902 ever-married women age 15-49, of which 95 percent of the measurements were complete and credible. Table 11.11 shows the anemia prevalence based on hemoglobin levels (adjusted for pregnancy status and altitude), by selected background characteristics. The adjustment of hemoglobin levels by altitude and smoking status used the formulas recommended by the CDC (CDC, 1998).

Table 11.11 Prevalence of anemia in women

Percentage of ever-married women age 15-49 with anemia, by background characteristics, Bangladesh 2011

Background characteristic	Anemia status by hemoglobin level: Any (NP <12.0 g/dl / P <11.0 g/dl)	Mild (NP 10.0-11.9 g/dl / P 10.0-10.9 g/dl)	Moderate (NP 7.0-9.9 g/dl / P 7.0-9.9 g/dl)	Severe (NP <7.0 g/dl / P <7.0 g/dl)	Number of women
Age					
15-19	48.6	39.2	9.4	0.0	39
20-29	40.2	32.4	7.8	0.0	1,223
30-39	44.3	37.1	7.0	0.2	1,847
40-49	39.4	34.2	5.2	0.1	1,754
Number of children ever born					
0	39.6	32.2	7.4	0.1	548
1	38.8	33.2	5.6	0.0	1,143
2-3	41.4	35.5	5.9	0.1	2,433
4-5	45.4	38.6	6.7	0.2	1,087
6+	52.8	41.0	10.5	1.3	465
Maternity status					
Pregnant	49.6	27.2	22.4	0.0	347
Breastfeeding	47.8	41.6	6.1	0.0	1,356
Neither	40.0	34.5	5.2	0.2	3,973
Using IUD					
Yes	58.7	49.1	9.6	0.0	44
No	42.3	35.7	6.5	0.2	5,632
Residence					
Urban	36.1	30.4	5.6	0.1	1,468
Rural	44.7	37.6	6.8	0.2	4,207
Division					
Barisal	45.6	37.6	8.0	0.0	306
Chittagong	38.4	31.5	6.7	0.2	991
Dhaka	43.1	36.9	5.9	0.3	1,850
Khulna	37.4	33.1	4.3	0.0	708
Rajshahi	44.1	36.8	7.2	0.0	847
Rangpur	49.5	41.7	7.8	0.0	664
Sylhet	39.7	30.9	8.5	0.4	310
Educational attainment					
No education	47.1	38.0	8.7	0.4	1,549
Primary incomplete	44.0	37.6	6.2	0.2	1,076
Primary complete[1]	45.7	37.7	7.8	0.2	665
Secondary incomplete	40.1	35.2	4.9	0.0	1,746
Secondary complete or higher[2]	31.4	26.9	4.6	0.0	641
Wealth quintile					
Lowest	49.8	42.0	7.3	0.5	1,078
Second	48.1	39.5	8.5	0.1	1,103
Middle	42.6	36.3	6.3	0.0	1,100
Fourth	40.6	35.1	5.3	0.2	1,196
Highest	32.2	26.9	5.3	0.1	1,199
Total	42.4	35.8	6.5	0.2	5,676

Note: Prevalence is adjusted for altitude and for smoking status, if known, using formulas in CDC, 1998.
NP = Not pregnant
P = Pregnant
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Table 11.11 shows that 42 percent of women age 15-49 are anemic; 36 percent are mildly anemic, 7 percent are moderately anemic and less than 1 percent are severely anemic. There is no clear pattern for anemia levels by age. Anemia prevalence increases as the number of children ever born increases. More than half of the women who have had six or more children are anemic (53 percent) compared with 39 percent of women who have had only one child. The prevalence of anemia is associated with maternity status; pregnant (50 percent) and lactating (48 percent) women are more likely to be anemic than women who are neither pregnant nor lactating (40 percent). This could be due to the high demand for iron and folic acid during pregnancy. Women using an intra-uterine device (IUD) are more likely to be anemic than non-IUD users.

Anemia is more prevalent in rural areas (45 percent) than in urban areas (36 percent). Anemia levels are highest in Rangpur (50 percent). In other divisions, anemia prevalence ranges from 37 percent in Khulna to 46 percent in Barisal. Anemia is least prevalent among women with the highest education and women in the highest wealth quintile.

11.12 MICRONUTRIENT INTAKE AMONG MOTHERS

Adequate micronutrient intake by women has important benefits for both women and their children. Breastfeeding children benefit from micronutrient supplementation that mothers receive, especially vitamin A. Finally, iodine deficiency is related to a number of adverse pregnancy outcomes including abortion and stillbirth, as well as fetal brain damage and congenital malformation. In Bangladesh, micronutrient deficiency among pregnant and lactating mothers is a common public health problem.

Vitamin A deficiency (VAD) can be prevented through the provision of a high dose (200,000 IU) vitamin A capsule in the first six to eight weeks after delivery (when women are considered not at risk of being pregnant). Due to possible adverse effects (birth defects) resulting from high doses of vitamin A, pregnant women should not be given a high dose vitamin A supplement. The 2011 BDHS collected data on use of vitamin A supplements among women age 15-49 years with a child born in the past five years.

Table 11.12 presents information on the percentage of women who received a dose of vitamin A during the first two months after the birth of their most recent child. Overall, 27 percent of women age 15-49 with a child born in the past five years received a postpartum vitamin A dose. This proportion varies by urban-rural residence, division, educational attainment, and household wealth. There is no discernible pattern with respect to the age of the women. Women in urban areas (30 percent) are more likely to receive vitamin A supplements than those in rural areas (26 percent). The percentage of women who received a postpartum vitamin A dose is highest in Rangpur (36 percent) and lowest in Dhaka (24 percent). Postpartum vitamin A supplementation increases steadily with women's educational level, ranging from 18 percent of women with no education to 41 percent of women who have completed secondary or higher education. Vitamin A supplementation is also associated with household wealth, increasing from 19 percent among mothers in the lowest wealth quintile to 35 percent among mothers in the highest quintile.

Postpartum vitamin A coverage has increased by 7 percentage points between 2007 and 2011 (20 percent in 2007 to 27 percent in 2011). Postpartum Vitamin A coverage has increased more in rural areas (18 percent in 2007 to 26 percent in 2011) than in urban areas (24 percent in 2007 to 30 percent in 2011).

Table 11.12 also shows that 82 percent of ever-married women age 15-49 with a child born in the past five years lives in a household with iodized salt. Urban women are more likely to live in households that use iodized salt than their rural counterparts (93 percent and 79 percent, respectively). Khulna has the highest proportion of women using iodized salt (94 percent, while Rajshahi has the lowest percentage (73 percent). The proportion of women living in households with iodized salt is positively related to educational level and household wealth status.

Table 11.12 Micronutrient intake among mothers

Among women age 15-49 with a child born in the past five years, the percentage who received a vitamin A dose in the first two months after the birth of the last child, and among women age 15-49 with a child born in the past five years who live in households that were tested for iodized salt, the percentage who live in households with iodized salt, by background characteristics, Bangladesh 2011

Background characteristic	Percentage who received vitamin A dose postpartum[1]	Number of women	Among women with a child born in the last five years, who live in households that were tested for iodized salt	
			Percentage living in households with iodized salt[2]	Number of women
Age				
15-19	(28.5)	44	(64.6)	43
20-29	26.2	1,626	81.7	1,599
30-39	27.7	2,377	82.9	2,347
40-49	27.5	2,235	82.2	2,194
Residence				
Urban	29.6	1,718	92.7	1,692
Rural	26.1	5,632	79.1	5,548
Division				
Barisal	24.7	429	88.6	421
Chittagong	26.8	1,589	77.0	1,565
Dhaka	24.0	2,312	86.6	2,280
Khulna	26.2	712	94.1	706
Rajshahi	28.6	998	72.6	981
Rangpur	35.9	803	74.6	794
Sylhet	25.8	505	88.6	493
Educational attainment				
No education	18.3	1,414	72.3	1,393
Primary incomplete	21.8	1,316	78.5	1,289
Primary complete[3]	22.0	901	82.2	886
Secondary incomplete	30.6	2,779	85.6	2,743
Secondary complete or higher[4]	41.0	940	93.0	930
Wealth quintile				
Lowest	19.2	1,614	70.9	1,587
Second	23.4	1,472	76.0	1,446
Middle	27.2	1,452	82.7	1,425
Fourth	30.9	1,450	89.0	1,431
Highest	35.3	1,362	95.0	1,351
Total	26.9	7,350	82.3	7,241

[1] In the first two months after delivery
[2] Excludes women in households where salt was not tested
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

11.13 HOUSEHOLD FOOD SECURITY

Food security refers to the availability of food and a person's access to it. It is a complex sustainable development issue, which is closely related to undernutrition. A household is considered food-secure when its occupants do not live in hunger or fear or starvation (Hunt, 2009). In 1996, the World Food Summit defined food security as "the situation when all people at all times have access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life" (FAO, 2002). Common to most definitions of food security are the elements of availability, access (physical and economic), utilization, and stability or sustainability. Food insecurity is rooted in poverty and leads to poor health, low productivity, low income, food shortage, and hunger.

A food insecurity module was included in the BDHS 2011. The questions on food insecurity were developed using the 2011 Nepal DHS food insecurity module and Household Food Insecurity Access Scale (HFIAS) indicators developed by USAID's Food and Nutrition Technical Assistance (FANTA) project. The Technical Working Group of the 2011 BDHS systematically reviewed the standard food insecurity questions and modified them to be specific to Bangladesh. The reference period for the food insecurity

assessment was kept as 12 months preceding the interview to allow for the seasonal variation. Although the questions on food security were included in the Woman's Questionnaire, they are expected to reflect the status of food security for the woman herself and her family.

Table 11.13 presents the percent distribution of ever-married women by the frequency of having three square ("full-stomach") meals a day in the previous 12 months. Eight in ten women say that they mostly have had three full-stomach meals in the last 12 months, 15 percent sometimes have had full-stomach meals, and about 4 percent rarely or never had a full-stomach meal. Ever-married women residing in urban areas (88 percent) are more likely to have mostly had three square meals a day, compared with rural women (79 percent). Women in Rangpur (76 percent) are the least likely to have three square meals most of the time. As one would expect, wealth is a strong predictor of being able to have full-stomach meals among ever-married Bangladeshi women.

Table 11.13 Availability of meals every day

Percent distribution of ever-married women age 15-49 by frequency of having three square meals a day in the past 12 months, according to selected background characteristics, Bangladesh 2011

Background characteristic	Mostly	Sometimes	Rarely (1-6 times this year)	Never	Total	Number of women
Residence						
Urban	87.8	10.0	1.8	0.4	100.0	4,619
Rural	79.0	16.0	4.2	0.8	100.0	13,130
Division						
Barisal	79.5	14.8	4.9	0.8	100.0	1,002
Chittagong	81.8	14.4	3.5	0.3	100.0	3,222
Dhaka	85.6	11.0	2.6	0.8	100.0	5,736
Khulna	77.8	17.4	4.3	0.5	100.0	2,139
Rajshahi	80.6	15.1	3.6	0.6	100.0	2,646
Rangpur	75.6	18.7	5.1	0.7	100.0	2,039
Sylhet	76.8	17.8	3.9	1.5	100.0	967
Wealth quintile						
Lowest	55.7	32.9	9.4	2.0	100.0	3,250
Second	73.3	20.7	5.3	0.7	100.0	3,487
Middle	85.9	11.1	2.7	0.3	100.0	3,567
Fourth	91.6	7.2	0.9	0.3	100.0	3,664
Highest	96.2	3.1	0.5	0.2	100.0	3,781
Total	81.3	14.5	3.6	0.7	100.0	17,749

Note: A square meal is defined as a "full stomach" meal.

The percent distribution of ever-married women by frequency of having to skip entire meals because there was not enough food in the past 12 months is presented in Table 11.14. The majority of women (82 percent) say that they never had to skip meals in the last 12 months, 12 percent rarely had to skip meals, 4 percent had to skip meals 7 to 12 times in the last year, and 2 percent skipped meals a few times every month in the past 12 months. Urban women, those living in Dhaka division, and women in the highest wealth quintile are the least likely to skip entire meals.

Table 11.14 Frequency of skipping meals

Percent distribution of ever-married women age 15-49 by frequency of having to skip entire meals because there was not enough food in the past 12 months, according to selected background characteristics, Bangladesh 2011

Background characteristic	Never	Rarely (1-6 times this year)	Sometimes (7-12 times this year)	Often (few times each month)	Missing	Total	Number of women
Residence							
Urban	88.0	8.9	2.0	1.0	0.1	100.0	4,619
Rural	79.7	13.5	4.8	1.9	0.1	100.0	13,130
Division							
Barisal	79.5	12.2	5.9	2.3	0.1	100.0	1,002
Chittagong	81.0	12.4	5.0	1.6	0.0	100.0	3,222
Dhaka	86.5	9.3	2.7	1.5	0.1	100.0	5,736
Khulna	80.8	14.1	3.8	1.2	0.0	100.0	2,139
Rajshahi	81.6	11.9	4.8	1.6	0.1	100.0	2,646
Rangpur	75.2	18.0	4.8	2.0	0.0	100.0	2,039
Sylhet	76.5	15.6	4.3	3.5	0.1	100.0	967
Wealth quintile							
Lowest	56.2	27.3	11.3	5.2	0.1	100.0	3,250
Second	74.3	17.5	5.9	2.3	0.0	100.0	3,487
Middle	86.6	10.2	2.6	0.6	0.0	100.0	3,567
Fourth	92.0	6.0	1.2	0.6	0.2	100.0	3,664
Highest	96.5	2.8	0.3	0.3	0.1	100.0	3,781
Total	81.9	12.3	4.1	1.7	0.1	100.0	17,749

Table 11.15 addresses the frequency of having less food in a meal because there was not enough food available to consume in the past 12 months. Overall, 78 percent of women reported that they never ate less food, 14 percent rarely ate less food, 6 percent ate less food 7 to 12 times in the last 12 months, and 2 percent ate less food a few times every month. Urban women, women in Dhaka, and women in the highest wealth quintile were more likely to say that they never had insufficient food in the 12 months before the survey. Twenty-eight percent of women in the lowest wealth quintile had to have less food in a meal 1 to 6 times in the past year because there was not enough food available for them to eat.

Table 11.15 Frequency of having less food in a meal

Percent distribution of ever-married women age 15-49 by frequency of having less food in a meal because there was not enough food in the past 12 months, according to selected background characteristics, Bangladesh 2011

Background characteristic	Never	Rarely (1-6 times this year)	Sometimes (7-12 times this year)	Often (few times each month)	Missing	Total	Number of women
Residence							
Urban	85.9	9.8	2.9	1.4	0.0	100.0	4,619
Rural	75.6	15.1	6.6	2.6	0.1	100.0	13,130
Division							
Barisal	77.3	12.6	6.6	3.4	0.1	100.0	1,002
Chittagong	77.3	14.2	5.9	2.5	0.0	100.0	3,222
Dhaka	84.2	9.6	4.2	1.9	0.0	100.0	5,736
Khulna	76.4	15.7	6.3	1.6	0.0	100.0	2,139
Rajshahi	76.7	15.3	6.0	1.9	0.1	100.0	2,646
Rangpur	71.0	19.2	7.2	2.6	0.0	100.0	2,039
Sylhet	71.8	17.2	6.3	4.7	0.0	100.0	967
Wealth quintile							
Lowest	50.3	27.5	15.5	6.6	0.1	100.0	3,250
Second	69.0	20.1	7.9	3.0	0.1	100.0	3,487
Middle	82.4	12.9	3.6	1.0	0.1	100.0	3,567
Fourth	90.1	7.3	1.7	0.9	0.0	100.0	3,664
Highest	95.8	3.0	0.8	0.4	0.0	100.0	3,781
Total	78.3	13.7	5.6	2.3	0.0	100.0	17,749

Rice is a staple food in Bangladesh. Table 11.16 presents the percent distribution of ever-married women by the frequency of having her or any other member of her family eat a rice substitute (wheat or any other grain) due to its unavailability. Although the question explicitly indicates that the intake of other grains should not be reported if the woman or any other family member was sick and the rice replacement was given due to individual choice, there is a possibility the results are not exclusively reflective of the

replacement of rice due to food insecurity. More than eight in 10 women report never having to replace rice with other grains, 12 percent rarely substituted for rice with other grains, 4 percent sometimes did, and 1 percent did a few times every month in the 12 months before the survey. Rural women, women in Sylhet and Rangpur divisions, and women in the lowest wealth quintile are most likely to replace rice with other grains.

Table 11.16 Frequency of having rice replacement

Percent distribution of ever-married women age 15-49 by frequency of having her or any of her family members eat wheat or another grain in place of rice in the past 12 months, according to selected background characteristics, Bangladesh 2011

Background characteristic	Never	Rarely (1-6 times this year)	Sometimes (7-12 times this year)	Often (few times each month)	Missing	Total	Number of women
Residence							
Urban	88.6	8.3	2.1	0.9	0.0	100.0	4,619
Rural	80.7	13.0	4.7	1.4	0.1	100.0	13,130
Division							
Barisal	82.0	10.5	5.8	1.7	0.1	100.0	1,002
Chittagong	82.1	11.9	4.5	1.4	0.0	100.0	3,222
Dhaka	87.2	8.6	3.3	0.9	0.0	100.0	5,736
Khulna	81.8	13.5	3.6	1.0	0.1	100.0	2,139
Rajshahi	82.4	11.9	4.4	1.1	0.2	100.0	2,646
Rangpur	75.2	18.6	4.2	2.0	0.0	100.0	2,039
Sylhet	78.5	13.7	5.0	2.7	0.1	100.0	967
Wealth quintile							
Lowest	61.2	25.1	10.1	3.4	0.1	100.0	3,250
Second	75.0	17.4	5.9	1.7	0.0	100.0	3,487
Middle	86.4	9.9	3.0	0.6	0.1	100.0	3,567
Fourth	91.6	6.1	1.6	0.6	0.0	100.0	3,664
Highest	96.4	2.6	0.5	0.4	0.0	100.0	3,781
Total	82.8	11.8	4.1	1.3	0.1	100.0	17,749

Table 11.17 shows the percent distribution of ever-married women by frequency of having to ask for food from relatives or neighbors to make a meal in the past 12 months. The results indicate that a third of the women had to ask their relatives or neighbors for food at some point in the 12 months preceding the survey. Twenty-two percent of women reported asking for food rarely, 8 percent asked for food sometimes, and 3 percent asked for food often. The pattern of results by background characteristics for this food security indicator is similar to those described earlier. The only notable difference for this indicator compared with other food security indicators addressed so far is that women from Rajshahi Division are most likely to ask for food from relatives or neighbors compared with other divisions.

Table 11.17 Frequency of having to ask food

Percent distribution of ever-married women age 15-49 by frequency of having to ask for food from relatives or neighbors to make a meal in the past 12 months, according to selected background characteristics, Bangladesh 2011

Background characteristic	Never	Rarely (1-6 times this year)	Sometimes (7-12 times this year)	Often (few times each month)	Missing	Total	Number of women
Residence							
Urban	77.8	16.7	4.1	1.4	0.1	100.0	4,619
Rural	63.5	24.1	9.0	3.4	0.0	100.0	13,130
Division							
Barisal	67.2	18.8	10.5	3.4	0.1	100.0	1,002
Chittagong	70.5	18.5	7.5	3.6	0.0	100.0	3,222
Dhaka	70.8	19.8	7.7	1.7	0.0	100.0	5,736
Khulna	66.1	25.6	5.9	2.5	0.0	100.0	2,139
Rajshahi	61.0	27.5	8.5	3.0	0.0	100.0	2,646
Rangpur	62.3	25.7	8.0	3.9	0.1	100.0	2,039
Sylhet	65.2	21.4	7.5	5.9	0.1	100.0	967
Wealth quintile							
Lowest	38.2	34.9	18.6	8.1	0.1	100.0	3,250
Second	54.6	30.3	11.1	4.0	0.0	100.0	3,487
Middle	69.6	23.3	5.5	1.6	0.0	100.0	3,567
Fourth	78.9	16.6	3.7	0.8	0.0	100.0	3,664
Highest	90.2	7.8	1.2	0.6	0.1	100.0	3,781
Total	67.2	22.1	7.7	2.9	0.0	100.0	17,749

Based on the responses to the questions on the women's perception and experience of food vulnerability, four categories of food insecurity were created to form a composite indicator. A quantitative score ranging from 0 to 3 was assigned to each food security indicator question category, with zero being the most food-secure response. After assigning the individual food frequency scores, all the frequency responses were summed in a single food security score for each ever-married woman. The range of the composite score varied from a minimum of "0" to a maximum of "15" which was then classified into the following four categories, as suggested in Household Food Insecurity Access Scale indicator calculations (Coates et al., 2007).

Composite food security score	Label
0	Food secure—Ever-married women who report that they did not experience any food insecurity (access) conditions or had to worry about it. This category represents women who live in food- secure households.
1 to 5	Mild food insecurity—Ever-married women who worry about not having enough food rarely or sometimes and/or are unable to eat preferred food (rice). These women do not have to cut back on quantity of food and rarely have to ask someone for food.
6 to 10	Moderate food insecurity—Ever-married women who sacrifice on eating rice and/or rarely or sometimes have to cut back on the quantity by reducing the size of the meal or number of meals. However, these women do not experience any of the conditions in the most severe form.
11 to 15	Severe food insecurity—Ever-married women who report that they never have square meals, and often have to skip the meals, and/or cut-back on food, and/or have to some other grain than rice, and/or ask for food from a relative or neighbor.

Table 11.18 Food security by background characteristics

Percent distribution of ever-married women 15-49 by food security, according to background characteristics, Bangladesh 2011

Background characteristic	Secure	Mildly food insecure	Moderately food insecure	Severely food insecure	Total	Number of women
Residence						
Urban	75.8	19.1	4.2	0.9	100.0	4,611
Rural	61.1	27.1	10.0	1.9	100.0	13,100
Division						
Barisal	64.9	21.5	11.6	2.1	100.0	999
Chittagong	67.5	22.3	8.2	2.0	100.0	3,220
Dhaka	69.3	23.0	6.4	1.3	100.0	5,724
Khulna	64.7	25.1	9.1	1.1	100.0	2,135
Rajshahi	56.4	33.8	8.6	1.3	100.0	2,633
Rangpur	60.7	25.5	11.9	1.9	100.0	2,036
Sylhet	62.7	24.2	9.7	3.4	100.0	965
Wealth quintile						
Lowest	35.0	37.4	22.6	5.0	100.0	3,240
Second	51.4	34.3	12.3	2.0	100.0	3,482
Middle	66.6	27.1	5.7	0.6	100.0	3,562
Fourth	77.1	19.8	2.6	0.6	100.0	3,655
Highest	89.7	8.8	1.2	0.3	100.0	3,773
Total	64.9	25.0	8.5	1.6	100.0	17,712

Table 11.18 indicates that only 65 percent of the ever-married women fall in the category of being food secure based on the interview responses. One in four ever-married women is mildly food insecure, 9 percent are moderately food insecure, and 2 percent are severely food insecure. Urban women are 15 percentage points more likely to be in a food-secure environment than their rural counterparts. Among divisions, women residing in Dhaka are the most food secure (69 percent), while women in Rajshahi are least likely to be food secure (56 percent). One in three women (35 percent) in the lowest wealth quintile is food secure compared with 90 percent of women in the highest wealth quintile.

Overall, it is apparent that wealth is a key predictor of food security. The variation of food security by division can be used to guide future programs and policies aimed at improving the nutritional status of women and the general population in Bangladesh.

HIV/AIDS-RELATED KNOWLEDGE, ATTITUDES, AND BEHAVIOR

12

Key Findings

- Sixty-nine percent of ever-married women and 88 percent of ever-married men age 15-49 have heard of AIDS.
- Comprehensive knowledge of AIDS is not widespread among either women (11 percent) or men (17 percent) age 15-49.
- More men than women know how HIV is transmitted. Older women and men (age 40-49) are less knowledgeable than younger respondents about how HIV infection is prevented.
- Sixty-one percent of ever-married women and 79 percent of ever-married men know that the HIV virus can be transmitted both by using an unsterilized needle or syringe and by blood transfusion.
- The majority of ever-married women and men (92 percent and 82 percent, respectively) think that if a woman knows her husband has a sexually transmitted infection (STI), she is justified in refusing to have sex with him.

Acquired immune deficiency syndrome (AIDS) is an illness caused by the human immunodeficiency virus (HIV). AIDS was first recognized internationally in 1981. Epidemiological studies have since identified the main routes of transmission of HIV to be unsafe sexual intercourse, intravenous injections with contaminated needles, unscreened or contaminated blood transfusions, and transmission from an infected mother to her child during pregnancy, delivery, or breastfeeding. HIV cannot be transmitted through food, water, insect vectors, or casual contact. HIV infection weakens the immune system and makes the body susceptible to and unable to recover from other opportunistic diseases. Secondary infections, if not adequately treated, can lead to death.

In Bangladesh, the first case of HIV was detected in 1989. In 2011, a total of 445 new cases of HIV infection, 251 new AIDS cases, and 84 deaths due to AIDS were reported. The reported number of HIV-positive people in Bangladesh increased from 363 in 2003 to 1,207 in 2007. By the end of 2011, the number of HIV-positive people had increased to 2,533, an increase of more than double in four years. However, the estimated number of HIV/AIDS cases remains at 7,500, indicating both the likelihood of incomplete reporting and the potential for growth of the epidemic in Bangladesh (NASP, 2012).

Bangladesh's HIV/AIDS prevention program started in 1985. In response to HIV/AIDS prevention efforts, the government of Bangladesh formed the National AIDS Committee (NAC) under the patronage of the president of Bangladesh. In 1995, the Directorate General of Health Services (DGHS) of the Ministry of Health and Family Welfare (MOHFW) formed a task force. The task force was convened by the Technical Committee of the National AIDS Council (TC-NAC). The TC-NAC was comprised of national experts from various disciplines relevant to the prevention and control of HIV and sexually transmitted disease (STDs). With political support from the National AIDS Council and technical support from the TC-NAC, the task force led the process of developing a national policy on HIV and AIDS, which was endorsed by the Cabinet in 1997 (NASP and MOHFW, 2008). In 1997, the protocol for safe blood transfusion was formulated. Today there are 98 blood screening centers established for screening HIV, syphilis, malaria, hepatitis B virus (HBV), and hepatitis C virus (HCV). With support from the government of Bangladesh, NGOs have set up an STD/AIDS network with more than 250 members working in the field of HIV/AIDS. As the nodal body for HIV/AIDS activities, the National AIDS/STD Programme (NASP) was formed under the DGHS, and has functioned since 1998. The major role of the NASP is to

formulate policies, coordinate information, and regulate the implementation of the HIV/AIDS prevention efforts in the country. Bangladesh has adopted its third National Strategic Plan (2011-2015) with the following objectives: to implement services to prevent new HIV infections; to provide universal access to treatment, care, and support services for people infected and affected by HIV; to strengthen coordination mechanisms and management capacity at different levels to ensure an effective multi-sector HIV/AIDS response; and to strengthen the strategic information systems and research for an evidence-based response (MOHFW, 2012). Most HIV-related activities are based on prevention among most-at-risk populations because Bangladesh is a low HIV prevalence country.

HIV intervention programs targeting the vulnerable population in Bangladesh evolved over a period of more than 10 years, stretching from 1997-2008. Initially, programs were started and led by NGOs, and a strong partnership developed with the government, civil society, and donors who worked to facilitate comprehensive interventions targeted at the most vulnerable groups in the population. These groups included female sex workers and their male clients, injecting drug users (IDUs), men who have sex with men, transgendered persons (hijras), and transport workers. In general, intervention packages included condom promotion, STI management, needle/syringe exchange, detoxification, peer education, health education and counseling, resting/recreation facilities, community awareness, and local level advocacy.

Bangladesh has been conducting serological surveillance and behavioral surveys since 1999. These surveys provide data to better understand and address the HIV situation at both the national and sub-national levels. They thereby aid in the design of prevention, treatment, care, and support programs. Since 1998, serological surveillance surveys of most-at-risk groups have been conducted approximately every two years. According to the latest Serological Surveillance (NASP, 2012) in Bangladesh, the HIV prevalence among persons who use drugs, female sex workers, male sex workers, men who have sex with men, and hijras is 0.7 percent.

Bangladesh has been implementing HIV prevention programs through awareness-raising activities since 1987, a time when there were no identified cases of HIV in the country. In past years, the HIV program has grown in size and quality and has involved a wider network of stakeholders. The program has increased its coverage of most-at-risk populations, which now include young people. There have been various efforts to prevent HIV transmission, such as public health education through the media and program activities by both government and NGO organizations, particularly with groups considered to be at high risk for transmission of HIV/AIDS.

Because Bangladesh is a low-prevalence country, with HIV not posing an immediate threat, no special focus has been placed on the general population. Instead, the focus continues to be mainly on high-risk groups. This chapter presents current levels of knowledge and attitudes regarding HIV/AIDS prevention and transmission in the general population of men and women of reproductive age. This chapter also discusses self-reported prevalence of sexually transmitted infections (STIs) and symptoms.

12.1 KNOWLEDGE OF HIV/AIDS AND TRANSMISSION AND PREVENTION METHODS

12.1.1 Knowledge of AIDS

The 2011 BDHS included a series of questions to gauge respondents' knowledge and attitudes about HIV and AIDS. All ever-married women age 15-49 and ever-married men 15-54 were first asked if they had ever heard of AIDS. Those who had heard of AIDS were then asked about their knowledge of HIV transmission and prevention.

Table 12.1 shows that 77 percent of ever-married women and 88 percent of ever-married men have heard of HIV/AIDS. Awareness of HIV/AIDS among ever-married women varies by age and marital status, with older women and women who are divorced, separated, or widowed less likely to know about HIV. Knowledge of HIV/AIDS is higher among urban (86 percent) than rural (63 percent) women. Awareness of HIV/AIDS ranges from 79 percent among women in Khulna to 55 percent among women in

Rangpur. Nearly all women who have completed secondary education have heard of AIDS, compared with 40 percent of women with no education. The proportion of ever-married women who have ever heard of AIDS increases steadily as wealth increases. Ever-married men show similar patterns of awareness of AIDS by background characteristics.

Table 12.1 Knowledge of AIDS

Percentage of ever-married women and ever-married men age 15-49 who have heard of AIDS by background characteristics, Bangladesh 2011

Background characteristic	Women		Men	
	Have heard of AIDS	Number of women	Have heard of AIDS	Number of men
Age				
15-24	77.3	5,484	90.2	270
15-19	75.1	1,970	*	21
20-24	78.5	3,514	91.2	249
25-29	74.7	3,394	92.0	621
30-39	67.2	4,900	90.0	1,285
40-49	55.3	3,971	82.3	1,215
Marital status				
Married	69.9	16,635	87.7	3,360
Divorced/separated/ widowed	57.0	1,114	(81.5)	31
Residence				
Urban	85.6	4,619	95.6	949
Rural	63.3	13,130	84.5	2,442
Division				
Barisal	70.7	1,002	87.1	174
Chittagong	68.6	3,222	86.4	519
Dhaka	75.1	5,736	92.0	1,095
Khulna	79.1	2,139	94.8	430
Rajshahi	62.9	2,646	84.9	556
Rangpur	54.9	2,039	77.0	442
Sylhet	58.1	967	82.3	175
Education				
No education	40.3	4,912	70.4	890
Primary incomplete	59.3	3,264	86.4	823
Primary complete[1]	71.8	2,062	94.1	305
Secondary incomplete	88.4	5,383	96.8	758
Secondary complete or higher[2]	99.1	2,127	99.5	615
Wealth quintile				
Lowest	43.1	3,250	71.3	654
Second	53.6	3,487	81.0	666
Middle	69.9	3,567	90.9	647
Fourth	81.2	3,664	94.3	726
Highest	93.2	3,781	99.2	699
Total 15-49	69.1	17,749	87.6	3,392
50-54	na	na	72.3	605
Total 15-54	na	na	85.3	3,997

Note: Numbers in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

12.1.2 Knowledge of HIV Prevention Methods

HIV prevention programs focus their messages and efforts on two important aspects of behavior: (1) limiting the number of sexual partners and staying faithful to one uninfected partner and (2) using condoms. To ascertain whether programs have effectively communicated these messages, respondents were asked specific questions about whether it is possible to reduce the chance of getting the AIDS virus by using a condom at every sexual encounter and by limiting sexual intercourse to one uninfected partner.

Table 12.2 shows that 51 percent of ever-married women are aware that the chance of getting the AIDS virus can be reduced by limiting sex to one uninfected partner who has no other partners; 44 percent know about using condoms at every sexual encounter, and 37 percent are aware of both of these means of reducing the risk of HIV transmission.

Table 12.2 Knowledge of HIV prevention methods

Percentage of ever-married women and ever-married men age 15-49 who, in response to prompted questions, say that people can reduce the risk of getting the AIDS virus by using condoms every time they have sexual intercourse, and by having one sex partner who is not infected and has no other partners, by background characteristics, Bangladesh 2011

	Women				Men			
Background characteristic	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[2]	Number of women	Using condoms[1]	Limiting sexual intercourse to one uninfected partner[2]	Using condoms and limiting sexual intercourse to one uninfected partner[2]	Number of men
Age								
15-24	49.0	57.6	42.0	5,484	72.0	69.6	56.5	270
15-19	47.7	56.3	41.3	1,970	*	*	*	21
20-24	49.6	58.3	42.3	3,514	73.4	70.2	57.4	249
25-29	48.5	54.7	41.6	3,394	75.8	74.6	63.6	621
30-39	43.3	49.2	36.7	4,900	72.4	70.9	59.5	1,285
40-49	33.0	39.8	28.1	3,971	62.3	64.4	52.3	1,215
Marital status								
Married	44.5	51.5	38.0	16,635	69.4	69.2	57.5	3,360
Divorced/separated/ widowed	32.7	39.4	27.6	1,114	(70.6)	(59.8)	(54.7)	31
Residence								
Urban	57.0	64.5	50.1	4,619	79.3	75.1	64.8	949
Rural	39.1	45.9	32.9	13,130	65.5	66.8	54.6	2,442
Division								
Barisal	48.6	55.9	42.0	1,002	64.1	67.0	52.2	174
Chittagong	43.6	50.4	37.1	3,222	65.5	64.9	53.9	519
Dhaka	47.4	55.2	41.4	5,736	72.0	72.1	58.2	1,095
Khulna	47.7	56.8	39.9	2,139	81.0	86.2	74.9	430
Rajshahi	40.8	45.3	34.0	2,646	68.3	69.5	57.4	556
Rangpur	36.8	42.0	31.4	2,039	65.0	56.7	51.6	442
Sylhet	31.3	40.1	25.9	967	56.1	53.7	40.3	175
Education								
No education	21.8	26.7	17.9	4,912	50.9	51.8	40.0	890
Primary incomplete	32.5	40.6	26.7	3,264	64.0	68.2	53.8	823
Primary complete[3]	43.1	52.1	36.4	2,062	73.7	70.6	59.0	305
Secondary incomplete	57.5	66.2	49.4	5,383	81.3	79.8	69.3	758
Secondary complete or higher[4]	77.2	81.4	69.3	2,127	86.6	81.7	72.1	615
Wealth quintile								
Lowest	25.1	30.6	20.8	3,250	55.1	54.1	44.9	654
Second	31.7	37.4	26.5	3,487	59.4	62.5	48.6	666
Middle	42.0	50.1	35.2	3,567	71.4	69.8	57.8	647
Fourth	50.8	59.5	43.4	3,664	75.8	75.5	63.2	726
Highest	65.6	72.5	57.8	3,781	83.8	82.3	71.3	699
Total 15-49	43.7	50.7	37.4	17,749	69.4	69.1	57.4	3,392
50-54	na	na	na	na	54.5	58.3	46.3	605
Total 15-54	na	na	na	na	67.1	67.5	55.8	3,997

Note: Numbers in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
na = Not applicable
[1] Using condoms every time they have sexual intercourse
[2] Partner who has no other partners
[3] Primary complete is defined as completing grade 5.
[4] Secondary complete is defined as completing grade 10.

Many more men than women know how HIV is transmitted. Ever-married men age 15-49 are equally likely to know that the risk of transmitting HIV can be reduced by using condoms or by limiting sexual intercourse to one uninfected partner (69 percent for each). Over half of men age 15-49 are aware of both means of reducing transmission (57 percent).

Older women and men (age 40-49) are less knowledgeable about the various modes of HIV prevention than other respondents. Knowledge of prevention methods among both women and men is higher in urban than in rural areas, higher among those with more education than among those with less, and higher among those in the higher wealth quintiles than among those in lower quintiles.

12.1.3 Comprehensive Knowledge about AIDS

As part of the effort to assess HIV and AIDS knowledge, the 2011 BDHS collected information on common misconceptions about HIV transmission. Respondents were asked whether they think it is possible for a healthy-looking person to have HIV, and also whether they believe HIV can be transmitted through mosquito bites, or by sharing food with a person who has HIV or AIDS. Comprehensive knowledge is defined as follows: (1) knowing that consistent condom use and having just one faithful partner can reduce the chance of getting the AIDS virus, (2) knowing that a healthy-looking person can have the AIDS virus, and (3) rejecting the two most common local misconceptions about HIV transmission in Bangladesh: that HIV can be transmitted by mosquito bites and that HIV can be transmitted by sharing food with a person who has AIDS.

The data presented in Tables 12.3.1 and 12.3.2 indicate that many Bangladeshi adults lack accurate knowledge about the ways in which the AIDS virus can and cannot be transmitted. Table 12.3.1 shows that only 49 percent of ever-married women know that a healthy-looking person can have HIV and 32 percent know that HIV cannot be transmitted by mosquito bites. Thirty-eight percent of women correctly believe that a person cannot become infected by sharing food with a person who has AIDS. The table also shows that only 11 percent of ever-married women have comprehensive knowledge about AIDS. Comprehensive knowledge about AIDS is higher among married respondents and urban residents than among other women. Among administrative divisions, comprehensive AIDS knowledge is lowest in Rajshahi (7 percent). Comprehensive knowledge about AIDS increases with education, rising from 4 percent among women with no education to 33 percent among women who have completed secondary or higher education. Comprehensive knowledge about AIDS also increases with household wealth.

Table 12.3.2 shows that 72 percent of ever-married men age 15-49 know that that a healthy-looking person can have HIV, and 43 percent know that the AIDS virus cannot be transmitted by mosquito bites. Forty-five percent of men correctly believe that a person cannot become infected by sharing food with a person who has AIDS. Men are more likely to have comprehensive knowledge of AIDS than women for all background characteristics shown. The same patterns are observed among men as are seen in the data for women with regard to comprehensive knowledge by education and wealth quintile.

Figure 12.1 summarizes the information in Tables 12.3.1 and 12.3.2.

Table 12.3.1 Comprehensive knowledge about AIDS: Women

Percentage of ever-married women age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about transmission or prevention, and the percentage with a comprehensive knowledge about AIDS, by background characteristics, Bangladesh 2011

Background characteristic	Percentage of respondents who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	A person cannot become infected by sharing food with a person who has the AIDS virus	Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of women
Age						
15-24	53.1	35.4	44.0	17.4	11.9	5,484
15-19	50.1	33.5	41.2	15.9	11.4	1,970
20-24	54.8	36.4	45.5	18.2	12.1	3,514
25-29	52.0	37.4	44.2	19.8	12.6	3,394
30-39	48.7	31.8	36.3	16.8	11.5	4,900
40-49	40.5	24.4	27.2	12.6	8.6	3,971
Marital status						
Married	49.3	32.9	38.8	16.9	11.4	16,635
Divorced/separated/ widowed	41.7	24.3	27.8	12.1	7.7	1,114
Residence						
Urban	61.3	47.5	55.6	28.1	20.1	4,619
Rural	44.5	27.0	32.0	12.6	8.0	13,130
Division						
Barisal	54.8	30.8	33.5	14.7	9.5	1,002
Chittagong	40.9	33.6	39.8	13.9	8.9	3,222
Dhaka	54.7	37.9	44.4	21.2	15.5	5,736
Khulna	59.0	34.3	42.8	18.4	11.6	2,139
Rajshahi	45.2	24.3	31.9	12.7	7.4	2,646
Rangpur	39.4	26.8	27.1	14.0	9.7	2,039
Sylhet	41.7	25.7	30.2	12.9	7.5	967
Education						
No education	27.9	14.9	16.3	5.9	3.7	4,912
Primary incomplete	41.6	21.8	26.9	8.7	4.9	3,264
Primary complete[3]	49.3	31.2	35.9	15.9	10.7	2,062
Secondary incomplete	62.4	41.7	50.0	20.9	13.5	5,383
Secondary complete or higher[4]	73.7	65.8	77.9	43.3	32.7	2,127
Wealth quintile						
Lowest	30.5	15.5	17.4	6.2	3.4	3,250
Second	37.7	19.9	23.4	8.2	5.3	3,487
Middle	49.2	29.7	34.7	13.5	8.2	3,567
Fourth	56.6	38.8	46.4	20.4	13.4	3,664
Highest	67.0	54.5	64.8	32.6	24.0	3,781
Total 15-49	48.9	32.3	38.1	16.6	11.2	17,749

[1] Two most common local misconceptions: AIDS can be transmitted by mosquito bites and by sharing food with a person who has AIDS

[2] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

Table 12.3.2 Comprehensive knowledge about AIDS: Men

Percentage of men age 15-49 who say that a healthy-looking person can have the AIDS virus and who, in response to prompted questions, correctly reject local misconceptions about AIDS transmission or prevention, and the percentage with a comprehensive knowledge about AIDS by background characteristics, Bangladesh 2011

Background characteristic	Percentage of respondents who say that: A healthy-looking person can have the AIDS virus	AIDS cannot be transmitted by mosquito bites	A person cannot become infected by sharing food with a person who has the AIDS virus	Percentage who say that a healthy looking person can have the AIDS virus and who reject the two most common local misconceptions[1]	Percentage with a comprehensive knowledge about AIDS[2]	Number of men
Age						
15-24	70.6	42.4	41.4	19.5	14.4	270
15-19	*	*	*	*	*	21
20-24	71.4	43.2	43.1	21.0	15.4	249
25-29	72.5	43.0	50.8	22.3	16.2	621
30-39	74.1	44.6	48.7	24.6	18.2	1,285
40-49	68.9	40.6	40.1	22.2	16.1	1,215
Marital status						
Married	71.6	42.7	45.5	23.0	16.8	3,360
Divorced/separated/ widowed	(73.8)	(39.8)	(34.1)	(21.6)	(14.2)	31
Residence						
Urban	79.2	54.0	58.1	33.5	24.4	949
Rural	68.7	38.3	40.5	18.9	13.8	2,442
Division						
Barisal	79.8	36.0	39.2	23.1	15.0	174
Chittagong	72.0	38.0	45.4	21.3	15.0	519
Dhaka	74.2	47.4	48.8	27.2	19.7	1,095
Khulna	79.9	52.7	52.4	26.2	22.6	430
Rajshahi	68.4	38.9	43.1	20.0	15.0	556
Rangpur	58.9	36.6	39.0	16.9	12.0	442
Sylhet	69.5	36.8	37.4	18.1	9.5	175
Education						
No education	54.7	25.7	26.3	8.6	6.5	890
Primary incomplete	68.3	37.6	35.7	15.9	10.5	823
Primary complete[3]	75.6	44.6	45.6	22.2	15.5	305
Secondary incomplete	80.9	48.5	53.7	26.5	19.3	758
Secondary complete or higher[4]	87.3	65.9	76.0	49.2	37.7	615
Wealth quintile						
Lowest	55.3	26.9	24.4	9.5	7.2	654
Second	65.4	33.9	36.0	13.8	8.7	666
Middle	73.9	38.6	42.4	20.7	15.1	647
Fourth	78.3	50.4	51.7	27.0	19.7	726
Highest	83.9	61.5	70.3	42.1	32.1	699
Total 15-49	71.7	42.7	45.4	23.0	16.8	3,392
50-54	58.4	33.2	33.0	18.3	13.3	605
Total 15-54	69.6	41.2	43.5	22.3	16.3	3,997

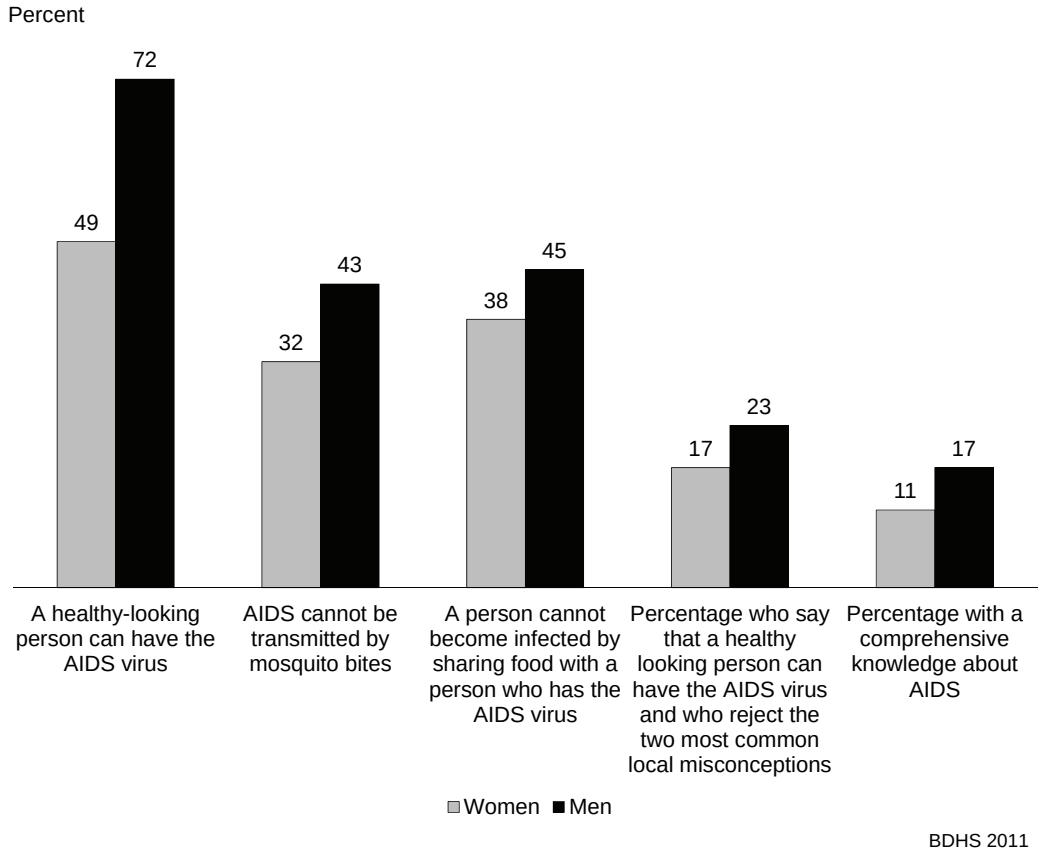
[1] Two most common local misconceptions: AIDS can be transmitted by mosquito bites and by sharing food with a person who has AIDS

[2] Comprehensive knowledge means knowing that consistent use of condoms during sexual intercourse and having just one uninfected faithful partner can reduce the chance of getting the AIDS virus, knowing that a healthy-looking person can have the AIDS virus, and rejecting the two most common local misconceptions about AIDS transmission or prevention.

[3] Primary complete is defined as completing grade 5.

[4] Secondary complete is defined as completing grade 10.

Figure 12.1 **Comprehensive knowledge about AIDS among ever-married women and men 15-49**



12.2 KNOWLEDGE OF PREVENTION OF MOTHER-TO-CHILD TRANSMISSION OF HIV

Knowledge about how to prevent mother-to-child transmission (MTCT) of HIV and how to use antiretroviral medication before delivery to reduce transmission is critical. To assess MTCT knowledge, ever-married women age 15-49 were asked whether HIV can be transmitted from a mother to a child through breastfeeding and whether a mother can reduce the chance of transmitting HIV to her child during pregnancy and delivery by taking antiretroviral drugs.

Table 12.4 shows that 59 percent of ever-married women know that HIV can be transmitted during pregnancy, while 48 percent of women know that HIV can be transmitted during delivery, and 56 percent of women know that HIV can be transmitted through breastfeeding. Knowledge of MTCT is highest among young women, married women, urban women, women living in Khulna, women who have completed secondary or higher education, and women who belong to the highest wealth quintile.

Table 12.4 Knowledge of prevention of mother-to-child transmission of HIV: Women

Percentage of ever-married women age 15-49 who know that HIV can be transmitted from mother to child by breastfeeding and that the risk of mother to child transmission (MTCT) can be reduced by the mother taking special drugs during pregnancy, by background characteristics, Bangladesh 2011

Background characteristic	Percentage who know that HIV can be transmitted:			Number of women
	During pregnancy	During delivery	By breastfeeding	
Age				
15-24	63.8	50.8	61.1	5,484
15-19	61.1	48.8	59.2	1,970
20-24	65.4	51.9	62.2	3,514
25-29	63.9	52.1	60.7	3,394
30-39	58.4	48.5	55.8	4,900
40-49	47.5	38.8	45.4	3,971
Marital status				
Married	59.4	48.3	56.8	16,635
Divorced/separated/ widowed	48.5	39.7	45.4	1,114
Currently pregnant				
Pregnant	61.4	48.0	58.2	1,069
Not pregnant or not sure	58.5	47.7	55.9	16,680
Residence				
Urban	72.3	58.4	67.3	4,619
Rural	53.9	44.0	52.1	13,130
Division				
Barisal	62.2	53.9	58.9	1,002
Chittagong	58.6	47.4	54.0	3,222
Dhaka	63.0	48.9	60.4	5,736
Khulna	68.2	57.6	66.3	2,139
Rajshahi	53.6	44.9	51.9	2,646
Rangpur	46.1	38.2	44.7	2,039
Sylhet	49.2	41.5	47.1	967
Education				
No education	33.1	27.4	32.2	4,912
Primary incomplete	49.8	41.2	49.5	3,264
Primary complete[1]	61.1	49.5	58.2	2,062
Secondary incomplete	75.5	61.1	71.7	5,383
Secondary complete or higher[2]	86.7	69.1	79.8	2,127
Wealth quintile				
Lowest	35.9	30.1	36.1	3,250
Second	45.1	36.2	43.2	3,487
Middle	59.6	48.9	57.5	3,567
Fourth	68.7	56.0	65.9	3,664
Highest	80.2	64.4	74.2	3,781
Total 15-49	58.7	47.7	56.1	17,749

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

12.3 KNOWLEDGE OF MEANS OF TRANSMISSION OF HIV

To ascertain whether respondents know about nonsexual means of transmission of HIV, the 2011 BDHS asked respondents whether it is possible to get the AIDS virus by using an unsterilized needle or syringe or by receiving an unsafe blood transfusion. Table 12.5 shows that 64 percent of ever-married women and 81 percent of ever-married men know that the AIDS virus can be transmitted by using an unsterilized needle or syringe, while 63 percent of women and 83 percent of men know that the AIDS virus can be transmitted through blood transfusion. Sixty-one percent of women and 79 percent of men know both of these means of HIV transmission.

Table 12.5 also reveals considerable variation in respondents' knowledge of HIV transmission by background characteristics. Knowledge is higher among younger women, married women, urban women, women living in Khulna, women who have completed secondary or higher education, and women who belong to the highest wealth quintile. Similar patterns are observed for men.

Table 12.5 Knowledge of transmission of HIV through unclean needles and unsafe blood transfusions

Percentage of ever-married women and men age 15-49 who, in response to prompted questions, say that people can get the AIDS virus by using an unsterilized needle or syringe and through blood transfusion, by background characteristics, Bangladesh 2011

	Women				Men			
Background characteristic	Using an unsterilized needle or syringe	Via blood transfusion	Both	Number of women	Using an unsterilized needle or syringe	Via blood transfusion	Both	Number of men
Age								
15-24	71.5	71.2	68.8	5,484	78.3	81.0	75.1	270
15-19	69.0	67.9	65.6	1,970	*	*	*	21
20-24	73.0	73.0	70.6	3,514	78.3	82.0	75.5	249
25-29	69.8	68.6	66.8	3,394	85.4	87.0	82.8	621
30-39	62.1	61.7	59.7	4,900	84.4	85.1	82.8	1,285
40-49	50.0	50.1	47.7	3,971	76.6	77.8	74.8	1,215
Marital status								
Married	64.6	64.1	62.0	16,635	81.3	82.6	79.4	3,360
Divorced/separated/ widowed	51.6	51.6	49.0	1,114	(75.7)	(69.7)	(69.7)	31
Residence								
Urban	80.2	80.4	78.2	4,619	90.0	92.9	89.4	949
Rural	58.0	57.4	55.2	13,130	77.9	78.4	75.4	2,442
Division								
Barisal	65.3	65.1	62.6	1,002	79.8	80.8	77.6	174
Chittagong	62.9	62.1	60.0	3,222	78.4	77.3	75.1	519
Dhaka	69.8	69.8	67.6	5,736	86.2	87.8	84.7	1,095
Khulna	74.4	72.8	71.1	2,139	89.9	90.9	88.6	430
Rajshahi	57.5	57.8	55.2	2,646	78.3	80.0	76.2	556
Rangpur	49.9	49.2	47.2	2,039	71.7	73.8	69.7	442
Sylhet	52.6	51.7	49.5	967	73.1	75.5	71.1	175
Education								
No education	34.9	35.0	32.9	4,912	62.2	62.8	59.9	890
Primary incomplete	53.2	52.4	50.4	3,264	79.7	80.7	77.2	823
Primary complete[1]	66.1	64.7	62.8	2,062	84.9	87.6	82.8	305
Secondary incomplete	82.9	82.4	80.0	5,383	91.3	92.8	89.1	758
Secondary complete or higher[2]	96.0	96.1	94.2	2,127	97.0	98.1	96.5	615
Wealth quintile								
Lowest	38.7	38.1	36.5	3,250	62.8	63.4	59.8	654
Second	48.4	48.1	46.0	3,487	74.6	76.3	72.6	666
Middle	63.0	62.7	60.0	3,567	83.6	85.6	81.7	647
Fourth	75.3	74.4	72.1	3,664	88.6	88.6	85.9	726
Highest	89.2	89.0	87.1	3,781	95.3	97.0	95.0	699
Total 15-49	63.8	63.4	61.2	17,749	81.3	82.5	79.3	3,392
50-54	na	na	na	na	65.7	66.3	63.8	605
Total 15-54	na	na	na	na	78.9	80.0	77.0	3,997

Note: Numbers in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

12.4 ATTITUDES TOWARD NEGOTIATING SAFE SEXUAL RELATIONS WITH HUSBANDS

Comprehensive knowledge about HIV transmission and ways to prevent it are basic prerequisites for HIV prevention. Translating knowledge into behavior, however, depends on a number of individual, social, and contextual factors. One of the important determinants of practicing safer sex is control over one's own sexuality. Knowledge about HIV transmission and ways to prevent it are of little use if women feel powerless to negotiate safer sex practices with their husbands. In an effort to assess a woman's ability to negotiate safer sex, the 2011 BDHS asked women and men if they think that a wife is justified in refusing to have sex with her husband when she knows he has a disease that can be transmitted through sexual contact.

Table 12.6 shows that the majority of ever-married women and men (92 percent and 82 percent, respectively) think that if a woman knows her husband has a sexually transmitted infection (STI), she is justified in refusing to have sex with him. There are minimal variations in women's attitudes toward negotiating safer sex with husbands by background characteristics. The exception is for administrative division: the proportion of women who support a woman's right to refuse sex ranges from 86 percent in Chittagong to 97 percent in Dhaka. Seventy-three percent of men in Bangladesh believe that a woman is justified in refusing to have sexual intercourse with her husband if she knows he has sex with other women.

Table 12.6 Attitudes toward negotiating safer sexual relations with husband

Percentage of ever-married women and ever-married men-age 15-49 who believe that a woman is justified in refusing to have sexual intercourse with her husband if she knows that he has a sexually transmitted infection (STI), and percentage of ever-married men age 15-49 who believe that a woman is justified in refusing to have sexual intercourse with her husband if she knows he has sex with other women, by background characteristics, Bangladesh 2011

	Women		Men		
	Woman is justified in:		Woman is justified in:		
Background characteristic	Refusing to have sexual intercourse with her husband if she knows that her husband has an STI	Number of women	Refusing to have sexual intercourse with her husband if she knows he has sex with other women	Refusing to have sexual intercourse with her husband if she knows that her husband has an STI	Number of men
Age					
15-24	92.5	5,484	70.9	80.3	270
15-19	92.6	1,970	*	*	21
20-24	92.4	3,514	70.6	79.8	249
25-29	92.8	3,394	71.1	77.8	621
30-39	92.5	4,900	74.5	83.0	1,285
40-49	91.4	3,971	73.7	82.5	1,215
Marital status					
Married	92.3	16,635	73.3	81.8	3,360
Divorced/separated/ widowed	91.8	1,114	(67.1)	(71.6)	31
Residence					
Urban	94.0	4,619	80.0	85.9	949
Rural	91.7	13,130	70.7	80.0	2,442
Division					
Barisal	90.7	1,002	75.1	82.6	174
Chittagong	85.5	3,222	71.9	76.4	519
Dhaka	96.8	5,736	83.6	87.7	1,095
Khulna	95.9	2,139	68.2	82.3	430
Rajshahi	88.2	2,646	65.7	78.8	556
Rangpur	95.0	2,039	63.1	80.0	442
Sylhet	87.2	967	73.2	70.5	175
Education					
No education	91.8	4,912	69.9	80.3	890
Primary incomplete	92.3	3,264	73.9	80.8	823
Primary complete[1]	92.1	2,062	71.5	79.5	305
Secondary incomplete	92.3	5,383	75.6	82.3	758
Secondary complete or higher[2]	93.7	2,127	75.3	85.1	615
Wealth quintile					
Lowest	91.9	3,250	69.6	80.5	654
Second	92.1	3,487	70.0	80.4	666
Middle	92.2	3,567	72.3	81.5	647
Fourth	90.8	3,664	74.7	80.6	726
Highest	94.4	3,781	79.4	85.2	699
Total 15-49	92.3	17,749	73.3	81.7	3,392
50-54	na	na	70.8	82.7	605
Total 15-54	na	na	72.9	81.8	3,997

Note: Numbers in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

12.5 Self-reported Prevalence of Sexually Transmitted Infections (STIs) and STI Symptoms

Information about the prevalence of sexually transmitted infections (STIs) is useful not only as a marker of unprotected sexual intercourse but also as a cofactor for HIV transmission. STIs are closely associated with HIV because they increase the likelihood of contracting HIV and share similar risk factors. The 2011 BDHS asked respondents who ever had sex whether, in the past 12 months, they had contracted a disease through sexual contact. They were also asked whether they had experienced a genital sore or ulcer or had any abnormal genital discharge in the past year. These symptoms are useful in identifying STIs among men. However, they are less easily interpreted in women because women are likely to experience more conditions of the reproductive tract other than STIs that produce a genital discharge.

Table 12.7 shows that self-reported STI prevalence among ever-married women and men age 15-49 in Bangladesh is small. About 1 percent of women and 3 percent of men report having had an STI in the 12 months prior to the survey. It is likely that these figures underestimate the actual prevalence of STIs among the sexually active population in Bangladesh, as many STI symptoms are not easily recognized, and many STIs do not have visible symptoms.

Self-reported prevalence of STIs and/or STI symptoms, including genital sore or ulcer and bad smelling or abnormal genital discharge, is higher among women than men. Fifteen percent of ever-married women report having had an STI and/or symptoms of an STI in the 12 months prior to the survey, compared with only 6 percent of men. Women who report STI symptoms are somewhat more likely to say they have had a bad-smelling or abnormal genital discharge (11 percent) than a genital ulcer or sore (7 percent). The percentage of women and men reporting an STI and/or STI symptoms is highest in Barisal and lowest in Rangpur.

When women or men reported having an STI, STI symptoms, or both in the past 12 months, the 2011 BDHS interviewer asked them whether they sought any advice or treatment for it. Figure 12.2 shows that 45 percent of women and 42 percent of men sought no advice or treatment, while 31 percent of women and 17 percent of men sought advice or treatment from a clinic, hospital, private doctor, or other health professional. More men (26 percent) than women (8 percent) sought advice or medicine from a shop/pharmacy.

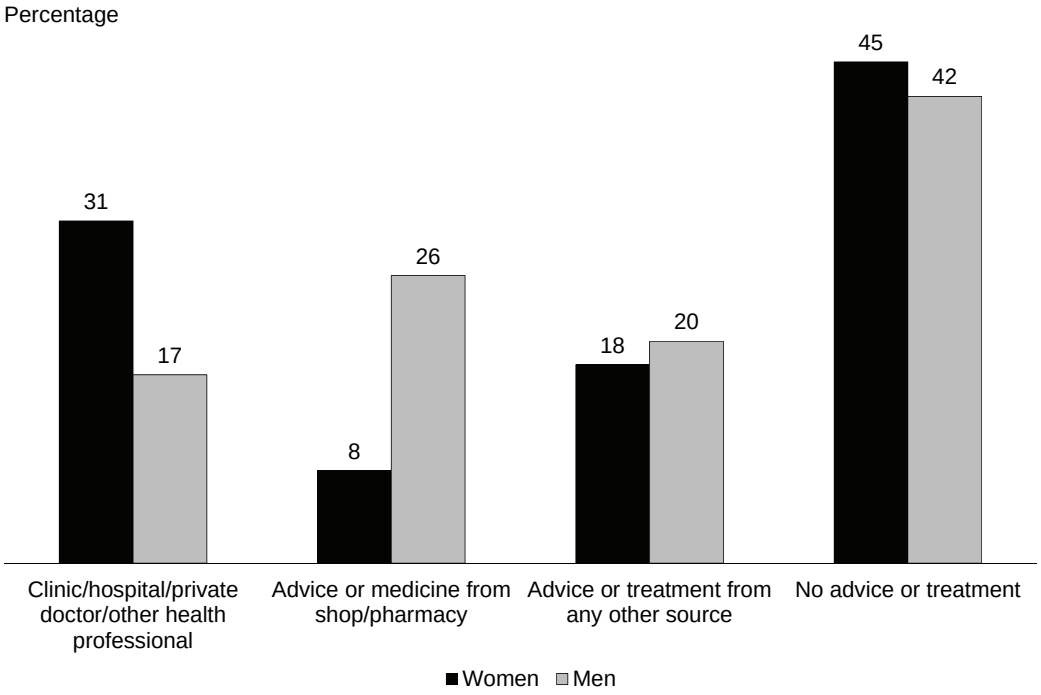
Table 12.7 Self-reported prevalence of sexually-transmitted infections (STIs) and STI symptoms

Among ever-married women and men age 15-49 who ever had sexual intercourse, the percentage reporting having an STI and/or symptoms of an STI in the past 12 months, by background characteristics, Bangladesh 2011

	Women					Men				
Background characteristic	STI	Bad smelling/ abnormal genital discharge	Genital sore/ulcer	STI/ genital discharge/ sore or ulcer	Number of women who ever had sexual inter-course	STI	Bad smelling/ abnormal genital discharge	Genital sore/ulcer	STI/ genital discharge/ sore or ulcer	Number of men who ever had sexual inter-course
Age										
15-24	0.5	10.1	6.5	14.2	5,461	2.5	1.7	4.7	6.7	270
15-19	0.4	8.7	5.3	12.0	1,953	*	*	*	*	21
20-24	0.6	10.9	7.1	15.4	3,508	2.7	1.5	5.0	7.0	249
25-29	1.0	12.3	7.6	16.5	3,393	2.7	1.8	4.8	7.6	619
30-39	1.0	11.0	7.8	15.4	4,895	2.5	1.2	3.2	5.8	1,284
40-49	0.8	8.8	6.0	12.5	3,968	3.3	1.3	2.7	5.6	1,214
Marital status										
Married	0.8	10.5	7.0	14.7	16,613	2.8	1.4	3.4	6.1	3,357
Divorced/separated/ widowed	0.7	10.5	5.6	13.5	1,105	(2.1)	(0.0)	(8.6)	(8.6)	30
Residence										
Urban	0.8	9.4	6.2	13.1	4,611	2.3	0.9	2.4	4.5	949
Rural	0.8	10.8	7.2	15.1	13,106	3.0	1.6	3.9	6.8	2,438
Division										
Barisal	2.7	11.3	9.1	16.4	1,001	5.4	2.5	5.7	10.9	174
Chittagong	0.7	10.3	8.8	15.4	3,213	2.1	1.8	6.2	8.0	516
Dhaka	0.6	9.8	6.0	13.5	5,728	3.7	0.7	1.8	5.1	1,095
Khulna	0.9	12.0	7.7	16.3	2,132	1.7	1.9	4.6	6.2	429
Rajshahi	0.8	11.8	7.3	16.2	2,646	3.1	2.2	3.6	6.7	556
Rangpur	0.5	9.2	5.0	12.5	2,031	1.5	0.6	1.7	3.3	441
Sylhet	1.2	9.6	6.1	12.7	966	2.2	1.5	4.8	7.3	175
Education										
No education	0.5	11.2	6.8	14.7	4,909	3.5	1.9	3.5	6.5	889
Primary incomplete	1.0	11.7	8.0	16.5	3,261	2.7	1.3	3.8	7.0	821
Primary complete[1]	0.8	11.4	7.5	15.2	2,061	3.9	2.2	4.8	8.1	305
Secondary incomplete	1.0	10.2	6.9	14.6	5,369	2.3	1.2	3.6	6.0	756
Secondary complete or higher[2]	1.0	6.6	5.4	10.8	2,117	2.2	0.6	2.0	3.6	615
Wealth quintile										
Lowest	0.5	12.6	8.2	17.1	3,243	3.8	1.4	4.3	7.9	653
Second	0.7	11.7	7.4	15.8	3,480	2.0	2.1	3.9	6.8	664
Middle	0.9	11.0	6.5	14.8	3,563	3.7	1.6	4.7	7.6	647
Fourth	1.1	9.9	7.0	14.3	3,655	3.0	1.3	3.0	5.7	724
Highest	0.9	7.5	5.8	11.4	3,776	1.6	0.6	1.5	2.9	699
Total 15-49	0.8	10.5	7.0	14.6	17,717	2.8	1.4	3.5	6.1	3,387
50-54	na	na	na	na	na	2.2	0.7	1.6	4.3	604
Total 15-54	na	na	na	na	na	2.7	1.3	3.2	5.9	3,991

Note: Numbers in parentheses are based on 25-49 unweighted cases. An asterisk denotes a figure based on fewer than 25 unweighted cases that has been suppressed.
na = Not applicable
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Figure 12.2 Women and men seeking treatment for STIs



BDHS 2011

WOMEN'S EMPOWERMENT AND DEMOGRAPHIC AND HEALTH OUTCOMES 13

Key Findings

- Over one-third of currently married employed women who earn cash make decisions mainly by themselves on how to use their own earnings.
- More than half of currently married women go alone to the health center or hospital.
- Less than half (42 percent) of currently married women participate in all four decisions regarding their own health care, major household purchases, child health care, and visits to their family or relatives.
- One in three women agree with one or more reasons justifying wife beating.
- Contraceptive use increases as women's score on the decision making increases.
- Access to antenatal care, delivery assistance, and postnatal care within the first two days of delivery from health personnel increases the higher is women's score on the empowerment indices.

The 1994 International Conference on Population and Development declared that "advancing gender equality and equity and the empowerment of women and the elimination of all kinds of violence against women, and ensuring women's ability to control their own fertility are cornerstones of population and development related programmes" (United Nations, 1994). Women's empowerment has been defined to encompass women having a sense of self-worth, access to opportunities and resources, choices and the ability to exercise them, control over their own lives, and influence over the direction of social change (United Nations Population Information Network, 1995).

According to the United Nations Development Programme's (UNDP) Human Development Report for 2011, Bangladesh ranks 112 out of 187 countries on the Gender Inequality Index, which is defined in the report as "a composite measure reflecting inequality in achievements between women and men in three dimensions: reproductive health, empowerment, and the labour market." The 2011 Global Gender Gap Index, developed by the World Economic Forum, ranks Bangladesh 69 out of 135 countries in terms of gender equality (Hausmann et al., 2011). Thus, based on both gender-related indices, Bangladesh ranks among the bottom half of countries included in each index.

Empowerment and autonomy are essential for the achievement of sustainable development. The full participation and partnership of both women and men is required in productive and reproductive life, including the sharing of responsibilities for the care and nurture of children as well as for the maintenance of the household. In Bangladesh, women's empowerment is high on the list of priority improvements sought in the social and economic conditions of its people.

Data from the 2011 BDHS, previously discussed, show that women lag behind men in educational attainment, literacy, employment, and exposure to mass media. Achievements in these areas are critical contributors to women's empowerment. At the individual level, education, employment, and exposure to mass media all exert considerable influence on the development of a woman's personality and can help strengthen her position in the household and in society.

In this chapter, indicators of women's empowerment including employed women's control over their own earnings, women's freedom of movement, women's participation in household decisions, and

women's acceptance of wife beating are discussed. In addition, two summary indicators of women's empowerment are defined: an index of the number of household decisions (0-4) in which the respondent participates and an index of the number of reasons (0-5) the respondent accepts as justifying wife beating. The ranking of women on these two indices is then related to selected demographic and health outcomes including contraceptive use, ideal family size, unmet need for contraception, and receipt of health care services during pregnancy, at delivery, and in the postnatal period. In addition, survivorship of children is tabulated by these indices.

13.1 EMPLOYMENT AND FORM OF EARNINGS

Employment, particularly employment for cash, and control over how earnings are used are important indicators of empowerment for women. Currently married women were asked whether they were employed at the time of the survey and, if not, whether they were employed at any time during the 12 months preceding the survey. Table 13.1 shows the percentage of currently married women age 15-49 who were employed at any time in the 12 months preceding the survey, and the percent distribution of employed women by the type of earnings they received (cash, in-kind, both, or neither).

Thirteen percent of currently married women age 15-49 reported being employed in the past 12 months. By age, employment increases from 8 percent among women age 15-19 to 16 percent among women age 30-34, before declining to 12 percent in the oldest age group (45-49 years).

Although employment is assumed to go hand in hand with payment for work, not all women receive earnings for the work they do. Even among women who receive earnings, not all are paid in cash. Ninety-two percent of employed women are paid in cash only, 4 percent receive both cash and in-kind earnings, 2 percent are paid in kind, and 1 percent does not receive any form of payment for their work. Women age 15-19 are more likely to be paid in cash (97 percent) than their older counterparts.

Table 13.1 Employment and cash earnings of currently married women

Percentage of currently married women age 15-49 who were employed at any time in the past 12 months and the percent distribution of currently married women employed in the past 12 months by type of earnings, according to age, Bangladesh 2011

	Among currently married women:		Percent distribution of currently married women employed in the past 12 months, by type of earnings						
Age	Percentage employed	Number of women	Cash only	Cash and in-kind	In-kind only	Not paid	Missing/ don't know	Total	Number of employed women
15-19	7.9	1,925	97.3	1.3	0.8	0.6	0.0	100.0	153
20-24	12.5	3,396	94.6	2.9	0.8	1.1	0.6	100.0	425
25-29	15.4	3,262	94.7	2.8	1.6	0.9	0.0	100.0	501
30-34	15.9	2,532	91.6	4.2	1.8	1.3	1.2	100.0	404
35-39	14.1	2,081	91.2	4.7	2.0	2.1	0.0	100.0	294
40-44	13.2	1,937	87.5	6.5	3.7	0.8	1.6	100.0	255
45-49	11.9	1,501	85.3	8.1	3.9	0.9	1.8	100.0	179
Total	13.3	16,635	92.2	4.1	1.9	1.1	0.7	100.0	2,210

13.2 WOMEN'S CONTROL OVER THEIR OWN EARNINGS

Besides having access to income, women need to have control over their earnings to be empowered. To assess control over earnings, the survey asked currently married women with cash earnings in the past 12 months who the main decision maker is with regard to the use of their earnings. It is expected that women who control their own cash earnings will have a greater say in the use of other household resources.

Table 13.2 shows the percent distribution of currently married women who received cash earnings in the past 12 months, according to the person who mainly decides about the use of their earnings. Over one-third of currently married women who earn cash report that they themselves mainly decide how their cash earnings are used; another 55 percent report that they decide jointly with their husbands, and 8 percent

report that their husbands alone decide how their earnings are used. Women age 30-34 are less likely than older and younger women to mainly decide by themselves how their earnings are used (30 percent). Women with no children are more likely to make decisions regarding the use of their earnings than women with children. For example, 37 percent of currently married women with no children mainly decide by themselves how their earnings are used compared with 30 percent of women with five or more children. Urban women are more likely than rural women to mainly make decisions themselves about spending their earnings (36 percent and 32 percent, respectively). Rural women are more likely than urban women to report that their husbands alone make decisions about the use of their earnings (11 percent versus 5 percent, respectively).

Table 13.2 Control over women's cash earnings

Percent distribution of currently married women age 15-49 who received cash earnings for employment in the 12 months preceding the survey by person who decides how wife's cash earnings are used, according to background characteristics, Bangladesh 2011

Background characteristic	Person who decides how the wife's cash earnings are used:					Total	Number of employed women with cash earnings
	Mainly wife	Wife and husband jointly	Mainly husband	Other	Missing		
Age							
15-19	34.4	47.7	6.9	8.1	2.9	100.0	150
20-24	34.2	49.4	12.3	1.2	2.9	100.0	414
25-29	33.8	56.1	7.5	0.7	1.8	100.0	488
30-34	30.4	59.6	8.1	0.2	1.7	100.0	386
35-39	32.2	57.2	6.2	0.0	4.3	100.0	282
40-44	39.7	52.6	5.1	0.5	2.2	100.0	240
45-49	31.6	56.5	8.1	0.4	3.4	100.0	167
Number of living children							
0	37.0	46.0	8.9	3.6	4.5	100.0	254
1-2	34.5	55.1	7.0	1.0	2.3	100.0	1,220
3-4	30.7	56.8	10.1	0.3	2.1	100.0	534
5+	29.8	58.1	8.6	0.0	3.5	100.0	121
Residence							
Urban	35.9	56.4	4.6	0.9	2.3	100.0	868
Rural	32.0	53.4	10.5	1.2	2.8	100.0	1,260
Division							
Barisal	41.8	50.9	7.0	0.0	0.3	100.0	99
Chittagong	37.0	51.0	7.1	2.5	2.4	100.0	321
Dhaka	33.5	57.1	6.5	0.7	2.2	100.0	800
Khulna	40.7	46.1	9.0	0.8	3.3	100.0	241
Rajshahi	33.4	51.1	10.7	1.7	3.1	100.0	343
Rangpur	18.7	69.5	7.8	0.4	3.6	100.0	245
Sylhet	35.5	43.4	17.4	0.7	3.0	100.0	79
Education							
No education	25.4	62.6	8.5	0.4	3.1	100.0	581
Primary incomplete	30.3	57.6	8.8	0.6	2.7	100.0	405
Primary complete[1]	36.3	48.8	11.8	1.0	2.1	100.0	216
Secondary incomplete	39.5	47.1	7.9	2.8	2.7	100.0	502
Secondary complete or higher[2]	39.6	52.8	5.2	0.5	2.0	100.0	425
Wealth quintile							
Lowest	29.7	56.0	10.4	0.7	3.3	100.0	400
Second	24.1	60.1	10.8	1.2	3.8	100.0	358
Middle	34.7	51.5	10.8	1.4	1.5	100.0	367
Fourth	37.3	52.2	7.2	1.4	1.9	100.0	484
Highest	38.9	54.3	3.4	0.9	2.5	100.0	519
Total	33.6	54.6	8.1	1.1	2.6	100.0	2,128

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

There is substantial variation among the divisions in who makes decisions on how women's earnings are used. The proportion of employed women who mainly decide by themselves about the use of their earnings ranges from a high of 42 percent in Barisal to a low of 19 percent in Rangpur. Joint decision making on how the wife's earnings are used also varies among the divisions, ranging from 43 percent in

Sylhet to 70 percent in Rangpur. The women in Sylhet are more likely to have their husbands decide how their earnings are used (17 percent) than women in any other division.

Women's decision-making power regarding their earnings increases with their level of education and household wealth. Two in five women who have at least some secondary education mainly make the decision by themselves on how to use the money they earn compared with one in four women with no education (25 percent). Women with no education are more likely to decide jointly with their husbands (63 percent) about the use of their earnings. Thirty-nine percent of women in the highest wealth quintile mainly decide by themselves about the use of their earnings compared with 30 percent of women in the lowest wealth quintile.

13.3 FREEDOM OF MOVEMENT

Freedom of movement outside the home is an important aspect of women's autonomy and empowerment. This is particularly true in a largely patriarchal country such as Bangladesh with a long tradition, especially in rural areas, of *purdah*, which is the practice of secluding women from the view of men. The 2011 BDHS asked currently married women whether they go to a health center or hospital or, if they don't go, whether they can go alone or with their young children to a health center or hospital. Table 13.3 shows that 56 percent of women say that they go alone or with their young children to a health center or hospital and 22 percent do not go to a health center or hospital but say that they can go to these health facilities alone or with their children. The proportion of women who cannot go to the hospital or health center alone or accompanied by their children decreases from 42 percent among women age 15-19 to 16-18 percent among older women. Women with 1 to 4 children, urban women, women who have completed a secondary or higher level of education, and women in the highest wealth quintile are more likely than their counterparts to go to a health facility either alone or with their children. On the other hand, young women, rural women, women in Sylhet, and women in the lower wealth quintiles are more likely to be among those who cannot go to a health facility alone or accompanied by their young children.

Table 13.3 Freedom of movement

Percent distribution of currently married women age 15-49 by freedom of movement to go to a hospital or health center, according to background characteristics, Bangladesh 2011

Background characteristic	Go alone or with children to health center or hospital	Do not go to health center or hospital		Other	Total	Number of women
		Can go alone or with children	Cannot go alone or with children			
Age						
15-19	44.6	12.3	41.5	1.6	100.0	1,925
20-24	53.5	20.8	24.5	1.2	100.0	3,396
25-29	57.8	24.3	17.5	0.3	100.0	3,262
30-34	59.1	24.8	15.9	0.2	100.0	2,532
35-39	59.7	23.9	16.1	0.3	100.0	2,081
40-44	58.7	24.1	16.7	0.5	100.0	1,937
45-49	57.3	24.4	18.0	0.3	100.0	1,501
Number of living children						
0	50.7	2.1	44.5	2.7	100.0	1,688
1-2	57.3	22.4	19.7	0.5	100.0	8,389
3-4	57.6	26.1	16.0	0.2	100.0	5,037
5+	47.9	30.3	21.5	0.3	100.0	1,521
Residence						
Urban	63.3	20.1	16.3	0.3	100.0	4,292
Rural	53.3	22.9	23.0	0.8	100.0	12,343
Division						
Barisal	59.2	21.6	18.0	1.2	100.0	952
Chittagong	51.4	23.5	24.3	0.8	100.0	3,015
Dhaka	57.0	21.9	20.6	0.5	100.0	5,334
Khulna	60.6	20.7	18.7	0.0	100.0	1,996
Rajshahi	53.5	23.9	21.8	0.8	100.0	2,526
Rangpur	59.7	21.0	18.4	1.0	100.0	1,927
Sylhet	49.2	21.4	28.4	0.9	100.0	884
Education						
No education	52.2	24.0	23.2	0.7	100.0	4,379
Primary incomplete	53.4	25.4	20.6	0.6	100.0	3,056
Primary complete[1]	53.1	24.1	22.4	0.5	100.0	1,963
Secondary incomplete	57.1	20.4	21.7	0.8	100.0	5,176
Secondary complete or higher[2]	67.1	16.4	15.9	0.5	100.0	2,061
Wealth quintile						
Lowest	50.7	24.4	24.1	0.8	100.0	2,975
Second	53.2	22.5	23.5	0.8	100.0	3,267
Middle	53.2	22.7	23.3	0.7	100.0	3,372
Fourth	56.6	23.0	19.7	0.7	100.0	3,457
Highest	64.6	18.8	16.4	0.2	100.0	3,564
Total	55.9	22.2	21.2	0.6	100.0	16,635

[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

13.4 WOMEN'S EMPOWERMENT

The 2011 BDHS survey collected information from women on other measures of women's autonomy and status. In particular, questions were asked about women's participation in household decisions and their attitudes regarding gender roles. Such information provides insight into women's control over household resources and environment, factors that are relevant to understanding women's demographic and health behavior.

The ability of women to make decisions that affect the personal circumstances of their own lives is an essential aspect of empowerment and serves as an important contributor to their overall welfare. To assess currently married women's decision-making autonomy, the 2011 BDHS collected information on women's participation in four types of decisions: their own health care, major household purchases, their child's health care, and visits to their family or relatives. Table 13.4 shows the percent distribution of

currently married women age 15-49, according to the person in the household who usually makes decisions concerning these matters.

Table 13.4 Participation in decision making

Percent distribution of currently married women age 15-49 by person who usually makes decisions about various issues, Bangladesh 2011

Decision	Mainly wife	Wife and husband jointly	Mainly husband	Someone else	Other	Missing	Total	Number of women
Own health care	12.9	50.1	30.6	6.0	0.2	0.1	100.0	16,635
Major household purchases	7.0	52.5	29.8	10.2	0.3	0.1	100.0	16,635
Child health care	14.5	52.1	19.6	4.6	9.0	0.2	100.0	16,635
Visits to her family or relatives	9.7	52.9	28.7	8.2	0.3	0.2	100.0	16,635

Half of women make each of the four types of decisions jointly with their husbands. About thirty percent of currently married women report that their husbands are the main decision makers for decisions about their health care, major household purchases, and visits to family or relatives. Women have more say in decisions related to their children's health care; 15 percent say that they mainly make these decisions, and 20 percent report that their husbands mainly make these decisions.

Table 13.5 shows how currently married women's participation (alone or jointly) in decision making varies by background characteristics. The table presents the results for the four specific types of decisions asked about, namely women's own health care, making major household purchases, child's health care, and visits to the woman's family or relatives. In addition, the table includes two summary indicators: the proportion of women involved in making all four decisions and the proportion not involved in making any of the four decisions.

About three in five currently married women participate in each individual decision either alone or jointly with their husbands. Forty-two percent of currently married women participate in all four decisions, and 19 percent do not participate in any of the decisions.

Women's participation in all four decisions varies by background characteristics. Participation in decision making in general increases with age, with women age 15-24 being the least likely to participate in all four decisions. Urban women participate more in all four decisions than their rural counterparts (48 percent versus 39 percent, respectively).

As expected, employed women who have cash earnings are more likely to participate in all four decisions than women who are not employed (52 percent versus 40 percent, respectively). Women with no children are less likely to participate in all four household decisions (8 percent) than women with children (42 percent or higher).

Among administrative divisions, women's participation in decision making is lowest in Sylhet (35 percent) and Rajshahi (36 percent). Women in Sylhet also have the highest percentage of women who do not participate in any of the four types of decisions (25 percent).

Women's participation in decision making does not vary greatly by education or wealth, although women who have completed secondary or higher education (48 percent) and women in the highest wealth quintile (48 percent) are most likely to participate in all four decisions, and least likely to not participate in all four decisions.

Table 13.5 Women's participation in decision making by background characteristics

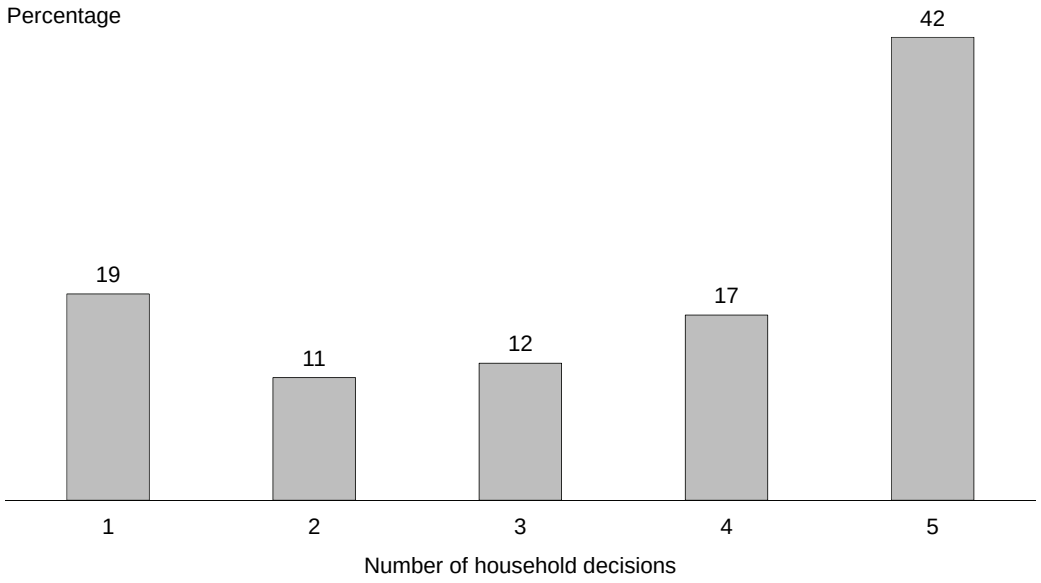
Percentage of currently married women age 15-49 who usually make specific decisions either by themselves or jointly with their husbands, by background characteristics, Bangladesh 2011

Background characteristic	Specific decisions				Percentage who participate in all four decisions	Percentage who participate in none of the four decisions	Number of women
	Woman's own health care	Making major household purchases	Child's health care	Visits to her family or relatives			
Age							
15-19	48.1	40.1	36.7	44.4	20.0	34.3	1,925
20-24	55.9	52.7	58.7	55.9	33.0	23.2	3,396
25-29	67.0	61.4	73.2	63.9	45.1	15.7	3,262
30-34	69.1	67.2	76.2	68.3	50.3	13.0	2,532
35-39	71.6	67.8	77.0	71.2	52.4	13.2	2,081
40-44	67.4	66.7	73.4	70.3	48.4	13.6	1,937
45-49	61.9	62.2	69.1	66.6	42.1	16.4	1,501
Employment (last 12 months)							
Not employed	61.3	57.3	65.7	61.1	39.9	19.6	14,425
Employed for cash	75.2	74.0	72.8	72.8	52.4	11.0	2,128
Employed not for cash	65.5	62.8	73.7	66.8	47.2	18.5	67
Number of living children							
0	50.1	43.3	11.9	48.5	7.9	34.7	1,688
1-2	64.2	60.0	72.5	63.3	44.7	17.1	8,389
3-4	66.2	64.3	73.9	66.5	47.2	15.2	5,037
5+	60.7	59.2	70.3	61.4	42.3	18.8	1,521
Residence							
Urban	68.6	68.1	71.3	71.2	48.4	13.4	4,292
Rural	61.1	56.5	65.0	59.6	39.2	20.3	12,343
Division							
Barisal	65.8	60.2	71.2	64.7	46.2	18.3	952
Chittagong	61.1	53.3	63.4	55.7	38.5	22.9	3,015
Dhaka	62.9	62.0	65.9	67.3	41.9	16.9	5,334
Khulna	65.5	62.5	72.1	64.3	42.9	15.1	1,996
Rajshahi	60.3	57.1	62.1	57.0	36.1	20.5	2,526
Rangpur	69.0	66.7	73.2	69.2	51.9	14.1	1,927
Sylhet	56.5	49.4	62.9	53.2	35.0	24.6	884
Education							
No education	62.4	60.4	67.2	63.7	42.4	18.7	4,379
Primary incomplete	62.1	60.6	69.0	61.8	41.8	18.1	3,056
Primary complete[1]	60.3	56.2	64.4	60.9	40.6	21.8	1,963
Secondary incomplete	61.9	56.8	63.7	59.2	38.3	19.8	5,176
Secondary complete or higher[2]	71.3	65.9	71.2	71.7	48.3	12.2	2,061
Wealth quintile							
Lowest	62.0	59.9	65.5	61.8	41.0	18.9	2,975
Second	61.0	58.1	65.1	59.5	39.6	20.3	3,267
Middle	59.9	56.5	63.2	59.2	38.4	21.4	3,372
Fourth	63.2	57.3	66.6	62.1	40.1	18.8	3,457
Highest	68.5	65.5	72.1	69.8	48.1	13.4	3,564
Total	63.0	59.5	66.6	62.6	41.5	18.5	16,635

Note: Total includes 15 women with missing information on employment in the last 12 months.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

Women may have a say in some, but not all decisions. The number of decisions that a woman makes by herself or jointly with her husband is positively related to women's empowerment and reflects the degree of control women are able to exercise in areas that affect their lives and environments. Figure 13.1 shows the percent distribution of currently married women according to the number of decisions in which they participate. Two in five currently married women participate in all four household decisions, yet about one in five participates in none.

Figure 13.1 **Number of decisions in which currently married women participate**



BDHS 2011

13.5 ATTITUDES TOWARD WIFE BEATING

The critical problems that women face are many and diverse. One of the most serious is violence, and Bangladesh is no exception in this regard. One of the most common forms of violence against women worldwide is abuse by the husband or partner (Heise et al., 1999). The 2011 BDHS obtained information on women's attitudes toward wife beating. Women were asked about their opinion on whether a husband is justified in hitting or beating his wife under a series of circumstances: if she burns the food, if she argues with him, if she goes out without telling him, if she neglects the children, and if she refuses to have sexual intercourse with him. A woman's attitude toward wife beating is considered a proxy for her perception of women's status. A lower score on the "number of reasons wife beating is justified" indicates a woman's greater sense of entitlement, self-esteem, and status and reflects positively on her sense of empowerment. Agreement with wife beating as justified indicates that a woman generally accepts the right of a man to control her behavior even by means of violence. Such a perception could act as a barrier to accessing health care for her children and herself, affect her attitude toward contraceptive use, and have an impact on her general well-being.

Table 13.6 shows the percentage of currently married women age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics. One-third of women agree that a husband is justified in beating his wife for at least one of the reasons listed.

The most widely accepted reason for wife beating among women in Bangladesh is arguing with her husband (22 percent), followed by neglecting the children (19 percent). Less than one-fifth of women (17 percent) agree that going out without telling her husband is a justifiable reason for wife beating. Eight percent of women agree that refusing to have sexual intercourse is an acceptable reason for a man to beat his wife, and 4 percent of women agree that a husband is justified in beating his wife if she burns the food.

Agreement with at least one reason for wife beating varies little with age or marital status. Women who are employed and get paid in cash (30 percent), reside in urban areas (24 percent), reside in Khulna (27 percent), have completed secondary or higher education (18 percent), and are in households within the highest wealth quintile (19 percent) are less likely than most other women to agree with at least one reason for wife beating.

Table 13.6 Women's attitude toward wife beating

Percentage of women age 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics, Bangladesh 2011

Background characteristic	Husband is justified in hitting or beating his wife if she:					Percentage who agree with at least one specified reason	Number of women
	Burns the food	Argues with him	Goes out without telling him	Neglects the children	Refuses to have sexual intercourse with him		
Age							
15-19	4.1	22.4	14.3	18.7	6.5	32.7	1,970
20-24	3.8	22.4	16.5	19.2	7.9	32.2	3,514
25-29	2.8	21.0	16.2	18.4	7.7	31.3	3,394
30-34	3.9	21.2	18.3	18.4	8.3	32.1	2,654
35-39	4.6	23.4	18.5	19.3	8.7	32.6	2,246
40-44	5.3	24.4	19.3	19.4	9.2	34.2	2,152
45-49	5.2	23.6	19.1	18.4	8.6	33.9	1,820
Employment (last 12 months)							
Not employed	4.2	22.7	17.5	19.2	8.3	33.0	15,090
Employed for cash	3.2	20.6	16.1	16.3	7.0	29.7	2,553
Employed not for cash	4.0	31.0	23.4	28.2	7.5	42.7	88
Number of living children							
0	3.4	20.2	13.9	17.6	5.3	29.9	1,867
1-2	3.4	21.1	15.9	18.1	7.6	30.8	8,889
3-4	4.9	24.3	19.6	19.8	9.3	34.9	5,359
5+	6.0	26.1	21.8	21.0	10.4	37.4	1,635
Marital status							
Married or living together	3.9	22.4	17.2	18.8	8.0	32.5	16,635
Divorced/separated/ widowed	6.1	23.3	18.6	19.6	9.8	32.6	1,114
Residence							
Urban	2.5	15.6	11.9	14.2	5.4	23.8	4,619
Rural	4.6	24.9	19.3	20.5	9.1	35.6	13,130
Division							
Barisal	3.8	22.7	16.7	19.1	7.3	30.5	1,002
Chittagong	6.4	23.4	20.5	21.6	10.5	34.1	3,222
Dhaka	2.6	17.3	14.7	17.4	5.8	27.9	5,736
Khulna	2.1	19.6	13.0	13.4	5.3	26.6	2,139
Rajshahi	4.9	34.9	23.1	24.4	11.2	46.2	2,646
Rangpur	4.5	19.8	16.3	16.9	7.9	30.3	2,039
Sylhet	6.9	27.6	19.1	18.9	13.1	37.5	967
Education							
No education	5.9	27.4	22.1	21.4	10.4	38.4	4,912
Primary incomplete	5.3	26.4	20.0	21.2	10.0	36.2	3,264
Primary complete[1]	4.1	23.8	20.1	20.3	9.2	35.0	2,062
Secondary incomplete	2.9	19.8	14.1	17.7	6.6	29.9	5,383
Secondary complete or higher[2]	1.0	10.5	7.5	10.8	2.7	17.9	2,127
Wealth quintile							
Lowest	6.5	30.7	22.2	24.4	11.6	41.3	3,250
Second	5.8	27.3	21.7	23.1	10.7	38.4	3,487
Middle	4.4	23.9	19.7	20.2	8.8	34.5	3,567
Fourth	2.9	20.5	15.8	16.6	6.8	31.0	3,664
Highest	1.2	11.4	8.3	10.9	3.4	19.3	3,781
Total	4.1	22.4	17.3	18.8	8.1	32.5	17,749

Note: Total includes 18 women with missing information on employment in the last 12 months.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

13.6 INDICATORS OF WOMEN'S EMPOWERMENT

Women's empowerment has important implications for demographic and health outcomes, including women's use of family planning and maternal health care services. To examine how selected demographic and health outcomes vary by women's empowerment, information on women's participation

in household decision making and their attitudes toward wife beating are summarized in two separate indices.

The first index is the number of decisions (0-4) women participate in, alone or jointly with their husbands (see Table 13.4 for the list of decisions). This index is positively related to women's empowerment and reflects the degree of control that women are able to exercise through making decisions in areas that affect their own lives and environments.

The second index is the number of reasons (0-5) with which women agree justifying a husband beating his wife (see Table 13.6 for the list of reasons). A lower score on this index is interpreted as reflecting a greater sense of entitlement, higher self-esteem, and a higher status of women.

In general, it is expected that women who participate in making household decisions are also more likely to have gender-egalitarian beliefs and to reject wife beating. Accordingly, Table 13.7 provides an overview on how these two basic empowerment indices—number of decisions in which women participate and number of reasons for which wife beating is justified—relate to one another.

Women's rejection of all the reasons for wife beating varies only somewhat by the number of decisions they participate in. Specifically, 65-66 percent of women who participate in 0-3 decisions reject all the reasons for wife beating compared with 70 percent of women who participate in all four decisions. However, the proportion of women who participate in all four decisions does not vary uniformly with the number of reasons for which wife beating is justified. Although, the percentage of women who participate in all four decisions is highest, at 43 percent, for women who do not agree with any reason for wife beating and falls to 34 percent for women who agree with 3-4 reasons for wife beating, it rises again to 42 percent for women who agree with all five reasons for wife beating.

Table 13.7 Indicators of women's empowerment

Percentage of currently married women age 15-49 who participate in all four decisions and the percentage who disagree with all of the reasons justifying wife beating, by value on each of the indicators of women's empowerment, Bangladesh 2011

Empowerment indicator	Percentage who participate in all four decisions	Percentage who disagree with all the reasons justifying wife beating	Number of women
Number of decisions in which women participate[1]			
0	na	65.2	3,075
1-2	na	65.2	3,882
3	na	66.1	2,768
4	na	70.3	6,910
Number of reasons for which wife beating is justified[2]			
0	43.3	na	11,223
1-2	39.1	na	3,632
3-4	33.7	na	1,390
5	42.1	na	391

na = Not applicable
[1] See Table 13.4 for the list of decisions.
[2] See Table 13.6 for the list of reasons.

13.7 CURRENT USE OF CONTRACEPTION BY WOMEN'S EMPOWERMENT

A woman's desire and ability to control her fertility and the contraceptive method she chooses are likely to be affected by her status in the household, her self-image, and her own sense of empowerment. A woman who feels that she is unable to control other aspects of her life may be less likely to feel that she can make and carry out decisions about her fertility. She may also feel the need to choose methods that can be hidden from others or that do not depend on her husband's cooperation. Table 13.8 shows the

distribution of currently married women age 15-49 by current contraceptive method, according to the two women's empowerment indices.

Contraceptive use is positively associated with women's participation in household decision making, but varies little by women's agreement with wife beating. In particular, use of any method and any modern method is higher among women who participate in all four decisions (66 percent and 56 percent, respectively) than among women who participate in none (51 percent and 44 percent, respectively).

Table 13.8 Current use of contraception by women's empowerment

Percent distribution of currently married women age 15-49 by current contraceptive method, according to selected indicators of women's empowerment, Bangladesh 2011

Empowerment indicator	Any method	Any modern method	Modern methods				Any traditional method	Not currently using	Total	Number of women
			Female sterilization	Male sterilization	Temporary modern female methods[1]	Male condom				
Number of decisions in which women participate[2]										
0	51.4	44.3	4.1	1.0	35.0	4.3	7.1	48.6	100.0	3,075
1-2	60.6	51.3	4.9	1.3	39.6	5.6	9.3	39.4	100.0	3,882
3	60.8	51.3	4.1	1.3	40.0	6.0	9.5	39.2	100.0	2,768
4	66.1	56.2	5.8	1.3	43.2	5.9	9.9	33.9	100.0	6,910
Number of reasons for which wife beating is justified[3]										
0	61.9	52.8	4.9	1.2	40.3	6.4	9.1	38.1	100.0	11,223
1-2	60.3	50.7	4.9	1.2	40.5	4.2	9.5	39.7	100.0	3,632
3-4	58.5	50.0	5.6	1.4	39.7	3.3	8.5	41.5	100.0	1,390
5	59.5	50.5	6.8	1.9	39.9	1.9	9.0	40.5	100.0	391
Total	61.2	52.1	5.0	1.2	40.3	5.5	9.2	38.8	100.0	16,635

Note: If more than one method is used, only the most effective method is considered in this tabulation.
[1] Pill, IUD, injectables, implants, and lactational amenorrhoea method
[2] See Table 13.4 for the list of decisions.
[3] See Table 13.6 for the list of reasons.

13.8 IDEAL FAMILY SIZE AND UNMET NEED BY WOMEN'S EMPOWERMENT

The ability of women to make decisions effectively has important implications for their fertility preferences and for meeting their family-size goals. In particular, it is expected that more empowered women will want smaller families and be better able to negotiate decisions regarding fertility and family planning. Hence, unmet for family planning, which reflects women's unsatisfied need for contraception, should be lower among more empowered women.

Table 13.9 shows how women's ideal family size and their unmet need for family planning vary by the two indicators of women's empowerment. The mean ideal family size shows no variation by the number of decisions in which women participate, but increases somewhat with the number of reasons for which wife beating is justified by them. Women who agree that wife beating is not justified at all desire 2.2 children compared with 2.4 children for women who agree that wife beating is justified for all five reasons.

There is an association between participation in decision making and unmet need for family planning. Women who participate in no household decisions have higher unmet need for family planning (16 percent) than women who participate in one or more decisions (12-14 percent). Unmet need is however higher among women who do not agree with any reason for wife beating and declines somewhat with the number of reasons justifying wife beating from 14 percent for women who agree with no reason for wife beating to 12 percent for women who agree with all five reasons.

Table 13.9 Women's empowerment and ideal number of children and unmet need for family planning

Mean ideal number of children for women 15-49 and the percentage of currently married women age 15-49 with an unmet need for family planning, by indicators of women's empowerment, Bangladesh 2011

Empowerment indicator	Mean ideal number of children[1]	Number of women	Percentage of currently married women with an unmet need for family planning[2] For spacing	For limiting	Total	Number of women
Number of decisions in which women participate[3]						
0	2.2	3,026	9.0	7.1	16.1	3,075
1-2	2.2	3,837	5.7	6.7	12.4	3,882
3	2.2	2,752	4.5	7.0	11.6	2,768
4	2.2	6,878	4.0	9.7	13.7	6,910
Number of reasons for which wife beating is justified[4]						
0	2.2	11,900	5.5	8.0	13.5	11,223
1-2	2.2	3,805	5.3	8.2	13.4	3,632
3-4	2.3	1,469	5.7	8.1	13.8	1,390
5	2.4	415	3.7	8.5	12.3	391
Total	2.2	17,590	5.4	8.1	13.5	16,635

[1] Mean excludes respondents who gave non-numeric responses.
[2] See Table 7.14 for the definition of unmet need for family planning
[3] Restricted to currently married women. See Table 13.4 for the list of decisions.
[4] See Table 13.6 for the list of reasons

13.9 REPRODUCTIVE HEALTH CARE BY WOMEN'S EMPOWERMENT

Table 13.10 examines whether empowered women are more likely to access antenatal, delivery, and postnatal care services from medically trained health personnel. In societies where health care is widespread, women's empowerment may not affect their access to reproductive health services. In other societies, however, increased empowerment of women is likely to increase their ability to seek out and use health services from qualified health providers to better meet their own reproductive health goals, including the goal of safe motherhood. The table includes only women who had a birth in the three years preceding the survey and examines their access to antenatal care, delivery care, and postnatal care from trained health personnel for their most recent birth.

Both indicators of women's empowerment are related to women's access to reproductive health care for their most recent birth. For example, the proportion of women receiving antenatal care from health personnel increases from 51 percent among women who participate in no decisions to 56-57 percent among women who participate in 3-4 decisions; the corresponding increase in the proportion of women receiving delivery assistance from health personnel increases from 28 percent among women who participate in no decisions to 34 percent among women who participate in all four decisions. A similar increase of about seven percentage points is observed in the proportion of women who received postnatal care within two days of delivery from health personnel between women with the lowest and the highest value on the decision making index.

Women's attitude toward wife beating is also related to their use of all three health services. Compared with women who believe that wife beating is not justified for any reason, women who accept all five reasons for wife beating are less likely to receive antenatal care (38 percent compared with 58 percent for women who agree with no reason) and delivery assistance (20 percent compared with 35 percent for women who agree with no reason) from health personnel. Women who agree with 3-5 reasons justifying wife beating are also less likely to have received postnatal care (16 percent) within the first two days of delivery from health personnel than women who reject all the reasons for wife beating (30 percent).

Table 13.10 Reproductive health care by women's empowerment

Percentage of women age 15-49 with a live birth in the three years preceding the survey who received antenatal care, delivery assistance, and postnatal care from health personnel for the most recent birth, by indicators of women's empowerment, Bangladesh 2011

Empowerment indicator	Received antenatal care from health personnel	Received delivery assistance from health personnel	Received postnatal care from health personnel within the first two days after delivery[1]	Number of women with a child born in the past three years
Number of decisions in which women participate[2]				
0	51.0	28.4	22.7	983
1-2	54.2	31.9	26.4	1,152
3	57.2	32.1	28.5	668
4	56.3	34.1	29.6	1,803
Number of reasons for which wife beating is justified[3]				
0	58.2	35.0	30.2	3,128
1-2	50.7	28.1	23.5	1,023
3-4	40.6	20.6	15.5	391
5	37.7	20.0	15.9	110

Note: For delivery assistance, "health personnel" includes doctor, nurse, midwife, auxiliary nurse, family welfare visitor (FWV), and community skilled-birth attendant (CSBA). For antenatal care and postnatal care, "health personnel" includes these cadres plus medical assistant (MA) and sub-assistant community medical officer (MA/SACMO)

[1] Includes both women who gave birth in a health facility and those who did not give birth in a health facility.

[2] Restricted to currently married women. See Table 13.4 for the list of decisions.

[3] See Table 13.6 for the list of reasons.

13.10 INFANT AND CHILD MORTALITY AND WOMEN'S EMPOWERMENT

The ability of women to access information, make decisions, and act effectively in their own interests or in the interests of those who depend on them are essential aspects of empowerment. It follows that if women, who are the primary caretakers of children, are empowered, the health and survival of their children would be enhanced. In fact, mother's empowerment fits into the Mosley-Chen framework on child survival as an intervening individual-level variable that affects child survival through proximate determinants (Mosley and Chen, 1984).

Table 13.11 shows that infant and under-five mortality rates decline as women's participation in decision making increases. For example, in the case of women who make no decisions, infant mortality is 49 deaths per 1,000 live births and under-five mortality is 59 deaths per 1,000 live births, compared with an infant mortality of 38 deaths per 1,000 live births and an under-five mortality of 47 deaths per 1,000 live births for women who participate in all four decisions. Similarly, infant mortality and under-five mortality rise sharply with women's agreement with wife beating. Among women who do not agree with any reason for wife beating, infant mortality and under-five mortality are 39 and 49 per 1,000 live births, respectively, compared with 56 and 71 for women who agree with 3-4 reasons for wife beating.

Table 13.11 Early childhood mortality rates by women's empowerment

Infant, child, and under-five mortality rates for the 5-year period preceding the survey, by indicators of women's empowerment, Bangladesh 2011

Empowerment indicator	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-five mortality ($_5q_0$)
Number of decisions in which women participate[1]			
0	49	10	59
1-2	43	14	56
3	44	14	57
4	38	10	47
Number of reasons for which wife beating is justified[2]			
0	39	10	49
1-2	49	13	62
3-4	56	16	71
5	*	*	*

* An asterisk indicates that the indicator is based on fewer than 250 children exposed, and has been suppressed.
[1] Restricted to currently married women. See Table 13.4 for the list of decisions.
[2] See Table 13.6 for the list of reasons.

CAUSES OF DEATH IN CHILDREN UNDER AGE 5 14

Key Findings

- Pneumonia remains the largest single cause of under-5 deaths in Bangladesh, accounting for one-fifth of all deaths.
- Possible serious infection or sepsis is responsible for almost a quarter of neonatal deaths and for 15 percent of all under-5 deaths.
- Birth asphyxia is responsible for 21 percent of neonatal deaths and for 12 percent of all under-5 deaths.
- Drowning is responsible for two-fifths of deaths of children between ages 12 months and 59 months.

Understanding the causes of death among children under age 5 is important for health sector planning, including assessment of program needs, monitoring of progress of interventions, and reassessment of health priorities. Data on causes of death is often limited in developing countries, however. This is true for Bangladesh, as the country's vital registration system has poor coverage, and most deaths occur outside of the health system where the cause of death is not reported. Verbal autopsy has been used to assign the cause of death in such settings. Verbal autopsy is a method of assessing the cause of death based on an interview with the next of kin or caregivers who were present at the time of death or who are knowledgeable about the events leading up to the death. To meet the demand for population-level disease-burden estimates to be used in policy development, planning, priority-setting, and benchmarking, verbal autopsy has become a source of cause-of-death statistics (Murray et al., 1996). Verbal autopsies have been used previously in Bangladesh to provide important data on the causes of child death (Chen et al., 1980; Zimicki et al., 1985; D'Souza, 1985; Bhatia, 1989; Fauveau et al., 1994; Snow et al., 1992; Kalter et al., 1990; Kamal et al., 1994; Salway et al., 1994; Baqui et al., 1998; Baqui et al. 2001, Arifeen et al., 2005).

According to the verbal autopsy study in the 2004 BDHS (Arifeen et al., 2005), possible serious infections (31 percent) and acute respiratory infections (ARIs) (21 percent) were the two leading causes of all under-5 deaths. These were followed by birth asphyxia (12 percent), diarrhea (5 percent), and prematurity or low birth weight (7 percent). Drowning was responsible for about 19 percent of deaths at 12-59 months.

The 2011 BDHS shows that the under-5 mortality rate has declined by 18 percent since the 2007 BDHS survey (65 and 53 deaths per 1,000 live births, respectively) and by 40 percent since the 2004 BDHS (88 and 65 deaths per 1,000 live births, respectively). The decline in neonatal mortality in the two periods is 14 percent and 21 percent respectively. This impressive decline in child mortality warrants further investigation. An assessment of the cause structure 1of child deaths may help explain these declines while guiding attention towards causes of death that remain persistently high.

This chapter presents information on the relative and proportional distribution of causes of neonatal, postneonatal, infant, and child deaths. The cause of death distribution is disaggregated by the sex of the child, urban-rural residence, division, and mother's education.

14.1 DATA COLLECTION

In the 2011 BDHS, information on deaths of children under age 5 in the sampled households was obtained from the birth history section of the Woman's Questionnaire that was administered to all ever-

married women age 12-49 years.[1] If a child under age 5 had died in a household in the five years preceding the survey (which corresponds roughly to calendar years 2006-2011), a Verbal Autopsy Questionnaire (VAQ) was administered by the data collection team supervisor within a day of identification of the death. Two types of VAQs were used in the 2011 BDHS: one was administered for deaths under age 4 weeks, and the other was used for deaths between age four weeks and age 5.

The verbal autopsy questionnaires used in the 2011 BDHS are basically similar to those used in the 2004 BDHS. The 2004 BDHS verbal autopsy instrument was developed from several other instruments, including the questionnaire used in the verbal autopsy surveys based on the 1993-94 and 1996-97 BDHS samples (Baqui et al., 1998; Baqui et al., 2001), the WHO verbal autopsy questionnaire, and the instrument being used since 2003 in the Matlab Health and Demographic Surveillance System (HDSS). This instrument was developed on the basis of work done by the In-Depth Verbal Autopsy Working Group, which used the verbal autopsy questionnaire from the Adult Morbidity and Mortality Project in Tanzania, which, in turn, had evolved out of the WHO questionnaire. The differences between the 2011 BDHS instruments and the 2004 BDHS instruments are primarily in the structure and in the coding categories, which were made to be consistent with those used in the Woman's Questionnaire. A few questions, particularly on timing of symptoms/signs, were excluded from the 2011 BDHS questionnaires to make them simpler and easier to administer.

The 2011 BDHS VAQs included some questions with pre-coded responses and other questions that allowed open-ended responses, including narrative stories. The instruments included the following sections:

1) Identification, including the detailed address of the respondent and informed consent
2) Information about the caretaker, or the respondent, for the deceased child
3) Information on the age and place of death of the deceased child
4) An open-ended narrative history of events leading to the death
5) Information on prenatal care, labor, delivery, and obstetrical complications
6) Information about accidental death or a delivery history
7) Detailed description of the signs and symptoms preceding death; information about treatment preceding death; and information about any direct, underlying, or contributing causes of death to be gained from the death certificate, if available.

14.2 ASSIGNMENT OF CAUSE OF DEATH

The assignment of the causes of death in this survey was done by physicians who were specially hired and trained for this task. This is the most common method of interpreting verbal autopsy data without the use of computer algorithms (Soleman et al., 2006; Fottrell and Byass, 2010). The physician's interpretation of data recorded in the questionnaires involves subjectivity and judgment. Therefore, the questionnaires were independently analyzed by two physicians from a group of three physicians. The physicians were blinded regarding the order of the review by allocating different codes to the verbal autopsy forms. The codes were generated and maintained by a statistician who reallocated the forms with different codes to the next reviewer after the completion of each review. The physicians coded the causes of deaths based on the 2010 version of the International Classification of Deaths (ICD-10), allocating a single, direct cause, two underlying causes, and a single contributory cause. When the two physicians agreed on the direct cause and at least one of the underlying causes, then the agreed-upon causes were considered to be the final causes. In the absence of agreement, an additional review was conducted by a third physician. If the direct cause and at least one underlying cause were agreed upon by any two physicians, these were considered the final direct and underlying cause of death. If no agreement was

[1] Because information on deaths was collected only from ever-married respondents, the verbal autopsy results presented in the report exclude deaths of children born to women in the reference period whose mothers died prior to the survey.

reached after the third physician review, the death was recorded as "undetermined." In a few cases where two physicians had assigned identical causes of deaths but disagreed on whether these were the direct or underlying causes, a discussion was arranged to reconcile the differences.

The cause of death results from the 2011 BDHS are compared in this report with the 2004 findings. In interpreting those findings several factors should be considered. First, in the 2011 BDHS questionnaires, some key questions included in the 2004 BDHS instrument were excluded. These questions asked whether the child had stopped crying before death; appeared lethargic; was able to grasp objects; and had noisy breathing, stridor, wheezing, dry mouth, or loose skin that persisted until death.

The 2004 BDHS also handled the assignment of causes of death differently than the 2011 survey. In the 2004 BDHS, the causes of death were assigned using computer algorithms involving a hierarchical process that followed several mutually exclusive tiers of algorithms applied in sequence (Arifeen et al., 2005). If no causes of deaths were ascertained by the computer algorithms, the cause of death was assigned based on a physician's review. To enable comparison of the 2011 BDHS data with data in the 2004 BDHS in these sections, the 2004 BDHS data was reanalyzed based only on physicians' reviews. However, pre-term births were underestimated as a cause of death in the physician review of the 2004 BDHS, because some of these deaths were reported under direct causes of death (for example birth asphyxia or infections) or had been classified as undetermined or unspecified. To correct for this, when the physicians assigned premature birth as the underlying cause or the physician assigned an undetermined or unspecified cause, and the VAQ reported that the child was born smaller than normal or before term, then the child's cause of death was changed to premature birth.

Because the verbal autopsy information was collected only for deaths of children born in the 5 years preceding the survey rather than for all deaths under age 5 in the five years prior to the survey, there is an under-representation of deaths with increasing age. In fact, there are no deaths reported between age 48 and age 59 months. In the 2011 analysis and the 2004 reanalysis of the cause of deaths, the under-representation was addressed by inflating the number of deaths with verbal autopsy data to get the estimated number of deaths that would have been included if all under-5 deaths in the past five years had been included. The mortality rates for each age group were calculated for the five years before the survey based on the full birth history, and the expected number of deaths by age and background characteristics was estimated. The ratio of the expected deaths and actual deaths with VA data was used to inflate the number of deaths by cause and characteristic, which was used to calculate the percent distribution of deaths. The inflation and rounding by different causes and characteristics resulted in small differences in the total number of deaths in the tables presented in the next section.

14.3 CAUSES OF DEATH AMONG CHILDREN UNDER AGE 5

The percent distribution by cause of deaths among children under age 5 is presented in Table 14.1 by age group. For all children under age 5, pneumonia is the most important cause of deaths (22 percent), followed by possible serious infections or sepsis (15 percent), birth asphyxia (12 percent), drowning (9 percent), and pre-term birth (7 percent). For 17 percent of the cases, the causes of death were not ascertained because of a lack of information. These causes were classified as unspecified. For 3 percent of deaths, the causes of death could not be determined because of a lack of agreement between the reviewing physicians.

Table 14.1 Causes of death among children under five by age group

Percent distribution of deaths among children under age 5 (weighted), by cause of death according to age group, Bangladesh 2011

Cause of death	Age group			
	Neonatal (0-28 days)	Postneonatal (29 days-11 months)	Age 12-59 months	Under 5 years
Neonatal tetanus	3.0	0.0	0.0	1.8
Congenital abnormality	1.2	1.4	0.0	1.0
Drowning	0.0	0.7	42.6	9.2
Birth asphyxia	20.5	0.0	0.0	12.4
Birth injury	4.0	0.0	0.0	2.4
Measles	0.0	3.3	0.0	0.6
Diarrhoea	0.0	7.5	2.8	2.0
Pneumonia	12.6	52.9	21.7	22.0
Meningitis	0.2	6.7	0.0	1.4
Neonatal jaundice	2.3	0.0	0.0	1.4
Pre-term birth	11.3	0.0	0.0	6.8
Possible serious infection	24.3	1.4	1.0	15.1
Malnutrition	0.0	2.3	0.0	0.4
Other causes[1]	0.1	10.5	10.4	4.2
Unspecified	17.5	11.7	18.1	16.6
Undetermined	3.0	1.6	3.5	2.9
Total	100.0	100.0	100.0	100.0
Number of deaths	286	88	101	475

[1] Other causes include acute paralytic poliomyelitis, acute viral hepatitis, leukaemia, nephrotic syndrome, intestinal obstruction, malaria, and food in respiratory tract.

Among neonates, possible serious infections are the most important cause of death (24 percent), followed by birth asphyxia (21 percent), pneumonia (13 percent), and pre-term birth (11 percent).

More than half of deaths among post-neonates (age 29 days to 11 months) are associated with pneumonia, while meningitis contributed an additional 7 percent and diarrhea 8 percent. Eleven percent of deaths are attributed to other causes, including acute paralytic poliomyelitis, intestinal obstruction, leukemia, nephritic syndrome, and food in respiratory track.

Forty-three percent of deaths among children 12-59 months were attributed to drowning, followed by pneumonia (22 percent). There is a large increase in deaths due to drowning among the infants age 12-59 months, from 19 percent in 2004 to 43 percent in 2011. At the same time, there is a considerable reduction of "confirmed" diarrhea as a cause of death, from 8 percent in 2004 to 3 percent in 2011.

There are several differences between the 2011 BDHS and the 2004 BDHS in the cause-of-death patterns, particularly in the greater prominence of neonatal causes of deaths, which can be related to a greater proportion of neonatal deaths in 2011 (60 percent) compared with 2004 (47 percent).

14.4 DIFFERENTIALS IN CAUSE OF UNDER-5 DEATHS

Differentials in cause of death by sex of child, urban-rural residence, mother's education, and administrative division are presented in Tables 14.2 to 14.4. There is a small difference in the total number of deaths reported in the different tables. This difference is due to a rounding error that occurred in the process when verbal autopsy data were inflated by causes and characteristics on the basis of birth history data.

There are some differences in causes of death between boys and girls (Table 14.2). Whereas pneumonia is the most important cause of death for boys and girls, it is more common among girls (25 percent) than boys (19 percent). Boys are much more likely to die from birth asphyxia than girls (17 percent versus 8 percent, respectively).

Table 14.2 Causes of death among children under 5 by sex of child and residence

Percent distribution of deaths among children under 5 by cause of death (weighted), according to sex of child and residence, Bangladesh 2011

	Sex of child		Residence	
Cause of death	Male	Female	Rural	Urban
Neonatal tetanus	2.3	1.3	2.3	0.0
Congenital abnormality	0.2	1.9	1.1	0.6
Drowning	8.7	9.7	9.9	6.2
Birth asphyxia	16.5	7.6	10.7	19.0
Birth injury	2.6	2.2	2.1	3.6
Measles	1.1	0.0	0.7	0.3
Diarrhoea	1.1	3.0	1.6	3.3
Pneumonia	19.3	25.2	22.3	20.7
Meningitis	0.6	2.2	1.3	1.4
Neonatal jaundice	2.1	0.6	1.5	0.8
Premature birth	7.1	6.4	6.8	6.8
Possible serious infection	14.1	16.2	16.3	10.4
Malnutrition	0.8	0.0	0.5	0.0
Other causes[1]	4.2	4.1	4.5	3.1
Unspecified	15.6	17.9	16.2	18.1
Undetermined	3.7	1.9	2.1	5.7
Total	100.0	100.0	100.0	100.0
Number of deaths	256	219	378	98

[1] Other causes include acute paralytic poliomyelitis, acute viral hepatitis, leukaemia, nephrotic syndrome, intestinal obstruction, malaria, and food in the respiratory tract.

Possible serious infection is more common in rural areas than in urban areas (16 percent versus 10 percent), while birth asphyxia is more important in urban than rural areas (19 percent versus 11 percent), which is partly due to the larger contribution of neonatal deaths in urban areas. Deaths by drowning are more often found in rural areas than in urban areas (10 percent versus 6 percent).

Birth asphyxia (20 percent), pneumonia (18 percent), and possible serious infections (18 percent), are the most often-reported causes of death for children whose mothers had at least a secondary education (Table 14.3). Pneumonia causes 27 percent of deaths for children whose mothers had no education. Possible serious infections are the second most important cause of deaths (12 percent) for children whose mothers had no education. For a very large number of cases (15-27 percent), the cause of death for children whose mothers had less than secondary education are unspecified due to lack of information.

Table 14.3 Causes of death among children under 5 by mother's education

Percent distribution of deaths among children under 5 by cause of death (weighted), according to mother's level of education, Bangladesh 2011

	Mother's education		
Cause of death	No education	Primary incomplete and completed primary	Incomplete secondary, completed secondary, and higher than secondary
Neonatal tetanus	2.1	1.0	2.2
Congenital abnormality	0.9	0.4	1.5
Drowning	4.4	14.0	8.6
Birth asphyxia	3.6	11.1	19.8
Birth injury	1.4	0.9	4.4
Measles	1.9	0.2	0.0
Diarrhoea	1.4	2.5	1.9
Pneumonia	27.4	22.5	17.7
Meningitis	1.4	1.6	1.1
Neonatal jaundice	0.1	1.1	2.5
Premature birth	5.0	7.8	7.2
Possible serious infection	12.2	14.4	17.6
Malnutrition	0.0	1.3	0.0
Other causes[1]	5.0	3.2	4.0
Unspecified	26.8	15.4	10.8
Undetermined	6.1	2.6	0.9
Total	100.0	100.0	100.0
Number of deaths	137	155	186

[1] Other causes include acute paralytic poliomyelitis, acute viral hepatitis, leukaemia, nephrotic syndrome, intestinal obstruction, malaria, and food in the respiratory tract.

The small number of cases in most of the divisions makes it difficult to be conclusive about the divisional variations in cause of death (Table 14.4). To have a larger number of deaths to assess, Barisal and Khulna, and Rajshahi and Rangpur, divisions are presented together. The groupings are also based on the fact that Barisal was carved out of Khulna division and Rangpur from Rajshahi division. Pneumonia is the most important cause of childhood deaths in all divisions except Dhaka, where possible serious infections are the most common cause of deaths (20 percent). The second most common cause of death in Barisal and Khulna is birth asphyxia (18 percent); in Chittagong, it is drowning and birth asphyxia (11 percent each); in Dhaka, it is pneumonia (13 percent); in Rajshahi, and Rangpur, it is possible serious infection (17 percent); and in Sylhet, it is possible serious infection and premature birth (13 percent each). Deaths caused by prematurity are relatively more often reported in Barisal and Khulna divisions and in Sylhet division than in other divisions. There is a small difference in the total number of deaths computed in different tables. This difference is due to a rounding error that occurred in the process when verbal autopsy data were inflated by causes and characteristics on the basis of birth history data.

Table 14.4 Causes of death among children under 5 by division

Percent distribution deaths among children under 5 by cause of death (weighted), according to division, Bangladesh 2011

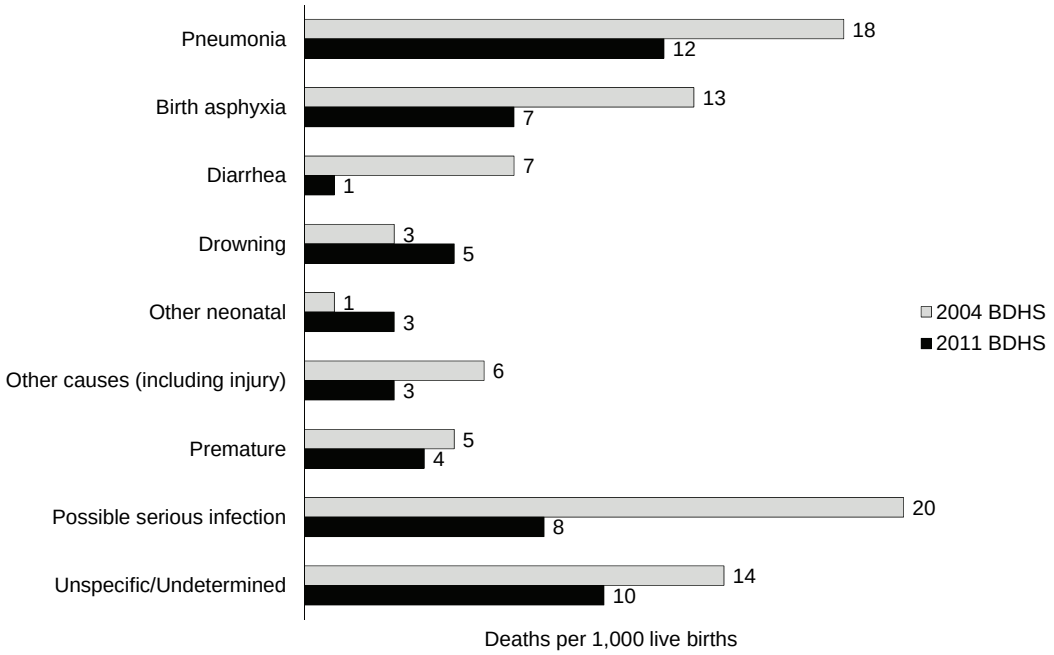
	Division				
Cause of death	Barisal and Khulna	Chittagong	Dhaka	Rajshahi and Rangpur	Sylhet
Neonatal tetanus	0.0	1.3	2.7	2.0	2.0
Congenital abnormality	1.0	2.6	0.0	1.3	0.0
Drowning	5.5	11.4	8.2	11.1	7.8
Birth asphyxia	18.1	10.6	9.7	15.0	11.3
Birth injury	0.0	1.4	4.9	2.2	0.0
Measles	1.6	0.0	1.3	0.0	0.0
Diarrhoea	2.0	3.0	2.4	0.0	2.9
Pneumonia	19.7	31.6	13.1	25.7	25.1
Meningitis	2.5	0.9	1.3	1.9	0.0
Neonatal jaundice	3.7	3.1	0.0	0.0	2.6
Premature birth	13.1	3.5	4.8	6.3	13.1
Possible serious infection	14.3	6.9	19.6	17.3	13.0
Malnutrition	1.0	1.4	0.0	0.0	0.0
Other causes[1]	1.1	7.4	5.1	1.9	4.1
Unspecified	13.7	10.6	24.5	12.0	17.5
Undetermined	2.7	4.3	2.5	3.3	0.4
Total	100.0	100.0	100.0	100.0	100.0
Number of deaths	60	98	155	113	49

[1] Other causes include acute paralytic poliomyelitis, acute viral hepatitis, leukaemia, nephrotic syndrome, intestinal obstruction, malaria, and food in respiratory tract.

14.5 COMPARISON OF CAUSE-SPECIFIC MORTALITY RATES BETWEEN 2004 AND 2011

A comparison of the distribution of cause-specific mortality from the 2004 BDHS and 2011 BDHS is presented in Figure 14.1. The cause-specific mortality is calculated by applying the cause-of-death distribution in each survey to the estimated number of under-5 deaths. For both surveys, the distribution is based on physician-assigned causes of death. The 2011 BDHS shows large reductions in under-5 mortality due to pneumonia (by 33 percent), birth asphyxia (by 46 percent), diarrhea (by 85 percent), premature birth (by 20 percent), and possible serious infection (by 60 percent). Some of the differences may be due to methodological differences between the 2004 BDHS and 2011 BDHS. It is noted that death rates due to drowning increased from 3 per 1,000 live births in 2004 to 5 per 1,000 live births in 2011.

Figure 14.1 **Specific causes of death among children under age 5, 2004 BDHS and 2011 BDHS**



14.6 CONCLUSION

The absolute risk of death (per 1,000 live births) has declined substantially between 2004 and 2011 for most of causes, except for deaths due to drowning.

The pattern of causes of death among children under age 5 in Bangladesh is changing and has important implications for the intervention package being delivered by the public health system. Respiratory (mostly pneumonia) and other serious infections are associated with almost two-fifths of all under-5 deaths. A majority of these deaths occur in the neonatal period. Interventions will need to focus on both prevention and treatment. Birth asphyxia is responsible for a fifth of neonatal deaths and 12 percent of all under-5 deaths. Interventions to reduce birth asphyxia deaths, particularly those providing resuscitation, have to be linked to efforts to increase skilled attendance at delivery. Premature birth results in a large proportion of neonatal deaths (11 percent) and is an important cause of under-5 deaths (7 percent). Although interventions that address premature births as a cause of neonatal deaths exist, they have not yet been scaled up in Bangladesh.

Diarrhea, which has always been considered a major cause of child morbidity and mortality in Bangladesh, is now responsible for only 2 percent of under-5 deaths. Although deaths from infectious disease have declined, drowning has emerged as a key cause of death, especially among children age 12 to 59 months (43 percent).

OTHER ADULT HEALTH ISSUES 15

Key Findings

- Blood pressure and fasting blood glucose measurements in this chapter refer to women and men age 35 and older.
- One in three (32 percent) women and 19 percent of men have elevated blood pressure or are currently taking medicine to lower their blood pressure. An additional 28 percent of women and men are pre-hypertensive.
- Forty-five percent of women and 57 percent of men are not aware that they have elevated blood pressure.
- Forty-five percent of women and 36 percent of men with hypertension are taking medication for their condition, but over half of them have not controlled their blood pressure to normal levels.
- Only 20 percent of women and 16 percent of men with hypertension are taking medication and have their blood pressure under control.
- Eleven percent of women and men are diabetic; that is they have elevated fasting plasma glucose values or report that they are taking diabetes medication. An additional 25 percent of women and men are pre-diabetic.
- Fifty-nine percent of women and 65 percent of men are not aware that their plasma glucose levels are elevated.
- Thirty-seven percent of women and 31 percent of men with diabetes are taking medication for their condition, but the majority of them do not have their blood glucose under control within normal levels.
- Only 15 percent of women and 10 percent of men with diabetes are taking medication and have their fasting plasma glucose under control at normal levels.
- Women and men with a higher-than-normal BMI (25.0 or higher) are more likely to have elevated blood pressure and elevated fasting blood glucose.

Around the world, whether in developed or developing countries, the rapid increase of noncommunicable diseases (NCDs) is becoming a challenge in achievement of global progress. This group of chronic diseases, that is, diabetes, cardiovascular disease, cancer, and chronic respiratory disease, contribute to almost 60 percent of the death toll around the world, and 80 percent of these deaths occur in developing countries like Bangladesh (WHO, 2010a). With each passing day, this death toll will rise unless proper measures are taken. Based on current trends, by 2020 NCDs will account for 73 percent of deaths and 60 percent of the disease burden in developing countries (WHO, 2010b). The causal factor for the NCD epidemic is the increase in lifestyle-related risk factors, such as unhealthy food habits, physical inactivity, high body mass index, and substance abuse. They operate through intermediate risk factors such as high blood pressure and elevated blood glucose and plasma lipid levels. These are the most prevalent NCD risk factors around the world (WHO, 2003). These risk factors are fuelled by a shift in population age structure, a decrease in maternal and child deaths, and rapid urbanization (WHO 2010b). In most cases, the NCD-associated risk factors are modifiable and preventable. Hence, early identification and preventive behavior for high blood pressure and elevated plasma lipid and blood glucose levels can reduce the risk of developing coronary heart disease and stroke by 80 percent and the risk of type II diabetes by 90 percent (CDC, 2009).

Similar to other developing countries, Bangladesh is experiencing a shift in disease and death patterns from communicable diseases to NCDs (Karar et al., 2009). Until very recently, nationally representative data on NCDs were not available for Bangladesh. Small-scale population-based studies showed a significantly increasing trend in NCD prevalence (Zaman et al., 2007). However, a recent national study on NCD risk factors revealed a devastating scenario in which 98 percent of the adult population had at least one risk factor. Seventy-seven percent of adults have two or more risk factors that can develop into one of these NCDs (WHO, 2011). To meet this health challenge, the government of Bangladesh has identified NCDs as a new and continuing challenge and has taken steps to prioritize the expansion of services related to NCD control activities. The current sector-wide program, Health Population and Nutrition Sector Development Program (HPNSDP 2011-16), also has a strategy for streamlining referral systems and strengthening hospital accreditation and management systems (MOHFW, 2011).

The key to prevention and control of NCDs depends on having information about these diseases as well as the biological intermediate risk factors. The 2011 BDHS is the first national survey to include biomarker measurements for blood pressure and fasting blood glucose. These biomarkers were collected in an effort to provide information on the prevalence of blood pressure and fasting blood glucose among a subsample of women and men age 35 and older in one-third of the households selected in the survey. Blood pressure and blood glucose levels were measured in consenting respondents.

15.1 Coverage Rates for Blood Pressure and Blood Glucose Measurement

In one in three households selected in the 2011 BDHS survey, all ever-married men age 15-54 were selected and interviewed for the male survey. In this subsample, all woman and men age 35 and older were eligible to participate in the biomarker component, which included blood pressure measurements, testing for anemia, blood glucose testing, and height and weight measurements. Table 15.1 shows that 4,311 women and 4,524 men age 35 and older were eligible for blood pressure and blood glucose measurement. Among these individuals, 92 percent of women and 86 percent of men participated in the blood pressure measurement, and 89 percent of women and 83 percent of men participated in the blood glucose measurement.

Table 15.1 Coverage of testing for blood pressure and fasting blood glucose measurement among women and men age 35 and older

Percentage of women and men age 35 and older eligible for blood pressure and blood glucose measurements, by testing status, according to selected background characteristics (unweighted), Bangladesh 2011

	Women			Men		
Background characteristic	Percentage measured for blood pressure	Percentage measured for fasting blood glucose	Number of women	Percentage measured for blood pressure	Percentage measured for fasting blood glucose	Number of men
Age						
35-39	93.9	90.6	864	83.4	78.8	820
40-44	94.1	90.6	766	84.4	80.6	762
45-49	94.2	91.0	692	84.8	80.5	702
50-54	94.7	91.0	457	90.2	86.5	694
55-59	90.9	88.4	449	85.9	83.1	354
60-69	88.5	84.4	583	87.4	84.8	650
70+	88.0	83.8	500	89.7	85.6	542
Residence						
Urban	89.6	86.4	1,447	83.7	80.2	1,545
Rural	93.8	90.1	2,864	87.7	83.8	2,979
Division						
Barisal	90.9	84.7	530	81.3	74.5	560
Chittagong	91.9	87.0	682	83.9	79.2	664
Dhaka	90.4	88.3	753	85.3	83.1	783
Khulna	94.6	92.3	648	90.2	87.6	693
Rajshahi	92.5	88.9	602	84.2	80.2	665
Rangpur	94.4	92.3	558	93.1	90.5	611
Sylhet	91.8	88.5	538	86.1	81.6	548
Education						
No education	92.8	89.0	2,378	86.8	82.8	1,532
Primary incomplete	91.4	87.7	922	87.5	83.5	1,116
Primary complete[1]	90.4	86.8	395	78.0	75.1	614
Secondary incomplete	93.7	91.6	394	84.7	81.2	718
Secondary complete or higher[2]	92.3	90.5	222	94.1	89.9	544
Wealth quintile						
Lowest	93.7	90.5	746	85.4	81.7	824
Second	93.3	88.8	757	88.0	83.0	820
Middle	94.3	91.3	826	88.2	83.6	850
Fourth	93.3	90.2	908	88.2	84.9	901
Highest	88.5	84.8	1,074	82.8	80.1	1,129
Total	92.3	88.9	4,311	86.3	82.5	4,524

15.2 HYPERTENSION

Blood pressure rises and falls throughout the day. When blood pressure stays elevated over time, it is called high blood pressure. The medical term for high blood pressure is hypertension. Raised or high blood pressure acts as one of the contributing and intermediate risk factors for developing coronary heart disease, stroke, and kidney disease. The measurements taken for blood pressure in 2011 BDHS were not intended to provide a medical diagnosis of the disease but rather to provide a cross-sectional assessment of the prevalence of high blood pressure in the population at the time of the survey. Although the results of the blood pressure measurements are regarded only as a statistical description of the survey population, they provide insight into the size and characteristics of the population at risk for hypertension.

The 2011 BDHS used the LIFE SOURCE® UA-767 Plus Blood Pressure Monitor model; the automatic device included separate cuffs for measuring blood pressure in respondents with small, medium, and large arm circumferences. This model is one of the blood pressure monitors recommended for use by World Health Organization (WHO). Interviewers were trained to use this device according to the manufacturer's recommended protocol, and the 2011 BDHS Anthropometry, Anemia Testing, Blood Glucose Testing and Blood Pressure Measurement Field Manual. One health technician in each data collection team was trained to measure and record the blood pressure of consenting adults age 35 and older. Three measurements of both systolic and diastolic blood pressure were taken during the survey at approximately 10-minute intervals between measurements. The average of the second and third measurements was used to report respondent's blood pressure values.

Arterial blood pressure is the force exerted by the blood on the wall of a blood vessel as the heart pumps (contracts) and relaxes. Systolic blood pressure (SBP) is the measures the force when the heart pumps (contracts), and the diastolic blood pressure (DBP) measures the degree of force when the heart is relaxes. The 2011 BDHS uses the American Heart Association guidelines for cut-off points for blood pressure measurements (AHA, 2003). The chart below summarizes the systolic and diastolic blood pressure values as they relate to hypertension classification. The cut-off points correspond to the clinical classification for hypertension as they relate to the systolic and diastolic blood pressure measurements.

Classification	Systolic blood pressure (SB) in mmHg		Diastolic blood pressure (DBP) in mmHg
Not elevated			
Normal	less than 120	and	less than 80
Prehypertension	120–139	or	80–89
Elevated (Hypertensive)			
Stage 1	140–159	or	90–99
Stage 2	160 or higher	or	100 or higher

Source: American Heart Association, 2003.

Blood pressure values considered normal are less than 120 mmHg for SBP and less than 80 mmHg for DBP. An SBP value of 120-139 mmHg or a DBP value of 80-89 mmHg is classified as prehypertension. For high blood pressure, two stages are used to classify hypertension. Stage 1 hypertension is an early form of high blood pressure and may require treatment with medicine, together with frequent monitoring in order to avoid progression to Stage 2 hypertension. Stage 2 hypertension is a serious form of high blood pressure, which requires immediate treatment. Stage 1 hypertension is defined as SBP values in the range of 140-159 mmHg or DBP measurements in the range of 90-99 mmHg. For stage 2, SBP values are 160 mmHg or higher, or DBP values are 100 mmHg or higher.

For this report, blood pressure measurements are classified into four broad groups using the AHA classification scheme. However, it must be recognized that the results do not reflect a clinical diagnosis of hypertension. In a clinical setting, an individual's blood pressure would be taken and monitored over a prolonged period of time, with a clinical history for that individual, prior to diagnosing whether the individual has hypertension. In the survey setting, an individual's blood pressure is taken in the survey for one day only and is recorded to provide information on the national status of this important NCD-associated risk factor.

15.2.1 History of Hypertension

In addition to the blood pressure measurement, women and men age 35 and older were asked questions related to their experiences with blood pressure measurement and treatment to lower their blood pressure. Specifically, respondents were asked the following questions:

"Before this survey, had your blood pressure ever been checked?"

"Have you ever been told by a doctor or nurse that you have high blood pressure?"

"To lower your blood pressure, are you now taking a prescribed medicine?"

Table 15.2 presents the results. Overall, 73 percent of men and women age 35 and older had their blood pressure measured prior to the survey, and 27 percent had never had their blood pressure measured. Women are more likely than men to have had their blood pressure measured (75 percent and 70 percent, respectively). Sixteen percent of women and men say that a doctor or a nurse told them that they have high blood pressure (21 percent of women and 11 percent of men). Among the 1,260 women and men who report that they have high blood pressure, 66 percent say that they are currently taking medicine to lower their blood pressure (67 percent of women and 65 percent of men).

Table 15.2 History of hypertension and actions taken to lower blood pressure

Percent distribution of women age 35 and older and men age 35 and older by history of hypertension (high blood pressure), and among those told they had high blood pressure, percentage taking various actions to treat the illness, Bangladesh 2011

History of hypertension and actions taken to treat hypertension	Women	Men	Total
History of hypertension			
Percentage who never had blood pressure measured	24.2	29.1	26.6
Percentage who have ever had blood pressure measured	75.1	70.1	72.6
Missing	0.7	0.8	0.8
Total	100.0	100.0	100.0
Told high blood pressure by a doctor or nurse			
Percentage who were told they had high blood pressure by a doctor or nurse	21.0	10.7	15.9
Percentage never told they had blood pressure	78.3	88.4	83.3
Missing	0.7	1.0	0.8
Total	100.0	100.0	100.0
Number of respondents	4,007	3,925	7,932
Taken medicine to lower high pressure			
Percentage currently taking medicine to lower high blood pressure	66.8	64.5	66.0
Percentage who have never taken medicine to lower blood pressure	33.2	35.5	34.0
Total	100.0	100.0	100.0
Number of respondents told they have high blood pressure by a doctor or nurse	841	418	1,260

15.2.2 Prevalence and Treatment of Hypertension

Tables 15.3.1 and 15.3.2 present data on blood pressure values for women and men age 35 and older, by background characteristics. In the table, elevated blood pressure is defined as blood pressure values of systolic blood pressure (SBP) greater than or equal to 140 mmHg or diastolic blood pressure (DBP) greater than or equal to 90 mmHg. A person who reports that they are currently taking antihypertensive medication to lower their blood pressure is also classified as having hypertension.

Table 15.3.1 and Figure 15.1 show that 32 percent of women age 35 and older are hypertensive; they have elevated blood pressure values or are currently taking medicine to lower their blood pressure. In addition, 28 percent of women are pre-hypertensive; that is, they have blood pressure values of 120-139 mmHg SBP or 80-89 mmHg DBP and are not taking medication.

Eighteen percent have elevated blood pressure and are not taking medications; 12 percent are hypertensive at Stage 1 (BP 140-159 mmHg SBP or 90-99 mmHg DBP) and 6 percent are hypertensive at stage 2 level (BP 160+ mmHg SBP or 100+ mmHg DBP).

Fourteen percent of women classified as hypertensive are taking blood pressure medication. Among those who are taking medication, 56 percent do not have their BP at a normal level.

Age is positively associated with blood pressure values; 18 percent of women age 35-39 are hypertensive compared with 50 percent of women age 70 and older. Urban women are more likely than rural women to have hypertension (40 percent compared with 29 percent). Across divisions, the percentage of women with hypertension ranges from 37 percent in Khulna to 25 percent in Sylhet. Although there is no clear pattern in the relationship between hypertension and the woman's education, women who have completed secondary or higher education have a lower prevalence of hypertension (27 percent). The percentage of women with hypertension increases with increasing wealth; women in the highest wealth quintile are almost twice as likely as women in the lowest wealth quintile to have hypertension (44 percent compared with 25 percent).

Being overweight or obese increases the risk of developing high blood pressure. In fact, blood pressure rises as body weight increases. Being overweight or obese are also risk factors for heart disease and other non-communicable diseases, as excess weight increases a person's chance of developing high blood cholesterol and diabetes—two more risk factors for heart disease. One measure used to determine if someone is overweight or obese is body mass index (BMI). The BMI is expressed as the ratio of weight in kilograms to the square of height in meters (kg/m^2). It gives an approximation of total body fat, which increases the risk of diseases that are related to being overweight. In the 2011 BDHS, anthropometric measurements were also recorded for the men and women for whom blood pressure measurements were taken to obtain data on nutritional status.

Table 15.3.1 shows that as BMI increases, the percentage of women with elevated blood pressure increases. For example, whereas 23 percent of thin women (BMI<18.5) are hypertensive, the proportion for overweight women (BMI 25.0-29.9) is 46 percent and for obese women (BMI ≥ 30.0) is 57 percent. On the other hand, whereas more than half of thin women (54 percent) have normal blood pressure, the corresponding proportion for overweight and obese women is 31 percent and 21 percent, respectively.

Table 15.3.1 Blood pressure levels and treatment status by background characteristics: Women

Among women age 35 and older, prevalence of hypertension, percent distribution by blood pressure values and treatment status, and percentage having normal blood pressure and taking medication, according to background characteristics, Bangladesh 2011

Background characteristic	Prevalence of hyper-tension[1]	Blood pressure values[1]: BP <120 mmHg SBP and <80 mmHg DBP		BP 120-139 mmHg SBP or 80-89 mmHg DBP		BP 140-159 mmHg SBP or 90-99 mmHg DBP		BP 160+ mmHg SBP or 100+ mmHg DBP		Total	Normal BP and taking medication	Number of women
		Taking medicine	Not taking medicine	Taking medicine	Not taking medicine	Taking medicine	Not taking medicine	Taking medicine	Not taking medicine			
Age												
35-39	17.9	1.5	53.1	2.5	29.0	1.9	8.3	1.8	1.8	100.0	4.1	813
40-44	25.0	1.9	46.4	4.6	28.6	3.7	9.1	2.1	3.6	100.0	6.5	737
45-49	31.2	1.8	41.6	4.8	27.2	3.0	13.9	3.5	4.2	100.0	6.6	625
50-54	33.5	4.1	39.4	4.8	27.1	5.1	11.7	4.5	3.3	100.0	8.9	437
55-59	38.1	2.7	36.4	4.4	25.6	5.8	15.7	4.1	5.3	100.0	7.1	380
60-69	42.7	2.0	29.2	3.5	28.1	3.9	16.0	6.0	11.2	100.0	5.6	526
70+	50.1	2.3	24.7	5.3	25.2	4.9	13.5	11.1	13.1	100.0	7.5	444
Residence												
Urban	40.2	3.4	32.5	6.2	27.3	5.7	14.4	5.2	5.3	100.0	9.6	907
Rural	29.4	1.8	43.0	3.5	27.6	3.2	11.3	4.0	5.6	100.0	5.3	3,056
Division												
Barisal	31.0	2.3	43.4	2.2	25.6	4.6	9.6	6.6	5.7	100.0	4.5	237
Chittagong	26.3	3.2	47.7	5.5	25.9	3.3	9.1	2.8	2.4	100.0	8.6	719
Dhaka	34.0	2.0	36.2	4.3	29.8	4.7	13.0	3.9	6.2	100.0	6.3	1,274
Khulna	37.0	0.7	34.8	3.6	28.2	3.5	13.7	5.0	10.4	100.0	4.4	505
Rajshahi	30.5	3.4	44.8	4.7	24.7	3.3	10.1	5.3	3.8	100.0	8.1	562
Rangpur	34.5	0.9	37.2	1.8	28.3	1.8	18.7	4.9	6.5	100.0	2.7	434
Sylhet	25.2	2.9	48.2	5.0	26.7	4.5	6.4	3.0	3.3	100.0	7.9	232
Education												
No education	32.7	2.0	39.8	3.4	27.5	2.8	13.0	4.4	7.1	100.0	5.4	2,312
Primary incomplete	29.0	2.3	41.8	3.3	29.2	4.0	10.6	4.2	4.6	100.0	5.6	809
Primary complete[1]	32.9	2.5	45.6	7.2	21.5	5.7	10.3	5.1	2.1	100.0	9.8	320
Secondary incomplete	35.0	2.4	37.5	7.6	27.5	6.7	12.7	3.4	2.2	100.0	10.0	336
Secondary complete or higher[2]	26.5	3.0	41.8	5.7	31.7	5.4	7.0	2.8	2.7	100.0	8.7	187
Wealth quintile												
Lowest	24.8	0.7	46.4	2.2	28.8	1.0	10.6	3.2	7.1	100.0	2.9	757
Second	27.6	1.6	46.3	3.1	26.1	1.3	13.3	3.4	4.9	100.0	4.7	747
Middle	27.7	1.8	44.1	3.7	28.2	2.7	9.7	4.1	5.7	100.0	5.4	794
Fourth	34.0	2.6	38.1	3.9	27.9	5.1	12.4	4.2	5.7	100.0	6.6	829
Highest	43.9	4.0	29.3	7.4	26.8	8.1	13.9	6.2	4.3	100.0	11.4	836
Nutritional status												
Thin (BMI <18.5)	22.7	0.9	52.7	0.9	24.6	1.9	10.7	3.3	4.9	100.0	1.8	1,154
Normal (BMI 18.5-24.9)	31.6	2.2	39.0	4.7	29.4	3.2	12.3	3.7	5.6	100.0	6.9	2,101
Overweight (BMI 25.0-29.9)	45.8	5.0	26.1	7.6	28.0	7.7	12.1	7.1	6.5	100.0	12.5	556
Obese (BMI ≥30.0)	56.7	2.3	18.8	8.7	24.5	11.3	17.6	9.7	7.2	100.0	11.0	142
Total	31.9	2.2	40.6	4.1	27.6	3.7	12.0	4.2	5.5	100.0	6.3	3,963

Note: Total includes 7 pregnant or postpartum women and 3 women whose nutritional status is out of range.
BP = blood pressure.
SBP = Systolic blood pressure, the degree of force when the heart is pumping (contracting).
DBP = Diastolic blood pressure, the degree of force when the heart is relaxed.
[1] An individual is classified as having hypertension if s/he has blood pressure levels >=140 mmHg SBP or >=90 mmHg DBP, or s/he is currently taking antihypertensive medication to lower their blood pressure.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Table 15.3.2 and Figure 15.1 show that 19 percent of men age 35 and older have elevated blood pressure values or report that they are currently taking medicine to lower their blood pressure. Twenty-seven percent of men are pre-hypertensive. Men are less likely to be hypertensive than women (19 percent and 32 percent, respectively), but men are as likely as women to be pre-hypertensive (28 and 27 percent, respectively). Seven percent of men are taking medication for blood pressure, yet 56 percent of those who take medication do not have their blood pressure controlled at normal levels. Twelve percent have elevated blood pressure (9 percent are hypertensive at Stage 1 and 3 percent are hypertensive at stage 2 level) and are not taking medication.

Table 15.3.2 Blood pressure levels and treatment status by background characteristics: Men

Among men age 35 and older, prevalence of hypertension, percent distribution by blood pressure values and treatment status, and percentage having normal blood pressure and taking medication, according to background characteristics, Bangladesh 2011

		Blood pressure values										
		BP <120 mmHg SBP and <80 mmHg DBP		BP 120-139 mmHg SBP or 80-89 mmHg DBP		BP 140-159 mmHg SBP or 90-99 mmHg DBP		BP 160+ mmHg SBP or 100+ mmHg DBP				
Background characteristic	Prevalence of hyper-tension[1]	Taking medicine	Not taking medicine	Taking medicine	Not taking medicine	Taking medicine	Not taking medicine	Taking medicine	Not taking medicine	Total	Normal BP and taking medication	Number of men
Age												
35-39	9.8	0.1	61.2	0.4	29.1	0.7	7.3	0.2	1.0	100.0	0.5	664
40-44	14.5	1.1	57.8	1.0	27.7	0.9	9.0	0.8	1.7	100.0	2.0	635
45-49	16.2	1.0	52.8	2.1	31.0	0.8	9.0	1.3	2.0	100.0	3.1	588
50-54	21.1	1.0	55.5	1.5	23.4	3.3	9.7	2.1	3.6	100.0	2.5	617
55-59	20.1	0.1	49.9	2.1	30.0	4.6	6.9	1.8	4.5	100.0	2.2	308
60-69	28.2	3.2	49.0	5.2	22.8	3.5	8.4	2.7	5.2	100.0	8.4	569
70+	30.0	1.4	42.7	2.6	27.3	2.8	12.1	3.9	7.1	100.0	4.0	496
Residence												
Urban	25.2	1.4	41.7	2.8	33.2	3.3	10.1	3.5	4.0	100.0	4.2	923
Rural	17.6	1.1	57.1	1.8	25.3	1.8	8.6	1.2	3.2	100.0	2.9	2,953
Division												
Barisal	18.1	2.2	57.0	2.8	24.9	1.2	6.5	2.2	3.2	100.0	5.0	227
Chittagong	16.9	2.3	57.5	1.9	25.6	2.1	6.0	1.9	2.7	100.0	4.2	615
Dhaka	19.9	1.0	52.3	2.4	27.8	2.8	9.5	1.4	2.9	100.0	3.4	1,241
Khulna	23.5	0.6	46.0	1.7	30.6	1.5	11.5	2.4	5.8	100.0	2.3	514
Rajshahi	16.9	1.2	58.4	2.0	24.7	2.1	7.5	1.2	2.9	100.0	3.2	574
Rangpur	22.5	0.5	47.4	1.5	30.1	1.6	13.1	1.6	4.1	100.0	2.0	488
Sylhet	15.4	0.9	62.1	1.8	22.5	2.8	5.3	2.7	1.8	100.0	2.7	217
Education												
No education	16.8	1.0	59.9	1.7	23.3	1.0	7.4	1.1	4.5	100.0	2.7	1,412
Primary incomplete	15.6	0.5	56.8	1.3	27.7	1.8	7.8	1.9	2.2	100.0	1.9	974
Primary complete[1]	24.9	1.5	45.4	2.4	29.6	4.4	10.8	2.3	3.5	100.0	4.0	459
Secondary incomplete	22.0	2.1	50.1	3.2	27.9	3.1	9.3	1.4	2.8	100.0	5.3	577
Secondary complete or higher[2]	27.2	1.3	38.1	3.0	34.7	2.9	14.0	3.1	2.8	100.0	4.4	455
Wealth quintile												
Lowest	12.9	0.4	65.6	1.5	21.5	0.2	7.6	0.4	2.8	100.0	1.9	767
Second	15.8	1.5	61.4	0.9	22.9	1.2	7.7	0.9	3.5	100.0	2.4	760
Middle	16.7	1.3	56.1	1.1	27.3	1.1	8.7	1.3	3.1	100.0	2.4	757
Fourth	20.9	1.1	49.2	2.8	29.9	3.2	8.8	2.1	2.8	100.0	4.0	790
Highest	30.4	1.5	35.7	3.9	33.9	4.7	11.8	3.8	4.5	100.0	5.4	801
Nutritional status												
Thin (BMI <18.5)	12.6	0.9	65.2	0.9	22.2	0.8	6.6	0.7	2.7	100.0	1.8	1,130
Normal (BMI 18.5-24.9)	20.5	1.2	51.4	1.7	28.1	2.5	9.5	1.9	3.5	100.0	3.0	2,381
Overweight (BMI 25.0-29.9)	32.7	1.6	29.7	6.9	37.6	4.0	12.1	3.6	4.4	100.0	8.6	332
Obese (BMI ≥30.0)	(43.6)	(0.0)	(28.9)	(15.7)	(27.5)	(5.1)	(15.)	(5.4)	(1.6)	100.0	(15.7)	34
Total	19.4	1.2	53.4	2.1	27.2	2.2	8.9	1.7	3.4	100.0	3.2	3,876

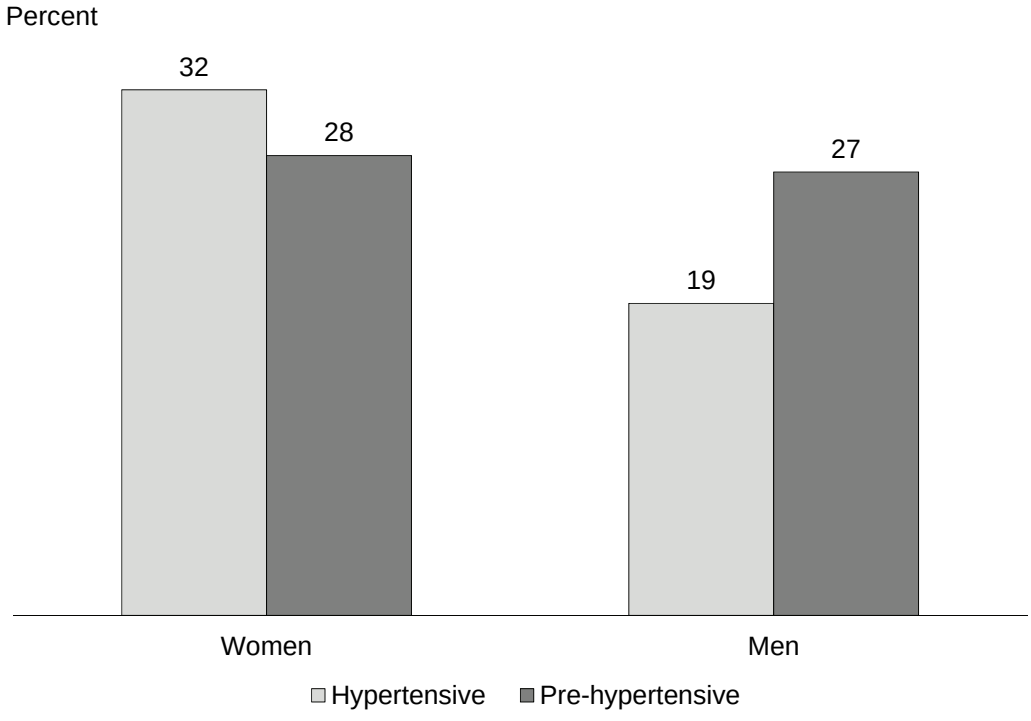
Note: Figures in parentheses are based on 25-49 unweighted cases.
BP = blood pressure.
SBP = Systolic blood pressure, the degree of force when the heart is pumping (contracting).
DBP = Diastolic blood pressure, the degree of force when the heart is relaxed.
[1] An individual is classified as having hypertension if s/he has blood pressure levels >=140 mmHg SBP or >=90 mmHg DBP, or s/he is currently taking antihypertensive medication to lower their blood pressure.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Men show the same pattern in hypertension by age as women; prevalence is lower among younger men and increases with age. Also similar to women, urban men are more likely than rural men to be hypertensive (25 percent compared with 18 percent). Among the divisions, the prevalence of hypertension ranges from 15 percent in Sylhet to 24 percent in Khulna.

There is no clear relationship between a man's education and his blood pressure value. However, men who have completed secondary or higher education are most likely to have hypertension compared with men with no education (27 percent versus 17 percent). This is the reverse of the pattern shown by women; women who have completed secondary or higher education level are the least likely to be hypertensive (27 percent).

Similar to the pattern observed for women, men in the highest wealth quintile are more than twice as likely as men in the lowest wealth quintile to have hypertension (30 percent compared with 13 percent). As in the case of women, overweight and obese men are more likely to be hypertensive than thin men or men with normal BMI. For example, 13 percent of thin men are hypertensive compared with 33 percent of overweight men.

Figure 15.1 **Prevalence of hypertension and pre-hypertension among women and men age 35 and older**

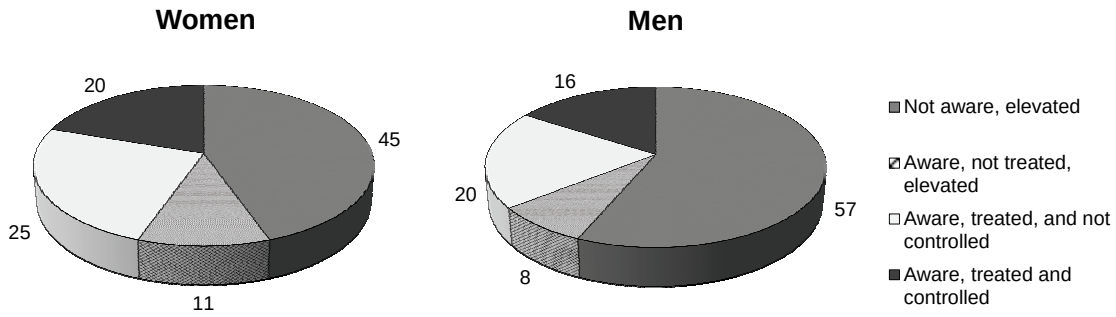


BDHS 2011

The first step for individuals to bring their blood pressure under control is to be aware of their condition. Having identified NCDs as a new challenge, the government of Bangladesh has taken steps to prioritize the expansion of services related to NCD disease control activities.

The level of awareness of hypertension and treatment status is presented in Figure 15.2. It shows that 45 percent of women and 57 percent of men who are hypertensive are unaware that they have an elevated blood pressure. Eleven percent of women and 8 percent of men are aware of their hypertension, but are not treating it. One in four women and one in five men are aware of their condition, are taking medication to lower the blood pressure, but are unsuccessful in controlling the elevated blood pressure. Only one in five women and one in six men are aware of their hypertension, are treating it, and have the hypertension under control.

Figure 15.2 **Awareness of hypertension and treatment status among hypertensive women and men age 35 and over**



15.3 DIABETES

Diabetes has serious consequences for individuals and poses a large burden on health services, especially in developing countries. According to the International Diabetes Federation (IDF), diabetes poses a daunting challenge to the sustainable development of the nation, as more than 12 percent of the adult population in Bangladesh is estimated to be affected by either diabetes or prediabetes (IDF 2011). Nearly half of the population with diabetes is undiagnosed; and among those diagnosed with diabetes, only 1 in 3 people is treated and roughly 1 in 13 achieves treatment targets (Latif et al., 2011). The prevalence of diabetes in the adult population has increased very rapidly in most South Asian populations, and Bangladesh is no exception to this trend.

Almost all population-based assessments in Bangladesh indicate an increasing trend of diabetes prevalence; with recent levels as high as 7 percent (Rahim et al., 2007). In another survey among slum populations in Bangladesh, the prevalence of diabetes was 9 percent for women and 8 percent for men (Hussein et al., 2005). The only national urban health survey states that the prevalence of diabetes was higher among both women and men age 35 and older in the non-slum areas (17 percent and 14 percent, respectively) than among their counterparts in the slums (6 percent of women and 8 percent of men) (NIPORT et al., 2008). A recent WHO study in Bangladesh estimated the diabetes prevalence (reported, not diagnosed) at 4 percent (WHO, 2011).

Women and men age 35 and older in one third of the households selected for the 2011 BDHS were eligible to have their blood glucose levels tested. The respondent was asked if she or he had eaten or drunk anything at all (except water) from the time she or he had awakened in the morning until the time of the glucose testing. If the subject was fasting at the time of interview, a capillary blood sample was obtained from the middle or ring finger of the respondent. If the respondent had not been fasting at the time of interview, an appointment was made for the next morning to collect and test a fasting capillary blood sample as described above. Response to the request for testing and fasting was encouraging; more than 90 percent of eligible women and men actually fasted 8 hours or more prior to the measurement (data not shown).

Blood glucose was measured using the HemoCue 201+ blood glucose analyzer in capillary whole blood obtained from the middle or ring finger from adults after an overnight fast. The finger was cleaned with a swab containing 70 percent isopropyl alcohol, allowed to dry, and pricked with a retractable, non-reusable lancet. The first two drops of blood were wiped away, and the third drop was drawn into the glucose microcuvette by capillary action after placing the tip of the microcuvette in the middle of the blood drop. The outside of the microcuvette was wiped clean with gauze and placed in the analyzer to obtain a glucose measurement. The HemoCue 201+ analyzer displayed the blood glucose measurements in milligrams per deciliter (mg/dL). This unit of measurement was converted into millimoles per liter (mmol/L) to maintain consistency with the units used in the 2006 Bangladesh Urban Health Survey. To

convert the blood glucose measurements from mg/dL to mmol/L, the values were multiplied by 0.0551 (Lehman and Henry, 2001).

The WHO recommends that venous plasma be used for measuring the glucose concentration in blood (WHO, 2006). However, capillary sampling (whole blood obtained from a finger prick) is widely used, particularly in resource-limited countries. If whole blood is used, it is necessary to adjust the blood glucose measurements in whole blood to the plasma glucose equivalent values. To achieve this, the whole blood glucose measurements in the BDHS 2011 were adjusted by multiplying each value by 1.11 (D'Orazio et al., 2005). For the purpose of comparing fasting glucose values with other national data, the data for fasting whole blood glucose values corresponding to the fasting plasma glucose values are also presented.

The 2011 BDHS uses WHO cut-off points for measuring fasting plasma glucose (WHO, 2006). The cut-off points correspond to the clinical classification for normal fasting plasma glucose levels, prediabetes, and diabetes. Fasting plasma glucose values considered to be normal are 3.9-6.0 mmol/L. A fasting plasma glucose value of 6.1-6.9 mmol/L is classified as prediabetes, and values greater than or equal to 7.0 mmol/L are considered to be diabetes. The chart below summarizes the fasting plasma glucose values as they relate to diabetes classification.

Classification	Level in mmol/L
Normal	3.9-6.0
Prediabetes	6.1-6.9
Diabetes	≥7.0

Source: WHO, 2006.

The data are presented according to the fasting plasma glucose values obtained from the respondents. The fasting plasma glucose measurements taken in the survey provide a cross-sectional assessment of the prevalence of diabetes in the surveyed population at the time of the BDHS interviews and do not represent a medical diagnosis of diabetes. Although the results of the fasting plasma glucose measurements are regarded only as a statistical description of the survey population, they are useful in providing insight into the size and characteristics of the population at risk for diabetes. For the purposes of the survey, fasting plasma glucose values are not presented using the diagnostic terms prediabetes or diabetes. In a clinical setting, an individual's fasting plasma glucose levels would be taken and monitored over a prolonged period of time, with a clinical history for that individual prior to diagnosing whether the individual has diabetes. In the survey setting, an individual's fasting plasma glucose is taken in the survey for one day only, and the value is recorded to provide information on the national status of this important NCD.

15.3.1 History of Diabetes

Women and men age 35 and older were asked questions related to any previous diagnosis of diabetes and whether they were taking medication to treat their diabetes. Specifically, respondents were asked the following questions:

"Have you ever heard of an illness called diabetes?"

"Have you ever been told by a doctor or nurse that you have diabetes?"

"Are you now taking medication for diabetes prescribed by a doctor or nurse?"

"How do you take the medication?"

Table 15.4 presents the findings. Overall, 5 percent of women and men age 35 and older say that a doctor or a nurse told them that they had diabetes prior to the survey. Among those diagnosed with diabetes, two-thirds report they are receiving treatment for their diabetes. The majority of those receiving treatment take medication orally (73 percent), 17 percent take injections, and 8 percent take medication both orally and by injection.

Table 15.4 History of diabetes

Percent distribution of women and men age 35 and older by history of diabetes, and among those previously diagnosed with diabetes, the percentage taking medicine and the method taking medicine, Bangladesh 2011

History of diabetes	Women	Men	Total
History of diabetes			
Told had diabetes by a doctor or a nurse	5.8	4.9	5.3
Receiving treatment	3.9	3.2	3.6
Not receiving treatment	1.8	1.6	1.7
Missing	0.1	0.1	0.1
Never told had diabetes	83.4	89.8	86.6
Never heard of diabetes	10.8	5.4	8.1
Total	100.0	100.0	100.0
Number of respondents	4,007	3,925	7,932
Method of taking medicine			
Injected	16.5	17.6	17.0
Orally	71.8	74.7	73.1
Injected and orally	10.0	5.0	7.8
Missing	1.6	2.7	2.1
Total	100.0	100.0	100.0
Number of respondents diagnosed with diabetes and receiving treatment	157	127	284

15.3.2 Prevalence and Treatment of Diabetes

The fasting whole blood glucose measurements taken in the survey provide a cross-sectional assessment of the elevated fasting plasma values in the surveyed population at the time of the BDHS interviews and do not represent a medical diagnosis of diabetes. Whole blood values, which are physiologically different from plasma values, have been converted to plasma equivalent values by multiplying by a constant factor of 1.11. This factor is based on the relationship between plasma and whole blood glucose at normal hematocrit (0.43). Tables 15.5.1 and 15.5.2 present the fasting plasma glucose levels. The corresponding tables with fasting whole blood glucose values by background characteristics are presented in Appendix Tables D-5.5.1 and D-5.5.2.

Tables 15.5.1 and 15.5.2 and Figure 15.3 present data on fasting blood glucose values and treatment status for women and men age 35 and older. Data show that 11 percent each of women and men have diabetes; either because they have fasting plasma glucose (FPG) values of 7 mmol/L or higher or because they report that they are currently taking diabetes medication. An additional 25 percent of women and 26 percent of men are pre-diabetic. Four percent of women and 3 percent of men are taking medication for diabetes. Among those who are taking medication for diabetes, only 40 percent of women and 32 percent of men have their blood glucose controlled at normal levels.

Table 15.5.1 shows that diabetes has a positive relationship with age; 9 percent of women age 35-39 have elevated FPG values or are currently taking diabetes medicine compared with 15 percent of women age 55-59. Urban women are almost twice as likely as rural women to be classified as having diabetes (17 percent compared with 10 percent). Among the divisions, women in Chittagong have the highest percentage of women with diabetes (14 percent), while women in Khulna have the lowest percentage (7 percent). The likelihood of having diabetes increases with the women's education. Women who have completed secondary or higher education are twice as likely to have diabetes as women with no education (19 percent compared with 9 percent). Similar to the pattern observed for education, the percentage of women with diabetes increases with an increase in wealth. Women in the highest wealth

quintile are three times as likely as women in the lowest wealth quintile to have diabetes (21 percent compared with 7 percent).

Table 15.5.1 also shows that relationship between diabetes and nutrition status. The percentage of women classified as having diabetes increases from 6 percent among thin women to 11 percent among women with normal BMI. One in five overweight women and 27 percent of obese women are diabetic.

Table 15.5.1 Fasting plasma glucose values and treatment status: Women

Among women age 35 and older, prevalence of diabetes, percent distribution by fasting plasma glucose (FPG) values and treatment status, and percentage with normal fasting plasma glucose level and taking medication, by background characteristics, Bangladesh 2011

		Fasting plasma glucose values										
		<3.9 mmol/L (Below normal)		3.9-6.0 mmol/L (Normal)		6.1-6.9 mmol/L (Prediabetic)		≥7 mmol/L (Elevated FPG)				
Background characteristic	Prevalence of diabetes[1]	Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication	Total	Normal FPG and taking medication	Number of women
Age												
35-39	9.4	0.1	2.9	0.2	65.1	0.6	22.7	1.7	6.7	100.0	0.9	789
40-44	10.5	0.0	2.2	1.3	62.2	0.2	25.1	2.9	6.1	100.0	1.5	712
45-49	10.8	0.2	2.8	0.2	60.6	0.3	25.7	1.9	8.2	100.0	0.7	603
50-54	12.4	0.0	3.3	0.6	56.5	1.2	27.7	2.6	8.0	100.0	1.8	421
55-59	15.3	0.0	1.4	0.7	58.8	1.1	24.5	4.8	8.6	100.0	1.8	370
60-69	11.2	0.0	3.4	1.9	62.4	1.1	23.0	2.8	5.4	100.0	3.0	501
70+	12.0	0.0	1.6	1.3	60.1	1.1	26.4	1.5	8.1	100.0	2.4	425
Residence												
Urban	17.3	0.0	1.9	1.6	59.3	1.5	21.5	5.2	8.9	100.0	3.1	872
Rural	9.5	0.1	2.8	0.6	62.0	0.5	25.8	1.6	6.6	100.0	1.2	2,950
Division												
Barisal	13.0	0.0	2.0	0.5	50.9	0.2	34.1	1.5	10.7	100.0	0.7	220
Chittagong	13.8	0.0	2.1	0.5	51.4	0.5	32.7	3.5	9.3	100.0	1.0	677
Dhaka	11.8	0.0	2.4	1.4	65.3	1.3	20.5	3.0	6.2	100.0	2.7	1,245
Khulna	7.1	0.0	1.1	0.3	71.8	0.4	20.0	1.5	5.0	100.0	0.6	493
Rajshahi	11.7	0.2	3.0	1.2	59.8	0.8	25.5	2.3	7.1	100.0	2.2	539
Rangpur	8.7	0.2	5.7	0.1	63.3	0.1	22.3	1.0	7.2	100.0	0.4	424
Sylhet	11.2	0.0	2.4	0.7	57.3	0.7	29.1	2.9	6.9	100.0	1.5	224
Education												
No education	8.8	0.1	2.5	0.6	64.1	0.4	24.6	0.9	6.8	100.0	1.0	2,224
Primary incomplete	12.6	0.1	3.2	1.2	58.8	0.6	25.4	3.4	7.2	100.0	2.0	780
Primary complete[1]	16.2	0.0	1.5	1.5	59.9	3.3	22.3	5.3	6.2	100.0	4.8	303
Secondary incomplete	15.9	0.0	3.5	0.2	55.4	1.1	25.2	6.1	8.7	100.0	1.2	331
Secondary complete or higher[2]	18.8	0.0	1.3	2.5	52.6	0.7	27.3	5.8	9.7	100.0	3.3	185
Wealth quintile												
Lowest	6.7	0.0	2.7	0.2	60.7	0.4	29.9	0.5	5.6	100.0	0.6	732
Second	7.1	0.0	3.9	0.4	65.2	0.4	23.8	0.0	6.2	100.0	0.9	717
Middle	7.9	0.3	2.0	0.5	65.1	0.2	25.0	0.5	6.3	100.0	1.0	770
Fourth	12.1	0.0	2.6	1.5	61.4	0.6	23.9	3.2	6.7	100.0	2.2	800
Highest	21.4	0.0	1.9	1.4	55.0	1.8	21.7	7.6	10.5	100.0	3.2	802
Nutritional status												
Thin (BMI <18.5)	6.2	0.0	2.7	0.4	64.3	0.7	26.8	0.4	4.8	100.0	1.1	1,119
Normal (BMI 18.5-24.9)	10.6	0.1	2.8	0.7	62.0	0.3	24.5	2.5	7.1	100.0	1.1	2,022
Overweight (BMI 25.0-29.9)	19.6	0.0	1.2	2.6	57.9	2.0	21.3	5.8	9.2	100.0	4.7	533
Obese (BMI ≥30.0)	27.1	0.0	4.1	0.0	42.7	2.0	26.0	5.1	20.1	100.0	2.0	138
Total	11.2	0.1	2.6	0.8	61.4	0.7	24.8	2.5	7.1	100.0	1.6	3,822

Note: Total includes 6 pregnant and postpartum women and 3 women with out of range nutritional status.
FPG = Fasting Plasma Glucose.
[1] An individual is classified as having diabetes if s/he reports taking medication for diabetes or has fasting blood glucose ≥7.0 mmol/L.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

Table 15.5.2 shows the variation in fasting plasma glucose values and treatment of diabetes among men by age; the prevalence of diabetes among men peaks at 19 percent among men age 55-59. Similar to women, urban men and those living in Chittagong division have higher prevalence of diabetes than men in other areas. Diabetes prevalence increases with the man's education, ranging from 8 percent for men with no education to 14 to15 percent for men with secondary education. Diabetes prevalence is lower among men in the lower three wealth quintiles (7-8 percent) than among those in the upper two quintiles (11 and 19 percent).

The relationship between blood glucose and nutrition status in men is also shown in Table 15.5.2. As in the case of women, the percentage of men who are classified as having diabetes increases with BMI, ranging from 7 percent among thin men to 11 percent among men with normal BMI, and up to 20 percent for overweight men.

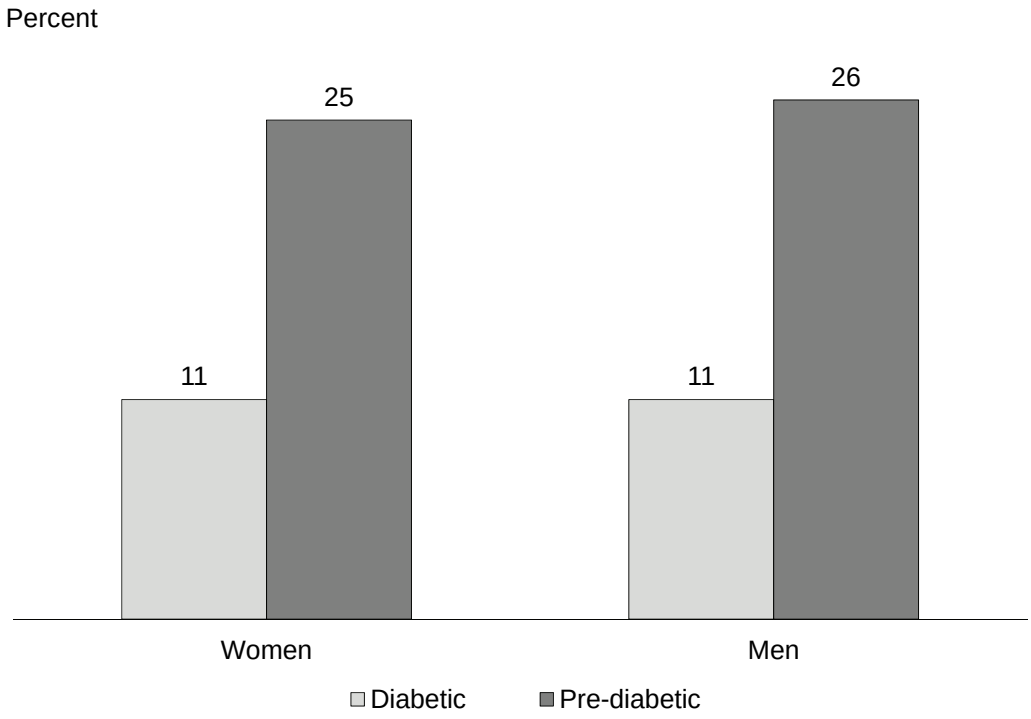
Table 15.5.2 Fasting plasma glucose values and treatment status by background characteristics: Men

Among men age 35 and older, prevalence of diabetes, percent distribution by fasting plasma glucose (FPG) values and treatment status, and percentage with normal FPG and taking medication by background characteristics, Bangladesh 2011

Background characteristic	Prevalence of diabetes[1]	Fasting plasma glucose values								Total	Normal FPG and taking medication	Number of men
		<3.9 mmol/L (Below normal)		3.9-6.0 mmol/L (Normal)		6.1-6.9 mmol/L (Prediabetic)		≥7 mmol/L (Elevated FPG)				
		Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication			
Age												
35-39	7.3	0.0	3.1	0.1	67.1	0.3	22.5	1.2	5.8	100.0	0.4	626
40-44	8.1	0.0	1.5	0.1	67.3	0.2	23.0	1.2	6.7	100.0	0.3	607
45-49	11.4	0.0	2.2	0.7	62.5	1.1	23.9	2.8	6.9	100.0	1.8	563
50-54	9.1	0.0	2.3	0.0	63.2	0.3	25.5	2.7	6.0	100.0	0.3	592
55-59	19.2	0.0	3.5	0.5	53.9	0.8	23.4	4.4	13.5	100.0	1.3	298
60-69	13.0	0.3	2.6	0.9	53.7	1.4	30.7	2.8	7.7	100.0	2.6	555
70+	11.3	0.0	1.8	1.2	56.3	0.4	30.6	2.1	7.6	100.0	1.6	479
Residence												
Urban	14.9	0.2	2.2	1.0	63.4	1.2	19.5	4.2	8.4	100.0	2.3	888
Rural	9.3	0.0	2.4	0.3	60.7	0.4	27.5	1.7	6.9	100.0	0.7	2,832
Division												
Barisal	12.1	0.0	2.6	0.9	52.5	0.5	32.9	1.3	9.4	100.0	1.4	208
Chittagong	14.8	0.0	1.9	0.2	52.8	0.5	30.5	4.3	9.9	100.0	0.7	579
Dhaka	10.7	0.1	2.0	0.6	62.2	0.7	25.2	2.8	6.4	100.0	1.5	1,212
Khulna	7.5	0.0	1.3	0.4	71.6	0.0	19.6	1.8	5.3	100.0	0.4	499
Rajshahi	9.7	0.0	3.1	0.5	61.1	0.6	26.1	1.4	7.2	100.0	1.1	543
Rangpur	8.7	0.0	4.4	0.3	65.0	0.6	21.9	0.8	7.0	100.0	0.9	475
Sylhet	12.5	0.0	1.8	0.8	57.2	1.6	28.5	2.0	8.1	100.0	2.4	205
Education												
No education	7.7	0.0	2.9	0.3	62.2	0.3	27.2	0.7	6.5	100.0	0.5	1,358
Primary incomplete	9.8	0.0	2.6	0.1	60.3	0.5	27.3	1.3	7.8	100.0	0.7	933
Primary complete[1]	12.6	0.3	1.6	0.7	58.4	0.1	27.4	2.9	8.5	100.0	1.1	443
Secondary incomplete	15.0	0.0	2.0	1.2	62.7	1.5	20.3	4.9	7.3	100.0	2.7	552
Secondary complete or higher[2]	14.3	0.0	1.6	0.7	62.2	1.1	21.9	5.3	7.2	100.0	1.9	435
Wealth quintile												
Lowest	7.9	0.0	2.3	0.0	63.7	0.3	26.1	0.7	6.9	100.0	0.3	740
Second	7.6	0.0	2.9	0.3	60.6	0.1	28.9	0.0	7.2	100.0	0.4	721
Middle	7.3	0.0	2.5	0.3	61.1	0.0	29.1	1.3	5.6	100.0	0.3	722
Fourth	10.5	0.0	2.7	0.3	63.5	1.0	23.3	1.5	7.7	100.0	1.3	761
Highest	19.5	0.2	1.4	1.4	58.0	1.5	21.0	7.6	8.8	100.0	3.1	777
Nutritional status												
Thin (BMI <18.5)	7.4	0.0	3.0	0.3	59.0	0.3	30.6	0.5	6.3	100.0	0.6	1,093
Normal (BMI 18.5-24.9)	10.6	0.1	2.2	0.4	64.4	0.7	22.8	2.4	7.1	100.0	1.2	2,279
Overweight (BMI 25.0-29.9)	19.8	0.0	1.8	1.0	50.6	0.8	27.9	7.1	10.8	100.0	1.8	317
Obese (BMI ≥30.0)	(34.9)	(0.0)	(0.0)	(6.0)	(33.5)	(1.7)	(31.6)	(9.5)	(17.6)	100.0	7.7	32
Total	10.7	0.0	2.4	0.5	61.4	0.6	25.6	2.3	7.3	100.0	1.1	3,721

Note: Figures in parentheses are based on 25-49 unweighted cases.
FPG = Fasting Plasma Glucose. Total includes men with missing information on nutritional status. Total includes men with missing information on history of history of diabetes.
[1] An individual is classified as having diabetes if s/he reports taking medication for diabetes or has fasting blood glucose ≥7.0 mmol/L.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

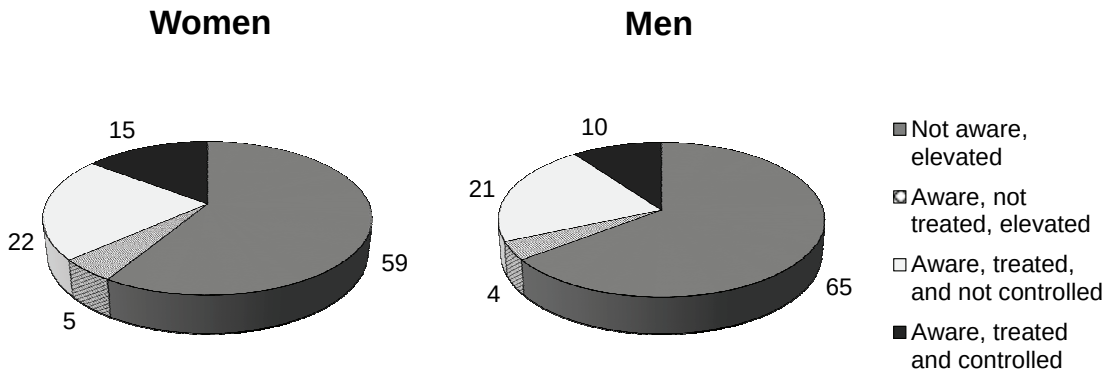
Figure 15.3 **Prevalence of diabetes and pre-diabetes among women and men age 35 and older**



BDHS 2011

Figure 15.4 shows awareness of diabetes and treatment status among women and men with diabetes. Almost 60 percent of women and 65 percent of men are not aware that their plasma glucose levels are elevated. Five percent of women and men are aware that they are diabetic, have elevated blood glucose at the time of the survey, and are not treating it. More than one in five women and men are aware of their condition and are taking medication to lower the plasma glucose to normal values, but they are not successful in having it under control. Finally, 15 percent of women and 10 percent of men are aware that they have diabetes, are treating it, and have the plasma glucose level controlled within normal levels.

Figure 15.4 **Awareness of diabetes and treatment status among diabetic women and men age 35 and over**



COMMUNITY CHARACTERISTICS 16

In the 2011 BDHS, the Community Questionnaire was administered in each of the selected clusters during the household listing operation. Questions asked about the existence of development organizations in the community and the availability and accessibility of health services and other facilities. The Community Questionnaire was administered to a group of informants in each cluster, including the chairman or members of the union council, the ward commissioner, village/mohalla heads, teachers, imams, and female opinion leaders. Distance to facilities was measured from the center of each sample point. All interviewed women in the cluster were assumed to be the same distance from the facility.

Table 16.1 presents the percent distribution of ever-married women age 15-49 by distance to various general services. Access to weekly markets was not asked about in urban areas because they are not the norm; the median distance to markets in rural areas, however, is 2.1 km. Urban women live slightly closer to a post office than rural women, with median distances of 1.5 km and 2.2 km, respectively. Cinema halls are mostly an urban phenomenon; the median distance to a cinema hall is 2.5 km compared with 9.9 km in rural areas.

Overall, 28 percent of all ever-married women (all in rural areas) have a weekly market less than 1 km away, 26 percent (29 percent in urban areas and 25 percent in rural areas) have a post office less than 1 km away, and 4 percent (15 percent in urban areas and less than 1 percent in rural areas) have a cinema hall less than 1 km away. In conclusion, the data show that urban and rural women have similar access to a post office; urban women are much more likely to be close to a cinema hall than rural women; and rural women have exclusive access to weekly markets.

Table 16.1 Distance to the nearest general services

Percent distribution of ever-married women age 15-49 by distance to the nearest specified service location, according to distance, Bangladesh 2011

	Urban		Rural			Total		
Distance to the nearest service location	Post office	Cinema hall	Weekly market	Post office	Cinema hall	Weekly market	Post office	Cinema hall
<1 km	28.7	14.7	27.6	24.9	0.8	27.6	25.9	4.4
1-4 km	66.2	63.5	63.7	68.0	15.8	63.7	67.6	28.2
5-9 km	5.0	13.0	5.8	6.4	34.1	5.8	6.0	28.6
≥10 km	0.0	8.8	2.8	0.7	49.4	2.8	0.5	38.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	4,619	4,619	13,130	13,130	13,130	13,130	17,749	17,749
Median distance	1.5	2.5	2.1	2.2	9.9	2.1	1.9	7.9

Table 16.2 shows the percent distribution of ever-married women age 15-49 by distance to the nearest education facility, according to type of facility. Religious schools are widespread in Bangladesh; half of the women live in a village/mohalla that has a madrasha, and an additional 46 percent of women have a madrasha within 5 kilometers. Overall, 83 percent of women live in a village/mohalla where there is a primary school, and virtually all have access to a primary school within a distance of 5 km. Access to a boys' high school is more limited than access to a girls' high school; 8 percent of women live in a village/mohalla where there is a boys' high school compared with 12 percent with a girls' high school. A total of 37 percent of women have access to a coeducational high school within their village/mohalla, and an additional 60 percent have access within 5 km. Urban women are more likely than rural women to have a school nearby for all the specified educational facilities.

Table 16.2 Distance to the nearest education facility

Percent distribution of ever-married women age 15-49 by distance to the nearest education facility, according to distance, Bangladesh 2011

	Urban					Rural					Total				
Distance to the nearest facility	Madrasha[1]	Primary school	Boys' high school	Girls' high school	Co-educational high school	Madrasha[1]	Primary school	Boys' high school	Girls' high school	Co-educational high school	Madrasha[1]	Primary school	Boys' high school	Girls' high school	Co-educational high school
Within village/mohalla	60.4	85.8	24.6	29.3	47.1	46.8	82.1	2.3	6.2	33.3	50.3	83.0	8.1	12.2	36.9
1-4 km	39.3	14.2	48.4	61.6	51.8	48.5	17.7	18.9	41.8	62.3	46.1	16.8	26.6	46.9	59.6
5-9 km	0.4	0.0	11.1	7.1	0.7	3.8	0.0	23.4	26.0	3.5	2.9	0.0	20.2	21.1	2.8
≥ 10 km	0.0	0.0	15.9	2.1	0.4	1.0	0.2	55.3	26.0	0.9	0.7	0.2	45.0	19.8	0.8
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	4,619	4,619	4,619	4,619	4,619	13,130	13,130	13,130	13,130	13,130	17,749	17,749	17,749	17,749	17,749
Median distance	a	a	2.1	1.7	1.1	1.2	a	10.9	5.3	1.8	a	a	8.4	3.9	1.5

Note: Totals may not add to 100.0 due to missing values.
[1] Religious school
a = Unknown; median distance cannot be calculated because more than 50 percent of the cases are in the categories "within village" and "within mohalla"

During the administration of the Community Questionnaire, informants were asked whether specific organizations such as the Grameen Bank, Bangladesh Rural Advancement Committee (BRAC), PROSHIKA, and the Association of Social Advancement (ASA) are available in the village/mohalla. Table 16.3 shows that 89 percent of ever-married women age 15-49 live in villages/mohallas that have a Grameen Bank, followed by BRAC (87 percent), ASA (86 percent), other NGO income-generating activities (64 percent), and cooperative society (61 percent). One in ten women lives in areas with cottage industries.

Women in rural areas are more likely than those in urban areas to have access to Grameen Bank (95 percent versus 72 percent), BRAC (89 percent versus 78 percent), and ASA (89 percent versus 76 percent). On the other hand, urban women have more access than rural women to voluntary organizations (43 percent versus 22 percent), mothers' clubs or ladies' associations (12 percent versus 6 percent), cooperative societies (68 percent versus 58 percent), cottage industries of the Bangladesh Small Industries Corporation (BSIC) (21 percent versus 6 percent), and the NGO, PROSHIKA (46 percent versus 34 percent).

Table 16.3 Availability of income-generating organizations

Percentage of ever-married women age 15-49 who have access to specific organizations, by residence, Bangladesh 2011

Income-generating organization	Residence		Total
	Urban	Rural	
Mothers' club or ladies' association	11.5	5.9	7.4
Grameen Bank member	71.5	94.8	88.7
Voluntary organization	43.2	22.1	27.6
BRAC income-generating activities	78.2	89.4	86.5
PROSHIKA	45.8	34.3	37.3
ASA	75.8	89.3	85.8
Cottage industries of BSIC	21.0	6.4	10.2
Cooperative society	67.9	58.3	60.8
Other NGO income-generating activities	76.8	59.6	64.1
Number of women	4,619	13,130	17,749

BRAC = Bangladesh Rural Advancement Committee
PROSHIKA = name of NGO
ASA = Association of Social Advancement
BSIC = Bangladesh Small Industries Corporation

Informants to the Community Questionnaire were asked to list the names of "depot holders," or health and family planning workers who work in the village/mohalla, as well as pharmacies or shops and satellite clinics that provide services to individuals in the village/mohalla. Table 16.4 shows the results. Nine percent of women live in a village/mohalla with a depot holder; 5 percent in urban compared with 10 percent in rural areas. Seven in 10 women live in a village where there are pharmacies or shops that sell family planning methods. Urban women are much more likely to have a pharmacy or shop nearby compared with rural women (82 and 67 percent, respectively). Almost all women (99 percent) live in villages/mohallas where satellite clinics are held. Satellite clinics are almost equally available in urban and rural areas (97 and 99 percent, respectively).

Table 16.4 Availability of family planning and health services

Percentage of ever-married women age 15-49 who have access to specific family planning and health services, by residence, Bangladesh 2011

Family planning or health service	Residence		Total
	Urban	Rural	
Depot holder who sells family planning methods	4.8	9.8	8.5
Pharmacy/shop that sells family planning methods	81.5	66.9	70.7
Satellite clinic	96.8	99.2	98.5
Number of women	4,619	13,130	17,749

Table 16.5 shows the percent distribution of rural sample clusters by the most common means of transport used by the village residents to go to the upazila headquarters of each division. Overall, 42 percent of the people go to their upazila headquarters by car, bus, or tempo and 20 percent, each, use rickshaw (or rickshaw van) and a baby taxi. Car, bus, or tempo use is highest in Khulna (55 percent) and Barisal (53 percent). Car, bus, or tempo use is also widespread in Rangpur and Rajshahi (42 and 48 percent, respectively).Rickshaws or rickshaw vans are the second most common means of travel to upazila headquarters in Rangpur (40 percent) and Rajshahi (32 percent). Almost half of people in Chittagong (47 percent) and one in three in Sylhet (33 percent) use a baby taxi to travel to upazila headquarters. Boat use overall is only 4 percent, and it is highest in Sylhet (15 percent).

Table 16.5 Means of transport to upazila headquarters

Percent distribution of sample clusters by most common means of transport to upazila headquarters, according to division, Bangladesh 2011

	Most common transport												
Division	Car/ bus/ tempo	Motor-cycle	Motor launch	Bicycle	Boat	Path	Rickshaw/ rickshaw van	Train	Baby taxi	Other	Missing	Total	Number of clusters
Barisal	53.4	4.1	8.8	0.0	7.4	1.8	13.5	0.0	11.0	0.0	0.0	100.0	30
Chittagong	29.2	0.0	5.8	0.0	0.0	10.7	2.9	0.0	46.6	4.7	0.0	100.0	81
Dhaka	40.1	3.2	0.0	0.0	6.0	3.2	19.0	1.4	24.1	2.9	0.0	100.0	128
Khulna	54.8	1.4	0.0	0.0	3.5	1.9	20.9	0.0	1.7	14.3	1.5	100.0	55
Rajshahi	47.9	0.0	0.0	0.0	1.4	2.1	31.9	0.0	5.9	10.8	0.0	100.0	72
Rangpur	42.3	0.0	0.0	1.6	1.5	1.6	39.7	0.0	5.2	8.0	0.0	100.0	58
Sylhet	41.1	0.0	0.0	0.0	15.1	1.6	7.7	0.0	32.8	1.7	0.0	100.0	35
Total	42.4	1.3	1.6	0.2	4.2	3.8	19.8	0.4	20.0	6.2	0.2	100.0	458

Table 16.6 shows the percent distribution of rural sample clusters by the most common transport means to the district headquarters in each division. A total of 77 percent of the people in the rural clusters go to their district headquarters by car, bus, or tempo, 12 percent go by baby taxi, and 4 percent go by motor launch. Car, bus, or tempo use is highest in Rajshahi division (90 percent), followed by Khulna (85 percent). Baby taxi use is most frequent in Dhaka (23 percent), Chittagong (14 percent), and Sylhet (11 percent). Motor launch is most used in Barisal (13 percent), followed by Chittagong (9 percent).

Table 16.6 Means of transport to district headquarters

Percent distribution of rural sample clusters by most common transport means to the district headquarters, according to division, Bangladesh 2011

	Most common transport										
Division	Car/ bus/ tempo	Motor-cycle	Motor launch	Boat	Rickshaw/ rickshaw van	Train	Baby taxi	Other	Missing	Total	Number of clusters
Barisal	77.4	2.0	13.4	0.0	1.8	0.0	5.3	0.0	0.0	100.0	30
Chittagong	74.3	1.6	8.8	0.0	1.3	0.0	14.0	0.0	0.0	100.0	81
Dhaka	67.6	0.0	3.4	1.7	2.6	0.0	23.0	1.6	0.0	100.0	128
Khulna	85.3	0.0	0.0	0.0	6.5	1.7	0.0	5.0	1.5	100.0	55
Rajshahi	89.5	0.0	0.0	0.0	1.3	1.9	5.7	1.6	0.0	100.0	72
Rangpur	76.1	0.0	0.0	5.3	7.0	1.5	6.8	3.3	0.0	100.0	58
Sylhet	81.0	0.0	4.0	3.9	0.0	0.0	11.0	0.0	0.0	100.0	35
Total	77.1	0.4	3.7	1.5	2.9	0.7	11.8	1.7	0.2	100.0	458

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SAMPLE DESIGN AND IMPLEMENTATION *Appendix* A

A.1 INTRODUCTION

The 2011 Bangladesh Demographic and Health Survey (2011 BDHS) is the sixth DHS survey conducted in Bangladesh, following those implemented in 1993-94, 1996-97, 1999-2000, 2003-04, and 2007-08. As with the prior surveys, the main objective of the 2011 BDHS is to provide up-to-date information on fertility and childhood mortality levels; fertility preferences; awareness, approval, and use of family planning methods; maternal and child health; knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections (STI); and community-level data on accessibility and availability of health and family planning services. All ever-married women age 12-49 who were usual members of the selected households and those who spent the night before the survey in the selected households are eligible to be interviewed in the survey. The survey was designed to produce representative results for the country as a whole, for the urban and the rural areas separately, and for each of the seven administrative divisions.

One in three households in the survey was selected for a male survey. In these households, all ever-married men age 15-54 who were usual members of the selected households or who spent the night before the survey in the selected households were eligible for individual interview. The survey collected information on their basic demographic status, use of family planning, and knowledge and attitudes toward HIV/AIDS and other sexually transmitted infections. In the households selected for the male survey, all men and women age 35 and older were eligible to participate in the biomarker component, which included blood pressure measurements, anemia and blood glucose testing, and height and weight measurements.

A.2 SAMPLING FRAME

The sampling frame used for the 2011 BDHS is the complete list of enumeration areas (EAs) covering the whole country prepared by the Bangladesh Bureau of Statistics for the 2011 population census of the People's Republic of Bangladesh. An EA is a geographic area covering on average 113 households. The sampling frame contains information about the EA location, type of residence (urban or rural), and the estimated number of residential households. A sketch map that delineates the EA geographic boundaries is available for each EA.

Administratively, Bangladesh is divided into seven divisions. Each division is further sub-divided into progressively smaller zilas, thanas, unions, wards, and villages. An EA is either a village, or a group of small villages, or a part of a large village. These divisions allow the country as a whole to be easily separated into small geographical area units with an urban-rural designation. The urban areas were further classified into two groups: city corporations and other than city corporations. Table A.1 gives the percentage distribution of households by division and by type of residence. The division size varies from 5.5 percent (Sylhet, the smallest) to 33.6 percent (Dhaka, the largest). In Bangladesh, 25.9 percent of the households are in urban areas: 8.4 percent are in city corporations, and 17.5 percent are in other than city corporations.

Table A.1 Percent distribution of households by division and type of residence

Division	Type of residence: Urban: City corporation	Urban: Other than city corporation	Urban: Total	Rural	Total	Urban + Rural Percent
Barisal	3.7	11.6	15.3	84.7	100.0	6.1
Chittagong	9.9	14.2	24.1	75.9	100.0	17.2
Dhaka	15.7	24.8	40.5	59.5	100.0	33.6
Khulna	4.5	15.6	20.0	80.0	100.0	11.6
Rajshahi	2.3	15.5	17.8	82.2	100.0	14.0
Rangpur	0.0	12.6	12.6	87.4	100.0	12.1
Sylhet	5.9	10.3	16.2	83.8	100.0	5.5
Bangladesh	8.4	17.5	25.9	74.1	100.0	100.0

Source: Preparatory sampling frame of the 2011 Population Census.

A.3 SAMPLE DESIGN

The 2011 BDHS sample was stratified and selected in two stages. Each division was stratified into urban and rural areas. The urban areas of each division are further stratified into two strata: city corporations and other than city corporations. Because Rangpur Division has no city corporations, a total of 20 sampling strata were created. Samples of EAs were selected independently in each stratum in two stages. Implicit stratification and proportional allocation were achieved at each of the lower administrative levels by sorting the sampling frame within each sampling stratum before sample selection, according to administrative units in different levels, and by using a probability proportional to size selection at the first stage of sampling.

In the first stage, 600 EAs were selected, with probability proportional to the EA size and with independent selection in each sampling stratum, using the sample allocation given in Table 2. In the second stage of selection, a fixed number—30 households per cluster—were selected with an equal probability systematic selection from the newly created household listing. A household listing operation was carried out by Mitra and Associates in all selected EAs from 22 May to 5 October 201. The listing was initially done 19 teams of two persons each. The number of teams was reduced to six towards the end of the listing operation. The survey interviewers were instructed to interview only the pre-selected households; no replacements or changes were allowed in order to prevent bias.

Table A.3 shows the allocation of households according to division and urban-rural areas, and Table A.4 shows the expected number of completed women interviews according to division and urban-rural areas. To ensure that the survey precision was comparable across divisions, the sample allocation figures a power allocation between divisions and between different types of residence within each division.

Based on a fixed sample take of 30 households per cluster, the survey selected 600 EAs, 207 in urban areas and 393 in rural areas. The survey was conducted in 18,000 residential households, 6,210 in urban areas and 11,790 in rural areas. The sample was expected to result in about 18,072 completed interviews with ever-married women age 12-49, 6,426 in urban areas and 11,646 in rural areas.

Table A.2 Sample allocation of clusters by division and type of residence

Division	Number of clusters allocated: Urban: City corporation	Urban: Other than city corporation	Urban: Total urban	Rural	Urban + Rural
Barisal	7	15	22	50	72
Chittagong	16	17	33	59	92
Dhaka	23	26	49	60	109
Khulna	9	20	29	56	85
Rajshahi	5	23	28	59	87
Rangpur		24	24	61	85
Sylhet	10	12	22	48	70
Bangladesh	70	137	207	393	600

Table A.3 Sample allocation of households by division and type of residence

Division	Number of households allocated				
	Urban				
	City corporation	Other than city corporation	Total urban	Rural	Urban + Rural
Barisal	210	450	660	1,500	2,160
Chittagong	480	510	990	1,770	2,760
Dhaka	690	780	1,470	1,800	3,270
Khulna	270	600	870	1,680	2,550
Rajshahi	150	690	840	1,770	2,610
Rangpur	0	720	720	1,830	2,550
Sylhet	300	360	660	1,440	2,100
Bangladesh	2,100	4,110	6,210	11,790	18,000

Table A.4 Sample allocation of completed women interviews by division and type of residence

Division	Number of interviews with ever-married women age 12-49				
	Urban				
	City corporation	Other than city corporation	Total urban	Rural	Urban + Rural
Barisal	218	465	683	1,482	2,165
Chittagong	504	520	1,024	1,748	2,772
Dhaka	714	807	1,521	1,778	3,299
Khulna	271	630	901	1,660	2,561
Rajshahi	167	702	869	1,748	2,617
Rangpur	0	745	745	1,808	2,553
Sylhet	305	378	683	1,422	2,105
Bangladesh	2,179	4,247	6,426	11,646	18,072

The sample allocations were derived using information obtained from the 2007 BDHS. Based on the 2007 data, the average number of ever-married women age 12-49 per household was assumed to be 1.10 in urban areas and 1.05 in rural areas. The household response rate was fixed at 96 percent for both urban and rural areas and the women's individual response rate was 98 percent for both urban and rural areas.

A.4 SAMPLING WEIGHT

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. The following notations were used:

P_{1hi}: is the first stage sampling probability of the i^{th} cluster in stratum h

P_{2hi}: is the second -stage sampling probability within the i^{th} cluster (households)

Let a_h be the number of EAs selected in stratum h, M_{hi} the number of households according to the sampling frame in the i^{th} EA, and $\sum M_{hi}$ the total number of households in the stratum. The probability of selecting the i^{th} EA in the 2011 BDHS sample was calculated as follows:

$$P_{1hi} = \frac{a_h M_{hi}}{\sum M_{hi}}$$

Let L_{hi} be the number of households listed in the household listing operation in cluster i in stratum h, and let g_{hi} be the number of households selected in the cluster. The second stage's selection probability for each household in the cluster was calculated as follows:

$$P_{2hi} = \frac{g_{hi}}{L_{hi}}$$

The overall selection probability of each household in cluster *i* of stratum *h* was therefore the product of the two stages of selection probabilities:

$$P_{hi} = P_{1hi} \times P_{2hi}$$

The sampling weight for each household in cluster *i* of stratum *h* was the inverse of its overall selection probability:

$$W_{hi} = 1 / P_{hi}$$

A spreadsheet containing all sampling parameters and selection probabilities was prepared to facilitate the calculation of the design weight, which was adjusted for household and individual non-response rates to get the sampling weights for each household, woman, and man in the sample. The difference between the household sampling weight and the individual sampling weight is due to individual nonresponse rates. The final sampling weights were normalized in order to make the total number of unweighted cases equal to the total number of weighted cases at the national level. The normalized weights are relative weights, which are valid for estimating means, proportions, and ratios, but not for estimating population totals and for pooled data.

ESTIMATES OF SAMPLING ERRORS *Appendix* **B**

Table B.1 List of selected variables for sampling errors, Bangladesh 2011

Variable	Estimate	Base population
	WOMEN	
Urban residence	Proportion	Ever-married women 15-49
No education	Proportion	Ever-married women 15-49
Secondary education or higher	Proportion	Ever-married women 15-49
Currently married	Proportion	Ever-married women 15-49
Currently pregnant	Proportion	All women 15-49
Children ever born	Mean	All women 15-49
Children surviving	Mean	All women 15-49
Children ever born to women 40-49	Mean	All women 40-49
Currently using any method	Proportion	Currently married women 15-49
Currently using a modern method	Proportion	Currently married women 15-49
Currently using pill	Proportion	Currently married women 15-49
Currently using IUD	Proportion	Currently married women 15-49
Currently using injectables	Proportion	Currently married women 15-49
Currently using female sterilization	Proportion	Currently married women 15-49
Currently using periodic abstinence	Proportion	Currently married women 15-49
Currently using withdrawal	Proportion	Currently married women 15-49
Using public sector source	Proportion	Current users of modern method
Want no more children	Proportion	Currently married women 15-49
Want to delay at least 2 years	Proportion	Currently married women 15-49
Ideal number of children	Mean	Ever-married women 15-49
Mothers protected against tetanus in the last birth	Proportion	Women with a live birth in past three years
Mothers received medical care at birth	Proportion	Births occurring 1-35 months before survey
Had diarrhea in the past 2 weeks	Proportion	Children under 5
Treated with oral rehydration salts (ORS)	Proportion	Children under 5 with diarrhea in past 2 weeks
Sought medical treatment	Proportion	Children under 5 with diarrhea in past 2 weeks
Vaccination card seen	Proportion	Children 12-23 months
Received BCG vaccination	Proportion	Children 12-23 months
Received DPT vaccination (3 doses)	Proportion	Children 12-23 months
Received polio vaccination (3 doses)	Proportion	Children 12-23 months
Received measles vaccination	Proportion	Children 12-23 months
Received all vaccinations	Proportion	Children 12-23 months
Total fertility rate (3 years)	Rate	Women-years of exposure to childbearing
Neonatal mortality rate (5 years)	Rate	Children exposed to the risk of mortality
Post-neonatal mortality rate (5 years)	Rate	Children exposed to the risk of mortality
Infant mortality rate (5 years)	Rate	Children exposed to the risk of mortality
Child mortality rate (5 years)	Rate	Children exposed to the risk of mortality
Under-5 mortality rate (5 years)	Rate	Children exposed to the risk of mortality
Height-for-age (below -2SD)	Proportion	Children age 0-59 months
Weight-for-height (below -2SD)	Proportion	Children age 0-59 months
Weight-for-age (below -2SD)	Proportion	Children age 0-59 months
BMI <18.5	Proportion	Ever-married women 15-49 who were measured
Anemia in children	Proportion	Children age 6-59 months who were tested
Anemia in women	Proportion	Ever-married women 15-49 who were tested
Has heard of HIV/AIDS	Proportion	Ever-married women 15-49
Knows about condoms to prevent AIDS	Proportion	Ever-married women 15-49
Knows about limiting partners to prevent AIDS	Proportion	Ever-married women 15-49
	MEN	
Urban residence	Proportion	Ever-married men 15-49
No education	Proportion	Ever-married men 15-49
With secondary education or higher	Proportion	Ever-married men 15-49
Currently married	Proportion	Ever-married men 15-49
Ideal number of children	Mean	Ever-married men 15-49
Has heard of HIV/AIDS	Proportion	Ever-married men 15-49
Knows about condoms to prevent AIDS	Proportion	Ever-married men 15-49
Knows about limiting partners to prevent AIDS	Proportion	Ever-married men 15-49
HEALTH ISSUES SURVEY		
	WOMEN	
Elevated blood pressure or taking medications	Proportion	All women 35+
Elevated fasting plasma glucose or taking medications	Proportion	All women 35+
	MEN	
Elevated blood pressure or taking medications	Proportion	All men 35+
Elevated fasting plasma glucose or taking medications	Proportion	All men 35+

Table B.2 Sampling errors: Total sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.260	0.003	17749	17749	0.970	0.012	0.254	0.267
No education	0.277	0.006	17749	17749	1.903	0.023	0.264	0.290
With secondary education or higher	0.423	0.008	17749	17749	2.109	0.018	0.407	0.439
Currently married (in union)	0.937	0.002	17749	17749	1.246	0.002	0.933	0.942
Currently pregnant	0.051	0.002	20676	20797	1.201	0.035	0.048	0.055
Children ever born	2.211	0.020	20676	20797	1.286	0.009	2.170	2.252
Children surviving	1.979	0.017	20676	20797	1.268	0.009	1.944	2.014
Children ever born to women over 40	4.174	0.049	4016	3982	1.495	0.012	4.075	4.273
Currently using any method	0.612	0.005	16616	16635	1.377	0.009	0.602	0.623
Currently using a modern method	0.521	0.006	16616	16635	1.424	0.011	0.509	0.532
Currently using pill	0.272	0.005	16616	16635	1.505	0.019	0.262	0.283
Currently using IUD	0.007	0.001	16616	16635	1.177	0.106	0.006	0.009
Currently using injectables	0.112	0.004	16616	16635	1.627	0.036	0.104	0.120
Currently using female sterilization	0.050	0.003	16616	16635	1.532	0.052	0.044	0.055
Currently using periodic abstinence	0.069	0.002	16616	16635	1.264	0.036	0.064	0.074
Currently using withdrawal	0.019	0.001	16616	16635	1.291	0.073	0.016	0.021
Using public sector source	0.521	0.009	8680	8659	1.698	0.017	0.503	0.539
Want no more children	0.649	0.004	16616	16635	1.174	0.007	0.640	0.658
Want to delay at least 2 years	0.198	0.004	16616	16635	1.134	0.018	0.191	0.205
Ideal number of children	2.201	0.009	17539	17590	1.812	0.004	2.183	2.219
Mothers completely protected against tetanus	0.899	0.006	4661	4652	1.396	0.007	0.887	0.911
Mothers received medical assistance at delivery	0.317	0.011	4964	4956	1.588	0.035	0.295	0.338
Had diarrhea in the last 2 weeks	0.046	0.003	8332	8395	1.190	0.061	0.041	0.052
Treated with oral rehydration salts (ORS)	0.776	0.025	395	388	1.174	0.033	0.725	0.827
Sought medical treatment	0.248	0.026	395	388	1.132	0.103	0.197	0.299
Having health card, seen	0.667	0.016	1546	1547	1.318	0.024	0.635	0.699
Received BCG vaccination	0.978	0.005	1546	1547	1.351	0.005	0.968	0.989
Received DPT vaccination (3 doses)	0.934	0.009	1546	1547	1.343	0.009	0.916	0.952
Received polio vaccination (3 doses)	0.934	0.009	1546	1547	1.355	0.010	0.916	0.952
Received measles vaccination	0.875	0.011	1546	1547	1.355	0.013	0.852	0.898
Fully immunized	0.860	0.012	1546	1547	1.355	0.014	0.835	0.884
Height-for-age (below -2SD)	0.413	0.008	7826	7861	1.429	0.020	0.397	0.429
Weight-for-height (below -2SD)	0.156	0.005	7826	7861	1.293	0.035	0.145	0.167
Weight-for-age (below -2SD)	0.364	0.008	7826	7861	1.474	0.023	0.347	0.381
Anemia children	0.513	0.013	2361	2353	1.212	0.025	0.488	0.539
Anemia women	0.424	0.009	5666	5676	1.400	0.022	0.406	0.443
BMI < 18.5	0.242	0.005	16023	16024	1.622	0.023	0.231	0.253
Has heard of AIDS	0.691	0.008	17749	17749	2.326	0.012	0.675	0.707
Knows about condoms to prevent AIDS	0.437	0.007	17749	17749	1.980	0.017	0.423	0.452
Knows about limiting partners to prevent AIDS	0.507	0.008	17749	17749	2.146	0.016	0.491	0.524
Total fertility rate (last 3 years)	2.320	0.047	58347	58465	1.376	0.020	2.227	2.413
Neonatal mortality (last 0-4 years)	32.390	2.219	8813	8860	1.093	0.069	27.952	36.827
Post-neonatal mortality (last 0-4 years)	10.117	1.121	8794	8835	1.060	0.111	7.874	12.360
Infant mortality (last 0-4 years)	42.507	2.449	8822	8868	1.086	0.058	37.608	47.406
Child mortality (last 0-4 years)	11.472	1.372	8728	8742	1.178	0.120	8.728	14.217
Under-5 mortality (last 0-4 years)	53.491	2.758	8868	8918	1.111	0.052	47.976	59.007
Elevated blood pressure or taking medications	0.315	0.009	4030	4007	1.216	0.028	0.297	0.333
Elevated fasting plasma glucose or taking medications	0.115	0.006	3733	3721	1.141	0.052	0.103	0.127
			MEN					
Urban residence	0.280	0.008	3382	3392	1.053	0.029	0.264	0.296
No education	0.262	0.010	3382	3392	1.273	0.037	0.243	0.282
With secondary education or higher	0.405	0.011	3382	3392	1.325	0.028	0.382	0.427
Currently married (in union)	0.991	0.002	3382	3392	1.155	0.002	0.987	0.995
Ideal number of children	2.153	0.017	3356	3369	1.326	0.008	2.119	2.187
Has heard of HIV/AIDS	0.876	0.008	3382	3392	1.366	0.009	0.861	0.892
Knows condom use to prevent HIV/AIDS	0.694	0.012	3382	3392	1.496	0.017	0.670	0.718
Knows limiting partners to prevent HIV/AIDS	0.691	0.013	3382	3392	1.597	0.018	0.666	0.717
Elevated blood pressure or taking medications	0.192	0.008	3962	3925	1.224	0.040	0.176	0.207
Elevated fasting plasma glucose or taking medications	0.109	0.006	3645	3631	1.195	0.057	0.097	0.121

Table B.3 Sampling errors: Urban sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	1.000	0.000	6179	4619	Na	0.000	1.000	1.000
No education	0.195	0.009	6179	4619	1.741	0.045	0.177	0.212
With secondary education or higher	0.550	0.016	6179	4619	2.465	0.028	0.519	0.581
Currently married (in union)	0.929	0.004	6179	4619	1.352	0.005	0.920	0.938
Currently pregnant	0.042	0.003	7457	5579	1.175	0.064	0.037	0.047
Children ever born	1.864	0.032	7457	5579	1.319	0.017	1.800	1.927
Children surviving	1.696	0.030	7457	5579	1.391	0.017	1.637	1.755
Children ever born to women over 40	3.596	0.077	1436	1056	1.560	0.021	3.442	3.750
Currently using any method	0.640	0.009	5751	4292	1.349	0.013	0.623	0.657
Currently using a modern method	0.540	0.008	5751	4292	1.243	0.015	0.523	0.556
Currently using pill	0.281	0.009	5751	4292	1.573	0.033	0.262	0.300
Currently using IUD	0.007	0.001	5751	4292	1.278	0.199	0.004	0.010
Currently using injectables	0.092	0.006	5751	4292	1.691	0.070	0.079	0.104
Currently using female sterilization	0.039	0.003	5751	4292	1.265	0.083	0.032	0.045
Currently using periodic abstinence	0.078	0.004	5751	4292	1.184	0.054	0.069	0.086
Currently using withdrawal	0.020	0.002	5751	4292	1.208	0.113	0.015	0.024
Using public sector source	0.319	0.016	3140	2316	1.928	0.050	0.286	0.351
Want no more children	0.624	0.010	5751	4292	1.493	0.015	0.604	0.643
Want to delay at least 2 years	0.206	0.008	5751	4292	1.431	0.037	0.191	0.221
Ideal number of children	2.101	0.014	6137	4600	1.768	0.007	2.074	2.129
Mothers completely protected against tetanus	0.935	0.008	1479	1068	1.172	0.008	0.919	0.950
Mothers received medical assistance at delivery	0.537	0.023	1557	1121	1.698	0.042	0.492	0.583
Had diarrhea in the last 2 weeks	0.037	0.004	2548	1871	1.144	0.117	0.029	0.046
Treated with oral rehydration salts (ORS)	0.844	0.038	108	70	1.003	0.044	0.769	0.919
Sought medical treatment	0.454	0.063	108	70	1.202	0.138	0.329	0.579
Having health card, seen	0.643	0.029	506	375	1.354	0.045	0.585	0.701
Received BCG vaccination	0.988	0.005	506	375	1.142	0.006	0.977	0.999
Received DPT vaccination (3 doses)	0.939	0.014	506	375	1.301	0.015	0.912	0.967
Received polio vaccination (3 doses)	0.938	0.014	506	375	1.295	0.015	0.910	0.966
Received measles vaccination	0.875	0.021	506	375	1.429	0.024	0.833	0.917
Fully immunized	0.865	0.021	506	375	1.408	0.025	0.823	0.908
Height-for-age (below -2SD)	0.362	0.016	2394	1709	1.494	0.043	0.331	0.393
Weight-for-height (below -2SD)	0.140	0.009	2394	1709	1.284	0.067	0.121	0.159
Weight-for-age (below -2SD)	0.280	0.013	2394	1709	1.366	0.047	0.254	0.307
Anemia children	0.463	0.025	708	498	1.280	0.054	0.413	0.513
Anemia women	0.361	0.018	1970	1468	1.673	0.050	0.324	0.397
BMI < 18.5	0.135	0.008	5631	4194	1.755	0.059	0.119	0.151
Has heard of AIDS	0.856	0.009	6179	4619	1.928	0.010	0.839	0.873
Knows about condoms to prevent AIDS	0.570	0.013	6179	4619	2.017	0.022	0.544	0.595
Knows about limiting partners to prevent AIDS	0.645	0.013	6179	4619	2.073	0.020	0.619	0.670
Total fertility rate (last 3 years)	1.951	0.066	21024	15773	1.365	0.034	1.820	2.082
Neonatal mortality (last 0-4 years)	31.568	4.237	2695	1977	1.259	0.134	23.094	40.042
Post-neonatal mortality (last 0-4 years)	10.170	2.244	2691	1966	1.145	0.221	5.682	14.659
Infant mortality (last 0-4 years)	41.738	4.637	2699	1979	1.194	0.111	32.464	51.012
Child mortality (last 0-4 years)	8.111	2.035	2696	1965	1.226	0.251	4.041	12.182
Under-5 mortality (last 0-4 years)	49.511	4.791	2710	1987	1.139	0.097	39.930	59.092
Elevated blood pressure or taking medications	0.390	0.018	1329	936	1.330	0.047	0.353	0.426
Elevated fasting plasma glucose or taking medications	0.176	0.013	1227	855	1.195	0.075	0.149	0.202
			MEN					
Urban residence	1.000	0.000	1224	949	na	0.000	1.000	1.000
No education	0.158	0.015	1224	949	1.468	0.097	0.127	0.189
With secondary education or higher	0.544	0.023	1224	949	1.639	0.043	0.497	0.591
Currently married (in union)	0.991	0.004	1224	949	1.382	0.004	0.984	0.999
Ideal number of children	2.046	0.021	1218	944	1.331	0.010	2.005	2.087
Has heard of HIV/AIDS	0.956	0.007	1224	949	1.203	0.007	0.942	0.970
Knows condom use to prevent HIV/AIDS	0.793	0.023	1224	949	1.947	0.028	0.748	0.838
Knows limiting partners to prevent HIV/AIDS	0.751	0.023	1224	949	1.899	0.031	0.704	0.798
Elevated blood pressure or taking medications	0.242	0.012	1335	956	0.996	0.049	0.218	0.266
Elevated fasting plasma glucose or taking medications	0.151	0.014	1213	867	1.368	0.094	0.123	0.179

Table B.4 Sampling errors: Rural sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.000	0.000	11570	13130	na	na	0.000	0.000
No education	0.306	0.008	11570	13130	1.883	0.026	0.290	0.322
With secondary education or higher	0.378	0.009	11570	13130	2.001	0.024	0.360	0.397
Currently married (in union)	0.940	0.003	11570	13130	1.200	0.003	0.935	0.945
Currently pregnant	0.055	0.002	13349	15222	1.172	0.041	0.050	0.059
Children ever born	2.338	0.025	13349	15222	1.249	0.011	2.287	2.389
Children surviving	2.082	0.021	13349	15222	1.212	0.010	2.040	2.125
Children ever born to women over 40	4.381	0.060	2580	2927	1.433	0.014	4.261	4.501
Currently using any method	0.603	0.006	10865	12343	1.352	0.011	0.590	0.615
Currently using a modern method	0.514	0.007	10865	12343	1.432	0.013	0.500	0.528
Currently using pill	0.269	0.006	10865	12343	1.458	0.023	0.257	0.282
Currently using IUD	0.007	0.001	10865	12343	1.128	0.125	0.006	0.009
Currently using injectables	0.119	0.005	10865	12343	1.571	0.041	0.109	0.129
Currently using female sterilization	0.053	0.003	10865	12343	1.524	0.062	0.047	0.060
Currently using periodic abstinence	0.066	0.003	10865	12343	1.268	0.046	0.060	0.072
Currently using withdrawal	0.018	0.002	10865	12343	1.288	0.091	0.015	0.022
Using public sector source	0.595	0.011	5540	6343	1.655	0.018	0.573	0.617
Want no more children	0.658	0.005	10865	12343	1.061	0.007	0.648	0.668
Want to delay at least 2 years	0.195	0.004	10865	12343	1.029	0.020	0.187	0.203
Ideal number of children	2.236	0.011	11402	12991	1.774	0.005	2.213	2.259
Mothers completely protected against tetanus	0.888	0.008	3182	3584	1.368	0.009	0.873	0.904
Mothers received medical assistance at delivery	0.252	0.012	3407	3835	1.540	0.048	0.228	0.276
Had diarrhea in the last 2 weeks	0.049	0.003	5784	6524	1.153	0.069	0.042	0.055
Treated with oral rehydration salts (ORS)	0.761	0.030	287	318	1.137	0.039	0.701	0.820
Sought medical treatment	0.203	0.026	287	318	1.057	0.130	0.150	0.255
Having health card, seen	0.675	0.019	1040	1172	1.282	0.028	0.637	0.712
Received BCG vaccination	0.975	0.007	1040	1172	1.308	0.007	0.962	0.988
Received DPT vaccination (3 doses)	0.932	0.011	1040	1172	1.309	0.012	0.911	0.954
Received polio vaccination (3 doses)	0.933	0.011	1040	1172	1.324	0.012	0.911	0.954
Received measles vaccination	0.876	0.014	1040	1172	1.305	0.016	0.848	0.903
Fully immunized	0.858	0.015	1040	1172	1.307	0.017	0.829	0.887
Height-for-age (below -2SD)	0.427	0.009	5432	6152	1.371	0.022	0.408	0.446
Weight-for-height (below -2SD)	0.160	0.006	5432	6152	1.253	0.040	0.148	0.173
Weight-for-age (below -2SD)	0.387	0.010	5432	6152	1.432	0.026	0.367	0.407
Anemia children	0.527	0.015	1653	1855	1.165	0.028	0.498	0.556
Anemia women	0.447	0.011	3696	4207	1.298	0.024	0.425	0.468
BMI < 18.5	0.280	0.007	10392	11831	1.555	0.024	0.266	0.293
Has heard of AIDS	0.633	0.011	11570	13130	2.347	0.017	0.612	0.654
Knows about condoms to prevent AIDS	0.391	0.009	11570	13130	1.971	0.023	0.373	0.409
Knows about limiting partners to prevent AIDS	0.459	0.010	11570	13130	2.146	0.022	0.439	0.479
Total fertility rate (last 3 years)	2.457	0.058	37602	42704	1.341	0.024	2.342	2.573
Neonatal mortality (last 0-4 years)	32.625	2.588	6118	6884	1.027	0.079	27.449	37.802
Post-neonatal mortality (last 0-4 years)	10.104	1.294	6103	6869	1.014	0.128	7.515	12.692
Infant mortality (last 0-4 years)	42.729	2.863	6123	6889	1.032	0.067	37.004	48.454
Child mortality (last 0-4 years)	12.453	1.667	6032	6777	1.123	0.134	9.118	15.787
Under-5 mortality (last 0-4 years)	54.650	3.273	6158	6931	1.071	0.060	48.104	61.195
Elevated blood pressure or taking medications	0.292	0.010	2701	3071	1.167	0.035	0.272	0.313
Elevated fasting plasma glucose or taking medications	0.097	0.007	2506	2866	1.118	0.069	0.083	0.110
			MEN					
Urban residence	0.000	0.000	2158	2442	na	na	0.000	0.000
No education	0.303	0.012	2158	2442	1.191	0.039	0.279	0.327
With secondary education or higher	0.351	0.012	2158	2442	1.193	0.035	0.326	0.375
Currently married (in union)	0.991	0.002	2158	2442	1.065	0.002	0.986	0.995
Ideal number of children	2.194	0.022	2138	2425	1.276	0.010	2.150	2.239
Has heard of HIV/AIDS	0.845	0.010	2158	2442	1.326	0.012	0.824	0.866
Knows condom use to prevent HIV/AIDS	0.655	0.014	2158	2442	1.352	0.021	0.628	0.683
Knows limiting partners to prevent HIV/AIDS	0.668	0.015	2158	2442	1.486	0.023	0.638	0.698
Elevated blood pressure or taking medications	0.176	0.009	2627	2969	1.258	0.053	0.157	0.194
Elevated fasting plasma glucose or taking medications	0.096	0.007	2432	2764	1.132	0.071	0.082	0.109

Table B.5 Sampling errors: Barisal sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.166	0.006	2050	1002	0.697	0.035	0.154	0.177
No education	0.163	0.015	2050	1002	1.810	0.091	0.133	0.193
With secondary education or higher	0.461	0.020	2050	1002	1.778	0.043	0.421	0.500
Currently married (in union)	0.951	0.005	2050	1002	0.982	0.005	0.941	0.960
Currently pregnant	0.053	0.006	2393	1175	1.240	0.105	0.042	0.064
Children ever born	2.294	0.061	2393	1175	1.193	0.027	2.171	2.416
Children surviving	2.037	0.051	2393	1175	1.166	0.025	1.934	2.140
Children ever born to women over 40	4.537	0.131	459	222	1.366	0.029	4.275	4.799
Currently using any method	0.647	0.014	1948	952	1.323	0.022	0.618	0.675
Currently using a modern method	0.545	0.017	1948	952	1.540	0.032	0.510	0.580
Currently using pill	0.266	0.013	1948	952	1.340	0.050	0.240	0.293
Currently using IUD	0.007	0.002	1948	952	1.099	0.300	0.003	0.011
Currently using injectables	0.184	0.014	1948	952	1.607	0.077	0.156	0.212
Currently using female sterilization	0.028	0.005	1948	952	1.302	0.175	0.018	0.037
Currently using periodic abstinence	0.085	0.008	1948	952	1.286	0.096	0.068	0.101
Currently using withdrawal	0.014	0.003	1948	952	1.071	0.202	0.008	0.020
Using public sector source	0.610	0.023	1069	519	1.562	0.038	0.563	0.656
Want no more children	0.667	0.013	1948	952	1.262	0.020	0.640	0.694
Want to delay at least 2 years	0.221	0.012	1948	952	1.231	0.052	0.198	0.244
Ideal number of children	2.207	0.027	2028	990	1.849	0.012	2.153	2.261
Mothers completely protected against tetanus	0.889	0.018	525	260	1.348	0.021	0.852	0.926
Mothers received medical assistance at delivery	0.284	0.028	551	273	1.442	0.100	0.227	0.341
Had diarrhea in the last 2 weeks	0.049	0.008	924	464	1.109	0.163	0.033	0.065
Treated with oral rehydration salts (ORS)	0.726	0.081	47	23	1.163	0.112	0.564	0.889
Sought medical treatment	0.340	0.086	47	23	1.224	0.254	0.167	0.512
Having health card, seen	0.648	0.033	170	84	0.897	0.051	0.583	0.714
Received BCG vaccination	0.985	0.010	170	84	1.108	0.010	0.965	1.006
Received DPT vaccination (3 doses)	0.914	0.024	170	84	1.140	0.027	0.865	0.963
Received polio vaccination (3 doses)	0.920	0.023	170	84	1.099	0.025	0.875	0.966
Received measles vaccination	0.861	0.028	170	84	1.057	0.032	0.805	0.917
Fully immunized	0.833	0.032	170	84	1.117	0.038	0.769	0.896
Height-for-age (below -2SD)	0.451	0.022	870	433	1.271	0.049	0.406	0.496
Weight-for-height (below -2SD)	0.152	0.013	870	433	1.032	0.085	0.126	0.177
Weight-for-age (below -2SD)	0.400	0.019	870	433	1.141	0.048	0.361	0.439
Anemia children	0.596	0.029	275	136	0.992	0.049	0.537	0.654
Anemia women	0.456	0.027	628	306	1.334	0.058	0.403	0.509
BMI < 18.5	0.270	0.015	1793	873	1.456	0.057	0.239	0.300
Has heard of AIDS	0.707	0.022	2050	1002	2.193	0.031	0.663	0.751
Knows about condoms to prevent AIDS	0.486	0.020	2050	1002	1.808	0.041	0.446	0.526
Knows about limiting partners to prevent AIDS	0.559	0.022	2050	1002	2.003	0.039	0.515	0.603
Total fertility rate (last 3 years)	2.315	0.108	6699	3280	1.199	0.047	2.099	2.530
Neonatal mortality (last 0-4 years)	37.724	6.864	978	492	1.042	0.182	23.996	51.452
Post-neonatal mortality (last 0-4 years)	11.261	3.485	972	487	0.993	0.310	4.290	18.231
Infant mortality (last 0-4 years)	48.985	8.139	980	493	1.098	0.166	32.706	65.263
Child mortality (last 0-4 years)	14.166	4.092	977	486	1.073	0.289	5.982	22.349
Under-5 mortality (last 0-4 years)	62.456	8.758	986	496	1.122	0.140	44.940	79.973
Elevated blood pressure or taking medications	0.307	0.022	488	239	1.052	0.071	0.263	0.350
Elevated fasting plasma glucose or taking medications	0.133	0.017	441	215	1.036	0.128	0.099	0.166
			MEN					
Urban residence	0.171	0.015	341	174	0.736	0.088	0.141	0.201
No education	0.149	0.026	341	174	1.356	0.176	0.096	0.201
With secondary education or higher	0.384	0.034	341	174	1.277	0.088	0.316	0.451
Currently married (in union)	0.989	0.006	341	174	1.091	0.006	0.977	1.001
Ideal number of children	2.133	0.038	340	173	1.201	0.018	2.056	2.209
Has heard of HIV/AIDS	0.871	0.025	341	174	1.352	0.028	0.821	0.920
Knows condom use to prevent HIV/AIDS	0.641	0.034	341	174	1.306	0.053	0.573	0.709
Knows limiting partners to prevent HIV/AIDS	0.670	0.036	341	174	1.421	0.054	0.598	0.743
Elevated blood pressure or taking medications	0.178	0.018	464	230	1.035	0.102	0.142	0.215
Elevated fasting plasma glucose or taking medications	0.124	0.016	408	203	0.947	0.125	0.093	0.155

Table B.6 Sampling errors: Chittagong sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.242	0.006	2864	3222	0.754	0.025	0.230	0.254
No education	0.248	0.016	2864	3222	1.940	0.063	0.216	0.279
With secondary education or higher	0.477	0.021	2864	3222	2.295	0.045	0.434	0.520
Currently married (in union)	0.936	0.006	2864	3222	1.270	0.006	0.924	0.947
Currently pregnant	0.054	0.004	3503	3946	1.154	0.080	0.045	0.062
Children ever born	2.378	0.059	3503	3946	1.227	0.025	2.261	2.496
Children surviving	2.139	0.051	3503	3946	1.213	0.024	2.037	2.241
Children ever born to women over 40	4.925	0.109	580	660	1.187	0.022	4.707	5.143
Currently using any method	0.514	0.011	2689	3015	1.186	0.022	0.491	0.537
Currently using a modern method	0.445	0.012	2689	3015	1.204	0.026	0.422	0.468
Currently using pill	0.223	0.010	2689	3015	1.262	0.045	0.203	0.243
Currently using IUD	0.006	0.002	2689	3015	0.997	0.238	0.003	0.010
Currently using injectables	0.115	0.008	2689	3015	1.333	0.071	0.098	0.131
Currently using female sterilization	0.045	0.005	2689	3015	1.353	0.120	0.034	0.056
Currently using periodic abstinence	0.049	0.005	2689	3015	1.189	0.101	0.039	0.059
Currently using withdrawal	0.013	0.002	2689	3015	1.067	0.176	0.009	0.018
Using public sector source	0.445	0.021	1240	1342	1.494	0.047	0.403	0.488
Want no more children	0.621	0.010	2689	3015	1.109	0.017	0.600	0.641
Want to delay at least 2 years	0.216	0.008	2689	3015	1.024	0.038	0.200	0.232
Ideal number of children	2.411	0.030	2826	3173	1.864	0.012	2.352	2.470
Mothers completely protected against tetanus	0.888	0.016	941	1083	1.574	0.018	0.856	0.921
Mothers received medical assistance at delivery	0.297	0.025	1018	1176	1.692	0.085	0.247	0.348
Had diarrhea in the last 2 weeks	0.059	0.006	1683	1946	1.017	0.098	0.048	0.071
Treated with oral rehydration salts (ORS)	0.774	0.049	100	115	1.136	0.063	0.677	0.872
Sought medical treatment	0.198	0.042	100	115	1.063	0.212	0.114	0.282
Having health card, seen	0.618	0.034	323	366	1.254	0.055	0.550	0.686
Received BCG vaccination	0.969	0.015	323	366	1.430	0.016	0.939	0.999
Received DPT vaccination (3 doses)	0.909	0.025	323	366	1.525	0.028	0.859	0.960
Received polio vaccination (3 doses)	0.920	0.025	323	366	1.566	0.027	0.871	0.969
Received measles vaccination	0.839	0.031	323	366	1.483	0.037	0.777	0.900
Fully immunized	0.818	0.031	323	366	1.422	0.038	0.756	0.880
Height-for-age (below -2SD)	0.413	0.019	1545	1773	1.463	0.046	0.375	0.451
Weight-for-height (below -2SD)	0.159	0.012	1545	1773	1.224	0.075	0.135	0.183
Weight-for-age (below -2SD)	0.374	0.020	1545	1773	1.528	0.054	0.334	0.415
Anemia children	0.516	0.034	444	509	1.328	0.065	0.449	0.584
Anemia women	0.384	0.019	888	991	1.182	0.050	0.345	0.423
BMI < 18.5	0.224	0.013	2565	2868	1.534	0.057	0.199	0.250
Has heard of AIDS	0.686	0.023	2864	3222	2.648	0.034	0.640	0.732
Knows about condoms to prevent AIDS	0.436	0.020	2864	3222	2.156	0.046	0.396	0.476
Knows about limiting partners to prevent AIDS	0.504	0.023	2864	3222	2.427	0.045	0.458	0.549
Total fertility rate (last 3 years)	2.820	0.128	9761	10987	1.404	0.045	2.565	3.076
Neonatal mortality (last 0-4 years)	21.150	3.489	1759	2025	1.042	0.165	14.172	28.129
Post-neonatal mortality (last 0-4 years)	13.370	2.691	1751	2014	1.062	0.201	7.989	18.751
Infant mortality (last 0-4 years)	34.520	4.075	1764	2031	0.978	0.118	26.371	42.670
Child mortality (last 0-4 years)	15.988	3.458	1703	1957	1.113	0.216	9.073	22.904
Under-5 mortality (last 0-4 years)	49.957	5.300	1778	2048	1.048	0.106	39.356	60.557
Elevated blood pressure or taking medications	0.263	0.019	629	721	1.066	0.072	0.225	0.301
Elevated fasting plasma glucose or taking medications	0.141	0.016	581	663	1.087	0.112	0.109	0.172
			MEN					
Urban residence	0.287	0.015	478	519	0.743	0.054	0.256	0.318
No education	0.256	0.027	478	519	1.339	0.105	0.202	0.309
With secondary education or higher	0.371	0.030	478	519	1.344	0.080	0.311	0.430
Currently married (in union)	0.992	0.004	478	519	1.098	0.004	0.983	1.001
Ideal number of children	2.355	0.043	471	511	1.220	0.018	2.269	2.442
Has heard of HIV/AIDS	0.864	0.024	478	519	1.510	0.027	0.817	0.912
Knows condom use to prevent HIV/AIDS	0.655	0.035	478	519	1.596	0.053	0.586	0.725
Knows limiting partners to prevent HIV/AIDS	0.649	0.035	478	519	1.585	0.053	0.580	0.719
Elevated blood pressure or taking medications	0.168	0.019	560	618	1.182	0.112	0.131	0.206
Elevated fasting plasma glucose or taking medications	0.151	0.015	517	568	0.962	0.100	0.121	0.181

Table B.7 Sampling errors: Dhaka sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.407	0.007	3062	5736	0.818	0.018	0.393	0.422
No education	0.281	0.013	3062	5736	1.572	0.045	0.255	0.307
With secondary education or higher	0.418	0.016	3062	5736	1.815	0.039	0.385	0.450
Currently married (in union)	0.930	0.005	3062	5736	1.069	0.005	0.920	0.940
Currently pregnant	0.053	0.004	3570	6702	1.078	0.076	0.045	0.061
Children ever born	2.155	0.042	3570	6702	1.143	0.020	2.070	2.240
Children surviving	1.924	0.036	3570	6702	1.114	0.019	1.853	1.996
Children ever born to women over 40	4.115	0.112	705	1316	1.436	0.027	3.891	4.340
Currently using any method	0.610	0.011	2844	5334	1.149	0.017	0.589	0.631
Currently using a modern method	0.511	0.011	2844	5334	1.219	0.022	0.488	0.534
Currently using pill	0.277	0.012	2844	5334	1.406	0.043	0.253	0.301
Currently using IUD	0.005	0.001	2844	5334	1.109	0.290	0.002	0.008
Currently using injectables	0.091	0.008	2844	5334	1.550	0.092	0.075	0.108
Currently using female sterilization	0.046	0.005	2844	5334	1.310	0.112	0.036	0.056
Currently using periodic abstinence	0.078	0.005	2844	5334	1.071	0.069	0.068	0.089
Currently using withdrawal	0.018	0.003	2844	5334	1.238	0.169	0.012	0.025
Using public sector source	0.452	0.019	1455	2725	1.468	0.042	0.414	0.490
Want no more children	0.640	0.009	2844	5334	1.025	0.014	0.621	0.658
Want to delay at least 2 years	0.203	0.008	2844	5334	1.012	0.038	0.188	0.218
Ideal number of children	2.160	0.017	3056	5724	1.543	0.008	2.127	2.194
Mothers completely protected against tetanus	0.924	0.012	752	1418	1.211	0.013	0.900	0.947
Mothers received medical assistance at delivery	0.315	0.022	801	1510	1.308	0.071	0.271	0.360
Had diarrhea in the last 2 weeks	0.040	0.006	1376	2601	1.066	0.145	0.028	0.052
Treated with oral rehydration salts (ORS)	0.876	0.044	54	104	0.990	0.050	0.788	0.964
Sought medical treatment	0.262	0.064	54	104	1.073	0.245	0.134	0.391
Having health card, seen	0.639	0.035	254	478	1.156	0.055	0.569	0.709
Received BCG vaccination	0.984	0.008	254	478	0.993	0.008	0.969	1.000
Received DPT vaccination (3 doses)	0.939	0.015	254	478	0.962	0.016	0.908	0.969
Received polio vaccination (3 doses)	0.935	0.016	254	478	1.006	0.018	0.902	0.968
Received measles vaccination	0.866	0.022	254	478	1.013	0.025	0.823	0.909
Fully immunized	0.850	0.024	254	478	1.062	0.029	0.801	0.899
Height-for-age (below -2SD)	0.433	0.017	1318	2469	1.256	0.040	0.398	0.468
Weight-for-height (below -2SD)	0.157	0.011	1318	2469	1.082	0.069	0.135	0.178
Weight-for-age (below -2SD)	0.366	0.018	1318	2469	1.313	0.050	0.330	0.403
Anemia children	0.477	0.026	390	738	1.036	0.054	0.425	0.529
Anemia women	0.431	0.020	982	1850	1.284	0.047	0.391	0.472
BMI < 18.5	0.236	0.012	2758	5166	1.516	0.052	0.211	0.260
Has heard of AIDS	0.751	0.015	3062	5736	1.902	0.020	0.722	0.781
Knows about condoms to prevent AIDS	0.474	0.015	3062	5736	1.622	0.031	0.445	0.503
Knows about limiting partners to prevent AIDS	0.552	0.016	3062	5736	1.779	0.029	0.520	0.584
Total fertility rate (last 3 years)	2.232	0.087	10064	18856	1.156	0.039	2.057	2.406
Neonatal mortality (last 0-4 years)	35.923	4.888	1465	2764	0.973	0.136	26.146	45.700
Post-neonatal mortality (last 0-4 years)	7.673	2.170	1452	2738	0.952	0.283	3.333	12.013
Infant mortality (last 0-4 years)	43.596	5.377	1465	2764	0.988	0.123	32.841	54.350
Child mortality (last 0-4 years)	10.945	2.939	1440	2718	1.045	0.269	5.067	16.824
Under-5 mortality (last 0-4 years)	54.064	6.089	1473	2779	1.003	0.113	41.885	66.243
Elevated blood pressure or taking medications	0.335	0.020	694	1294	1.110	0.058	0.296	0.374
Elevated fasting plasma glucose or taking medications	0.121	0.013	650	1215	0.999	0.103	0.096	0.146
			MEN					
Urban residence	0.454	0.019	586	1095	0.939	0.043	0.415	0.492
No education	0.260	0.019	586	1095	1.067	0.074	0.221	0.299
With secondary education or higher	0.439	0.024	586	1095	1.168	0.055	0.391	0.486
Currently married (in union)	0.985	0.005	586	1095	0.954	0.005	0.976	0.995
Ideal number of children	2.146	0.039	585	1092	1.064	0.018	2.069	2.224
Has heard of HIV/AIDS	0.920	0.013	586	1095	1.135	0.014	0.894	0.945
Knows condom use to prevent HIV/AIDS	0.720	0.026	586	1095	1.386	0.036	0.668	0.771
Knows limiting partners to prevent HIV/AIDS	0.721	0.027	586	1095	1.476	0.038	0.666	0.776
Elevated blood pressure or taking medications	0.195	0.016	685	1268	1.050	0.081	0.163	0.226
Elevated fasting plasma glucose or taking medications	0.108	0.015	637	1187	1.189	0.136	0.078	0.137

Table B.8 Sampling errors: Khulna sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.216	0.012	2640	2139	1.464	0.054	0.193	0.240
No education	0.235	0.013	2640	2139	1.594	0.056	0.209	0.261
With secondary education or higher	0.471	0.015	2640	2139	1.528	0.032	0.441	0.500
Currently married (in union)	0.933	0.006	2640	2139	1.244	0.006	0.921	0.945
Currently pregnant	0.038	0.004	3026	2445	1.286	0.117	0.029	0.046
Children ever born	2.016	0.042	3026	2445	1.178	0.021	1.933	2.100
Children surviving	1.833	0.036	3026	2445	1.147	0.020	1.762	1.905
Children ever born to women over 40	3.618	0.093	635	515	1.326	0.026	3.431	3.805
Currently using any method	0.667	0.013	2462	1996	1.327	0.019	0.642	0.693
Currently using a modern method	0.561	0.014	2462	1996	1.394	0.025	0.533	0.589
Currently using pill	0.289	0.011	2462	1996	1.235	0.039	0.266	0.312
Currently using IUD	0.009	0.002	2462	1996	1.078	0.224	0.005	0.013
Currently using injectables	0.116	0.010	2462	1996	1.586	0.088	0.095	0.136
Currently using female sterilization	0.058	0.008	2462	1996	1.616	0.131	0.043	0.074
Currently using periodic abstinence	0.069	0.007	2462	1996	1.299	0.096	0.056	0.082
Currently using withdrawal	0.033	0.004	2462	1996	1.116	0.121	0.025	0.041
Using public sector source	0.548	0.023	1370	1120	1.699	0.042	0.503	0.594
Want no more children	0.669	0.010	2462	1996	1.069	0.015	0.649	0.690
Want to delay at least 2 years	0.190	0.009	2462	1996	1.176	0.049	0.171	0.208
Ideal number of children	2.062	0.017	2629	2131	1.576	0.008	2.028	2.097
Mothers completely protected against tetanus	0.905	0.015	551	441	1.212	0.017	0.874	0.935
Mothers received medical assistance at delivery	0.490	0.028	578	463	1.315	0.058	0.433	0.546
Had diarrhea in the last 2 weeks	0.026	0.005	946	767	0.962	0.192	0.016	0.036
Treated with oral rehydration salts (ORS)	0.670	0.101	25	20	1.058	0.150	0.469	0.872
Sought medical treatment	0.193	0.077	25	20	0.958	0.397	0.040	0.346
Having health card, seen	0.719	0.039	182	144	1.138	0.054	0.642	0.797
Received BCG vaccination	0.991	0.007	182	144	0.974	0.007	0.978	1.005
Received DPT vaccination (3 doses)	0.972	0.013	182	144	1.027	0.013	0.946	0.997
Received polio vaccination (3 doses)	0.972	0.013	182	144	1.027	0.013	0.946	0.997
Received measles vaccination	0.942	0.019	182	144	1.084	0.020	0.904	0.980
Fully immunized	0.935	0.020	182	144	1.073	0.021	0.896	0.975
Height-for-age (below -2SD)	0.341	0.018	910	744	1.120	0.051	0.306	0.376
Weight-for-height (below -2SD)	0.146	0.015	910	744	1.293	0.104	0.115	0.176
Weight-for-age (below -2SD)	0.291	0.018	910	744	1.181	0.063	0.255	0.328
Anemia children	0.542	0.031	263	225	1.033	0.057	0.481	0.603
Anemia women	0.374	0.023	872	708	1.399	0.061	0.329	0.420
BMI < 18.5	0.190	0.011	2449	1989	1.355	0.056	0.168	0.211
Has heard of AIDS	0.791	0.014	2640	2139	1.821	0.018	0.763	0.820
Knows about condoms to prevent AIDS	0.477	0.016	2640	2139	1.685	0.034	0.444	0.510
Knows about limiting partners to prevent AIDS	0.568	0.018	2640	2139	1.917	0.033	0.531	0.605
Total fertility rate (last 3 years)	1.888	0.088	8519	6909	1.209	0.046	1.713	2.063
Neonatal mortality (last 0-4 years)	31.764	7.256	987	801	1.108	0.228	17.251	46.276
Post-neonatal mortality (last 0-4 years)	4.402	2.205	983	801	1.053	0.501	0.000	8.812
Infant mortality (last 0-4 years)	36.166	7.297	987	801	1.071	0.202	21.572	50.760
Child mortality (last 0-4 years)	4.467	1.899	980	801	0.998	0.425	0.668	8.265
Under-5 mortality (last 0-4 years)	40.471	7.575	990	803	1.097	0.187	25.321	55.620
Elevated blood pressure or taking medications	0.367	0.023	617	509	1.205	0.063	0.321	0.413
Elevated fasting plasma glucose or taking medications	0.072	0.011	592	488	1.014	0.150	0.051	0.094
			MEN					
Urban residence	0.225	0.022	530	430	1.193	0.096	0.181	0.268
No education	0.215	0.023	530	430	1.295	0.108	0.169	0.261
With secondary education or higher	0.444	0.026	530	430	1.207	0.059	0.391	0.496
Currently married (in union)	0.987	0.005	530	430	1.042	0.005	0.977	0.997
Ideal number of children	1.990	0.036	530	430	1.252	0.018	1.919	2.062
Has heard of HIV/AIDS	0.948	0.011	530	430	1.186	0.012	0.925	0.971
Knows condom use to prevent HIV/AIDS	0.810	0.021	530	430	1.236	0.026	0.768	0.852
Knows limiting partners to prevent HIV/AIDS	0.862	0.020	530	430	1.347	0.023	0.821	0.902
Elevated blood pressure or taking medications	0.234	0.022	627	515	1.294	0.095	0.190	0.279
Elevated fasting plasma glucose or taking medications	0.076	0.009	598	492	0.855	0.122	0.057	0.094

Table B.9 Sampling errors: Rajshahi sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.174	0.006	2590	2646	0.793	0.034	0.163	0.186
No education	0.304	0.018	2590	2646	1.957	0.058	0.269	0.340
With secondary education or higher	0.390	0.020	2590	2646	2.065	0.051	0.350	0.430
Currently married (in union)	0.955	0.004	2590	2646	0.979	0.004	0.947	0.963
Currently pregnant	0.048	0.004	2885	2962	1.040	0.085	0.040	0.056
Children ever born	2.126	0.048	2885	2962	1.373	0.023	2.031	2.222
Children surviving	1.902	0.043	2885	2962	1.429	0.023	1.815	1.989
Children ever born to women over 40	3.670	0.118	610	597	1.590	0.032	3.434	3.906
Currently using any method	0.673	0.016	2463	2526	1.712	0.024	0.641	0.706
Currently using a modern method	0.583	0.015	2463	2526	1.545	0.026	0.552	0.613
Currently using pill	0.312	0.014	2463	2526	1.504	0.045	0.284	0.340
Currently using IUD	0.014	0.003	2463	2526	1.155	0.197	0.008	0.019
Currently using injectables	0.107	0.009	2463	2526	1.392	0.081	0.089	0.124
Currently using female sterilization	0.053	0.006	2463	2526	1.253	0.107	0.042	0.064
Currently using periodic abstinence	0.063	0.006	2463	2526	1.145	0.089	0.052	0.075
Currently using withdrawal	0.022	0.003	2463	2526	1.124	0.152	0.015	0.028
Using public sector source	0.582	0.022	1427	1472	1.676	0.038	0.539	0.626
Want no more children	0.663	0.010	2463	2526	1.020	0.015	0.644	0.683
Want to delay at least 2 years	0.182	0.007	2463	2526	0.920	0.039	0.167	0.196
Ideal number of children	2.099	0.023	2578	2633	2.037	0.011	2.053	2.146
Mothers completely protected against tetanus	0.879	0.015	590	618	1.106	0.017	0.849	0.908
Mothers received medical assistance at delivery	0.309	0.031	617	646	1.616	0.100	0.247	0.370
Had diarrhea in the last 2 weeks	0.047	0.009	1024	1087	1.286	0.186	0.029	0.064
Treated with oral rehydration salts (ORS)	0.560	0.093	45	51	1.273	0.165	0.375	0.746
Sought medical treatment	0.190	0.054	45	51	0.963	0.285	0.081	0.298
Having health card, seen	0.689	0.043	211	218	1.364	0.063	0.603	0.776
Received BCG vaccination	0.974	0.017	211	218	1.524	0.017	0.941	1.007
Received DPT vaccination (3 doses)	0.953	0.022	211	218	1.386	0.023	0.909	0.997
Received polio vaccination (3 doses)	0.945	0.022	211	218	1.321	0.024	0.900	0.990
Received measles vaccination	0.907	0.031	211	218	1.480	0.034	0.845	0.968
Fully immunized	0.898	0.031	211	218	1.436	0.035	0.836	0.960
Height-for-age (below -2SD)	0.337	0.020	935	986	1.318	0.060	0.296	0.377
Weight-for-height (below -2SD)	0.164	0.018	935	986	1.445	0.111	0.128	0.200
Weight-for-age (below -2SD)	0.342	0.020	935	986	1.314	0.060	0.301	0.383
Anemia children	0.493	0.032	287	293	1.076	0.065	0.429	0.557
Anemia women	0.441	0.023	831	847	1.307	0.051	0.395	0.486
BMI < 18.5	0.248	0.013	2361	2408	1.442	0.052	0.222	0.274
Has heard of AIDS	0.629	0.022	2590	2646	2.279	0.034	0.586	0.673
Knows about condoms to prevent AIDS	0.408	0.019	2590	2646	1.989	0.047	0.370	0.447
Knows about limiting partners to prevent AIDS	0.453	0.019	2590	2646	1.923	0.042	0.415	0.491
Total fertility rate (last 3 years)	2.118	0.108	8230	8415	1.470	0.051	1.902	2.334
Neonatal mortality (last 0-4 years)	38.684	5.899	1087	1158	1.022	0.153	26.885	50.483
Post-neonatal mortality (last 0-4 years)	12.606	3.137	1098	1172	0.945	0.249	6.331	18.880
Infant mortality (last 0-4 years)	51.290	6.874	1088	1158	1.047	0.134	37.543	65.037
Child mortality (last 0-4 years)	12.863	3.595	1086	1156	1.033	0.279	5.673	20.052
Under-5 mortality (last 0-4 years)	63.493	7.137	1093	1164	1.009	0.112	49.219	77.766
Elevated blood pressure or taking medications	0.301	0.019	569	570	1.022	0.064	0.262	0.339
Elevated fasting plasma glucose or taking medications	0.119	0.016	518	522	1.083	0.133	0.087	0.150
			MEN					
Urban residence	0.171	0.013	529	556	0.772	0.074	0.146	0.197
No education	0.297	0.023	529	556	1.171	0.078	0.251	0.344
With secondary education or higher	0.381	0.027	529	556	1.267	0.070	0.328	0.435
Currently married (in union)	0.998	0.002	529	556	1.086	0.002	0.993	1.002
Ideal number of children	2.068	0.040	524	552	1.570	0.019	1.988	2.148
Has heard of HIV/AIDS	0.849	0.022	529	556	1.437	0.026	0.804	0.894
Knows condom use to prevent HIV/AIDS	0.683	0.026	529	556	1.259	0.037	0.632	0.734
Knows limiting partners to prevent HIV/AIDS	0.695	0.031	529	556	1.521	0.044	0.634	0.756
Elevated blood pressure or taking medications	0.166	0.017	571	584	1.122	0.103	0.132	0.201
Elevated fasting plasma glucose or taking medications	0.101	0.013	518	526	0.957	0.126	0.075	0.126

Table B.10 Sampling errors: Rangpur sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.129	0.004	2457	2039	0.559	0.029	0.121	0.136
No education	0.341	0.017	2457	2039	1.785	0.050	0.307	0.375
With secondary education or higher	0.378	0.017	2457	2039	1.698	0.044	0.345	0.411
Currently married (in union)	0.945	0.005	2457	2039	1.181	0.006	0.935	0.956
Currently pregnant	0.050	0.004	2756	2294	0.898	0.074	0.042	0.057
Children ever born	2.258	0.045	2756	2294	1.142	0.020	2.169	2.348
Children surviving	2.014	0.038	2756	2294	1.111	0.019	1.939	2.089
Children ever born to women over 40	3.997	0.094	560	455	1.145	0.024	3.809	4.185
Currently using any method	0.694	0.011	2309	1927	1.182	0.016	0.671	0.716
Currently using a modern method	0.607	0.014	2309	1927	1.389	0.023	0.579	0.635
Currently using pill	0.308	0.012	2309	1927	1.236	0.039	0.284	0.332
Currently using IUD	0.005	0.002	2309	1927	1.304	0.369	0.001	0.009
Currently using injectables	0.161	0.013	2309	1927	1.682	0.080	0.136	0.187
Currently using female sterilization	0.066	0.010	2309	1927	1.835	0.144	0.047	0.085
Currently using periodic abstinence	0.070	0.007	2309	1927	1.242	0.094	0.057	0.083
Currently using withdrawal	0.013	0.003	2309	1927	1.156	0.210	0.008	0.018
Using public sector source	0.629	0.022	1401	1170	1.724	0.035	0.584	0.674
Want no more children	0.676	0.012	2309	1927	1.210	0.017	0.652	0.699
Want to delay at least 2 years	0.192	0.009	2309	1927	1.040	0.044	0.174	0.209
Ideal number of children	2.144	0.016	2440	2026	1.447	0.008	2.112	2.177
Mothers completely protected against tetanus	0.921	0.013	591	491	1.153	0.014	0.895	0.947
Mothers received medical assistance at delivery	0.287	0.024	618	513	1.274	0.083	0.240	0.335
Had diarrhea in the last 2 weeks	0.041	0.008	1059	891	1.253	0.201	0.025	0.058
Treated with oral rehydration salts (ORS)	0.808	0.075	41	37	1.227	0.092	0.659	0.957
Sought medical treatment	0.309	0.088	41	37	1.118	0.286	0.132	0.486
Having health card, seen	0.764	0.034	180	148	1.059	0.044	0.697	0.832
Received BCG vaccination	0.984	0.010	180	148	1.058	0.010	0.964	1.004
Received DPT vaccination (3 doses)	0.961	0.016	180	148	1.088	0.016	0.929	0.992
Received polio vaccination (3 doses)	0.960	0.016	180	148	1.087	0.017	0.928	0.992
Received measles vaccination	0.929	0.020	180	148	1.047	0.022	0.888	0.969
Fully immunized	0.922	0.021	180	148	1.058	0.023	0.879	0.965
Height-for-age (below -2SD)	0.429	0.017	1014	859	1.084	0.040	0.395	0.463
Weight-for-height (below -2SD)	0.132	0.013	1014	859	1.225	0.099	0.106	0.158
Weight-for-age (below -2SD)	0.345	0.017	1014	859	1.092	0.049	0.311	0.378
Anemia children	0.577	0.029	311	268	1.040	0.050	0.520	0.635
Anemia women	0.495	0.021	791	664	1.164	0.042	0.454	0.536
BMI < 18.5	0.271	0.012	2280	1884	1.277	0.044	0.247	0.294
Has heard of AIDS	0.549	0.023	2457	2039	2.295	0.042	0.502	0.595
Knows about condoms to prevent AIDS	0.368	0.018	2457	2039	1.894	0.050	0.331	0.404
Knows about limiting partners to prevent AIDS	0.420	0.020	2457	2039	1.986	0.047	0.380	0.459
Total fertility rate (last 3 years)	2.100	0.086	7775	6452	1.245	0.041	1.928	2.271
Neonatal mortality (last 0-4 years)	27.042	5.766	1120	934	1.049	0.213	15.509	38.574
Post-neonatal mortality (last 0-4 years)	8.661	3.123	1126	940	1.036	0.361	2.415	14.908
Infant mortality (last 0-4 years)	35.703	6.379	1120	934	1.033	0.179	22.944	48.462
Child mortality (last 0-4 years)	6.225	2.333	1117	940	1.091	0.375	1.558	10.892
Under-5 mortality (last 0-4 years)	41.706	6.721	1122	936	1.063	0.161	28.263	55.148
Elevated blood pressure or taking medications	0.343	0.026	530	437	1.186	0.074	0.292	0.394
Elevated fasting plasma glucose or taking medications	0.090	0.015	485	399	1.089	0.169	0.059	0.120
			MEN					
Urban residence	0.119	0.009	534	442	0.610	0.072	0.102	0.137
No education	0.297	0.022	534	442	1.123	0.075	0.252	0.341
With secondary education or higher	0.388	0.022	534	442	1.040	0.057	0.344	0.432
Currently married (in union)	1.000	0.000	534	442	na	0.000	1.000	1.000
Ideal number of children	2.066	0.021	532	440	0.953	0.010	2.025	2.107
Has heard of HIV/AIDS	0.770	0.023	534	442	1.249	0.030	0.725	0.816
Knows condom use to prevent HIV/AIDS	0.650	0.025	534	442	1.206	0.038	0.601	0.700
Knows limiting partners to prevent HIV/AIDS	0.567	0.029	534	442	1.337	0.051	0.510	0.625
Elevated blood pressure or taking medications	0.224	0.020	571	488	1.162	0.089	0.184	0.264
Elevated fasting plasma glucose or taking medications	0.091	0.014	528	454	1.164	0.156	0.063	0.119

Table B.11 Sampling errors: Sylhet sample, BDHS 2011

Variable	R	SE	N	WN	DEFT	SE/R	R-2SE	R+2SE
			WOMEN					
Urban residence	0.156	0.005	2086	967	0.673	0.034	0.145	0.166
No education	0.348	0.023	2086	967	2.249	0.067	0.301	0.395
With secondary education or higher	0.317	0.021	2086	967	2.056	0.066	0.275	0.359
Currently married (in union)	0.914	0.007	2086	967	1.160	0.008	0.900	0.928
Currently pregnant	0.073	0.005	2731	1274	1.070	0.070	0.063	0.084
Children ever born	2.402	0.063	2731	1274	1.007	0.026	2.276	2.528
Children surviving	2.115	0.059	2731	1274	1.089	0.028	1.996	2.233
Children ever born to women over 40	4.937	0.149	466	217	1.270	0.030	4.640	5.235
Currently using any method	0.448	0.014	1901	884	1.206	0.031	0.420	0.475
Currently using a modern method	0.352	0.014	1901	884	1.262	0.039	0.324	0.380
Currently using pill	0.190	0.014	1901	884	1.521	0.072	0.163	0.218
Currently using IUD	0.006	0.002	1901	884	1.121	0.342	0.002	0.009
Currently using injectables	0.049	0.007	1901	884	1.462	0.147	0.035	0.064
Currently using female sterilization	0.046	0.006	1901	884	1.216	0.127	0.034	0.058
Currently using periodic abstinence	0.081	0.008	1901	884	1.199	0.092	0.066	0.096
Currently using withdrawal	0.011	0.003	1901	884	1.124	0.239	0.006	0.017
Using public sector source	0.507	0.029	718	311	1.542	0.057	0.450	0.565
Want no more children	0.639	0.012	1901	884	1.058	0.018	0.616	0.663
Want to delay at least 2 years	0.156	0.009	1901	884	1.113	0.059	0.138	0.175
Ideal number of children	2.463	0.042	1982	914	2.113	0.017	2.379	2.546
Mothers completely protected against tetanus	0.837	0.019	711	342	1.347	0.022	0.800	0.875
Mothers received medical assistance at delivery	0.244	0.024	781	375	1.486	0.096	0.197	0.292
Had diarrhea in the last 2 weeks	0.060	0.008	1320	639	1.258	0.138	0.044	0.077
Treated with oral rehydration salts (ORS)	0.847	0.047	83	38	1.171	0.055	0.754	0.940
Sought medical treatment	0.353	0.055	83	38	1.005	0.155	0.244	0.463
Having health card, seen	0.721	0.034	226	109	1.155	0.047	0.654	0.789
Received BCG vaccination	0.960	0.014	226	109	1.119	0.015	0.932	0.989
Received DPT vaccination (3 doses)	0.889	0.027	226	109	1.326	0.031	0.835	0.944
Received polio vaccination (3 doses)	0.879	0.028	226	109	1.322	0.032	0.823	0.935
Received measles vaccination	0.829	0.029	226	109	1.193	0.035	0.770	0.888
Fully immunized	0.801	0.035	226	109	1.336	0.043	0.732	0.871
Height-for-age (below -2SD)	0.493	0.024	1234	596	1.600	0.048	0.446	0.540
Weight-for-height (below -2SD)	0.184	0.013	1234	596	1.145	0.069	0.159	0.209
Weight-for-age (below -2SD)	0.449	0.021	1234	596	1.464	0.048	0.407	0.492
Anemia children	0.495	0.028	391	185	1.110	0.056	0.439	0.551
Anemia women	0.397	0.027	674	310	1.406	0.067	0.344	0.451
BMI < 18.5	0.352	0.019	1817	837	1.724	0.055	0.314	0.391
Has heard of AIDS	0.581	0.023	2086	967	2.143	0.040	0.534	0.627
Knows about condoms to prevent AIDS	0.313	0.017	2086	967	1.642	0.053	0.279	0.346
Knows about limiting partners to prevent AIDS	0.401	0.020	2086	967	1.881	0.050	0.361	0.441
Total fertility rate (last 3 years)	3.066	0.112	7621	3551	1.222	0.037	2.842	3.290
Neonatal mortality (last 0-4 years)	44.862	7.221	1417	686	1.173	0.161	30.421	59.304
Post-neonatal mortality (last 0-4 years)	14.232	3.304	1412	683	1.017	0.232	7.624	20.840
Infant mortality (last 0-4 years)	59.094	7.972	1418	687	1.170	0.135	43.150	75.039
Child mortality (last 0-4 years)	12.380	3.421	1425	685	1.159	0.276	5.539	19.221
Under-5 mortality (last 0-4 years)	70.743	8.879	1426	691	1.215	0.126	52.986	88.500
Elevated blood pressure or taking medications	0.248	0.025	503	235	1.286	0.100	0.198	0.298
Elevated fasting plasma glucose or taking medications	0.115	0.013	466	219	0.893	0.115	0.088	0.142
			MEN					
Urban residence	0.166	0.012	384	175	0.611	0.070	0.142	0.189
No education	0.331	0.033	384	175	1.363	0.099	0.265	0.397
With secondary education or higher	0.339	0.028	384	175	1.164	0.083	0.283	0.395
Currently married (in union)	0.986	0.007	384	175	1.115	0.007	0.973	1.000
Ideal number of children	2.516	0.065	374	170	1.420	0.026	2.386	2.645
Has heard of HIV/AIDS	0.823	0.028	384	175	1.430	0.034	0.767	0.879
Knows condom use to prevent HIV/AIDS	0.561	0.036	384	175	1.413	0.064	0.490	0.633
Knows limiting partners to prevent HIV/AIDS	0.537	0.034	384	175	1.322	0.063	0.469	0.604
Elevated blood pressure or taking medications	0.150	0.022	484	221	1.321	0.144	0.107	0.194
Elevated fasting plasma glucose or taking medications	0.127	0.016	439	201	0.999	0.124	0.095	0.158

DATA QUALITY TABLES

Appendix C

Table C.1 Household age distribution

Single-year age distribution of the de facto household population by sex (weighted), Bangladesh 2011

	Women		Men			Women		Men	
Age	Number	Percent	Number	Percent	Age	Number	Percent	Number	Percent
0	854	2.1	918	2.5	36	458	1.1	329	0.9
1	795	2.0	762	2.0	37	425	1.1	314	0.8
2	815	2.0	788	2.1	38	409	1.0	374	1.0
3	928	2.3	1,005	2.7	39	417	1.0	245	0.7
4	879	2.2	909	2.4	40	673	1.7	906	2.4
5	721	1.8	822	2.2	41	441	1.1	258	0.7
6	943	2.3	1,006	2.7	42	416	1.0	375	1.0
7	1,069	2.7	1,042	2.8	43	350	0.9	245	0.7
8	1,052	2.6	1,025	2.7	44	327	0.8	198	0.5
9	860	2.1	929	2.5	45	473	1.2	770	2.1
10	1,116	2.8	1,082	2.9	46	335	0.8	246	0.7
11	782	1.9	875	2.3	47	359	0.9	311	0.8
12	974	2.4	1,008	2.7	48	399	1.0	424	1.1
13	841	2.1	838	2.2	49	311	0.8	129	0.3
14	883	2.2	821	2.2	50	85	0.2	818	2.2
15	900	2.2	793	2.1	51	153	0.4	109	0.3
16	844	2.1	738	2.0	52	418	1.0	429	1.1
17	837	2.1	587	1.6	53	338	0.8	167	0.4
18	998	2.5	784	2.1	54	312	0.8	166	0.4
19	804	2.0	402	1.1	55	460	1.1	508	1.4
20	925	2.3	726	1.9	56	264	0.7	195	0.5
21	740	1.8	378	1.0	57	189	0.5	183	0.5
22	875	2.2	617	1.7	58	185	0.5	228	0.6
23	854	2.1	532	1.4	59	110	0.3	80	0.2
24	741	1.8	486	1.3	60	639	1.6	725	1.9
25	813	2.0	783	2.1	61	84	0.2	57	0.2
26	746	1.9	524	1.4	62	142	0.4	183	0.5
27	708	1.8	421	1.1	63	70	0.2	46	0.1
28	674	1.7	687	1.8	64	65	0.2	75	0.2
29	622	1.6	236	0.6	65	441	1.1	608	1.6
30	642	1.6	1,112	3.0	66	42	0.1	70	0.2
31	573	1.4	200	0.5	67	30	0.1	50	0.1
32	527	1.3	563	1.5	68	44	0.1	68	0.2
33	497	1.2	312	0.8	69	29	0.1	29	0.1
34	478	1.2	223	0.6	70+	1,339	3.3	1,594	4.3
35	588	1.5	935	2.5	Don't know/ missing	3	0.0	1	0.0
					Total	40,133	100.0	37,381	100.0

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview.

Table C.2.1 Age distribution of eligible and interviewed women

De facto household population of women age 10-54, ever-married women age 10-54, interviewed women age 15-49; and percent distribution and percentage of eligible women who were interviewed (weighted), by five-year age groups, Bangladesh 2011

Age group	Household population of women age 10-54	Ever-married women age 10-54	Interviewed women age 15-49		Percentage of eligible women interviewed
			Number	Percentage	
10-14	4,597	109	na	na	na
15-19	4,383	2,001	1,956	11.1	97.7
20-24	4,135	3,580	3,505	19.8	97.9
25-29	3,564	3,451	3,379	19.1	97.9
30-34	2,717	2,685	2,641	14.9	98.3
35-39	2,297	2,282	2,234	12.6	97.9
40-44	2,206	2,199	2,143	12.1	97.4
45-49	1,878	1,871	1,814	10.3	96.9
50-54	1,305	1,304	na	na	na
15-49	21,180	18,069	17,672	100.0	97.8

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of women and interviewed women are household weights. Age is based on the household questionnaire.
na = Not applicable

Table C.2.2 Age distribution of eligible and interviewed men

De facto household population of men age 10-59, ever-married men age 10-59, interviewed men age 15-54 and percent distribution and percentage of eligible men who were interviewed (weighted), by five-year age groups, Bangladesh 2011

Age group	Household population of men age 10-59	Ever-married men age 10-59	Interviewed men age 15-54		Percentage of eligible men interviewed
			Number	Percentage	
10-14	1,536	3	na	na	na
15-19	1,131	22	19	0.5	88.7
20-24	941	285	255	6.5	89.4
25-29	888	649	581	14.7	89.6
30-34	800	717	641	16.3	89.4
35-39	699	685	641	16.2	93.5
40-44	659	655	594	15.1	90.7
45-49	661	655	609	15.4	93.1
50-54	638	637	604	15.3	94.8
55-59	343	342	na	na	na
15-54	6,417	4,305	3,945	100.0	84.9

Note: The de facto population includes all residents and nonresidents who stayed in the household the night before the interview. Weights for both household population of men and interviewed men are household weights. Age is based on the household schedule.
na = Not applicable

Table C.3 Completeness of reporting

Percentage of observations missing information for selected demographic and health questions (weighted), Bangladesh 2011

Subject	Percentage with information missing	Number of cases
Month only (births in the 15 years preceding the survey)	0.28	27,894
Month and year (births in the 15 years preceding the survey)	0.02	27,894
Age at death (deceased children born in the 15 years preceding the survey)	0.09	1,935
Age/date at first union[1] (ever-married women age 15-49)	0.46	17,749
Age/date at first union (ever-married men age 15-54)	0.94	3,997
Respondent's education (ever-married women age 15-49)	0.00	17,749
Respondent's education (ever-married men age 15-54)	0.00	3,997
Diarrhea in last 2 weeks (living children 0-59 months)	0.32	8,395
Height (living children age 0-59 months from the Household Questionnaire)	5.94	8,604
Weight (living children age 0-59 months from the Household Questionnaire)	4.81	8,604
Height or weight (living children age 0-59 months from the Household Questionnaire)	6.03	8,604
Anemia (living children age 6-59 months from the Household Questionnaire)	8.08	2,560
Anemia (ever-married women from the Household Questionnaire)	4.64	5,863

[1] Both year and age missing

Table C.4 Births by calendar years

Number of births, percentage with complete birth date, sex ratio at birth, and calendar year ratio by calendar year, according to living (L), dead (D), and total (T) children (weighted), Bangladesh 2011

Calendar year	Number of births			Percentage with complete birth date[1]			Sex ratio at birth[2]			Calendar year ratio[3]		
	L	D	T	L	D	T	L	D	T	L	D	T
2011	1,311	35	1,347	100.0	100.0	100.0	114.2	180.5	115.6	na	na	na
2010	1,593	62	1,655	100.0	100.0	100.0	98.8	130.1	99.8	na	na	na
2009	1,499	68	1,568	100.0	100.0	100.0	96.0	160.8	98.1	89.2	91.5	89.3
2008	1,770	87	1,857	100.0	100.0	100.0	104.9	76.8	103.4	107.2	95.6	106.6
2007	1,802	114	1,915	100.0	100.0	100.0	107.3	146.0	109.2	107.4	113.3	107.7
2006	1,585	114	1,699	100.0	100.0	100.0	115.5	107.4	115.0	88.2	96.2	88.7
2005	1,793	123	1,916	99.7	98.5	99.6	102.4	109.2	102.8	100.4	93.5	99.9
2004	1,986	149	2,135	99.7	98.3	99.6	102.0	85.9	100.8	106.5	113.0	106.9
2003	1,937	141	2,078	99.7	99.1	99.7	104.3	117.9	105.1	102.9	91.1	102.0
2002	1,779	160	1,940	99.5	99.8	99.5	106.3	187.6	111.2	92.3	101.2	93.0
2007-2011	7,975	366	8,342	100.0	100.0	100.0	103.9	127.3	104.8	na	na	na
2002-2006	9,081	686	9,767	99.7	99.1	99.7	105.6	118.6	106.5	na	na	na
1997-2001	8,553	834	9,386	99.6	98.3	99.5	107.4	106.3	107.3	na	na	na
1992-1996	6,739	927	7,666	99.3	98.1	99.2	95.8	112.5	97.7	na	na	na
<1991	8,811	2,019	10,829	98.9	97.8	98.7	109.2	110.7	109.5	na	na	na
All	41,159	4,832	45,991	99.5	98.3	99.4	104.7	112.5	105.5	na	na	na

na = Not applicable
[1] Both year and month of birth given
[2] (Bm/Bf)x100, where Bm and Bf are the numbers of male and female births, respectively
[3] [2Bx/(Bx-1+Bx+1)]x100, where Bx is the number of births in calendar year x

Table C.5 Reporting of age at death in days

Distribution of reported deaths under one month of age by age at death in days and the percentage of neonatal deaths reported to occur at age 0-6 days, for five-year periods of birth preceding the survey (weighted), Bangladesh 2011

Age at death (days)	Number of years preceding the survey				
	0-4	5-9	10-14	15-19	Total 0-19
<1	101	129	124	94	447
1	36	76	62	55	229
2	18	12	21	16	67
3	32	39	35	41	147
4	19	7	16	20	61
5	8	13	17	20	58
6	7	9	10	15	42
7	8	24	21	22	75
8	3	8	11	13	34
9	3	5	4	7	20
10	6	1	5	9	21
11	5	9	7	5	26
12	3	2	9	10	24
13	1	3	5	3	11
14	2	5	10	6	24
15	2	13	8	12	35
16	1	2	0	3	7
17	0	8	2	3	12
18	1	1	2	2	5
19	3	0	4	6	13
20	2	5	1	2	10
21	4	4	6	4	18
22	3	2	5	8	18
23	0	1	0	2	3
24	2	3	2	4	10
25	1	3	1	3	8
26	1	1	2	1	5
27	0	2	0	2	4
28	1	4	4	2	12
29	1	4	6	3	12
30	0	0	1	2	3
Missing	0	2	0	0	2
Total 0-30	273	394	399	396	1,462
Percentage early neonatal[1]	80.6	72.2	71.4	66.0	71.9

[1] (6 days / 30 days) * 100

Table C.6 Reporting of age at death in months

Distribution of reported deaths under age 2 by age at death in months and the percentage of infant deaths reported to occur at age under 1 month, for five-year periods of birth preceding the survey, Bangladesh 2011

Age at death (months)	Number of years preceding the survey				
	0-4	5-9	10-14	15-19	Total 0-19
<1[a]	273	396	399	396	1,464
1	19	38	49	46	153
2	18	22	25	21	86
3	7	13	26	36	82
4	3	9	14	22	49
5	9	10	18	18	55
6	6	16	19	22	63
7	4	14	12	11	41
8	6	5	8	10	28
9	3	9	17	8	36
10	1	4	10	9	24
11	4	9	7	7	27
12	3	7	18	17	44
13	2	4	5	5	16
14	2	4	2	11	18
15	2	1	1	4	8
16	2	1	3	2	8
17	1	9	2	3	14
18	3	21	24	23	71
19	2	2	1	6	11
20	1	0	0	0	1
21	3	3	2	3	11
22	0	4	1	0	5
23	0	1	0	1	2
Total 0-11	353	545	605	605	2,107
Percentage neonatal[1]	77.4	72.7	66.0	65.4	69.5

[a] Includes deaths under one month reported in days
[1] (Under one month / under one year) * 100

WHOLE BLOOD GLUCOSE VALUES

Appendix D

Table D.15.5.1 Fasting whole blood glucose values and treatment status by background characteristics: Women

Prevalence of diabetes, percent distribution of women age 35 and older by fasting whole blood glucose (FWBG) values and treatment status, and percentage with normal whole blood glucose values and taking medication, by background characteristics, Bangladesh 2011

Background characteristics	Prevalence of diabetes[1]	<3.9 mmol/L (Below normal)		3.9-6.0 mmol/L (Normal)		6.1-6.9 mmol/L (Prediabetic)		≥7 mmol/L (Elevated FWBG)		Total	Normal FWBG and taking medication	Number of women
		Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication			
Age												
35-39	5.7	0.1	6.5	0.3	80.7	0.8	7.1	1.4	3.0	100.0	1.3	789
40-44	6.5	0.0	6.4	1.5	78.8	0.6	8.3	2.3	2.2	100.0	2.0	712
45-49	5.8	0.2	6.7	0.4	78.8	0.5	8.8	1.4	3.2	100.0	1.1	603
50-54	6.9	0.0	6.0	1.4	77.4	0.5	9.6	2.6	2.5	100.0	1.9	421
55-59	10.2	0.3	5.1	1.5	73.5	1.2	11.2	3.6	3.6	100.0	3.0	370
60-69	8.8	0.0	6.4	2.6	77.9	1.1	6.9	2.0	3.0	100.0	3.8	501
70+	6.2	0.1	8.5	2.0	76.5	0.4	8.7	1.3	2.4	100.0	2.5	425
Residence												
Urban	11.9	0.0	5.1	2.6	73.7	2.2	9.2	3.6	3.5	100.0	4.8	872
Rural	5.4	0.1	6.9	0.9	79.5	0.3	8.2	1.5	2.6	100.0	1.3	2,950
Division												
Barisal	6.5	0.3	5.8	0.4	74.5	0.2	13.2	1.4	4.2	100.0	0.8	220
Chittagong	7.8	0.0	4.9	0.7	74.5	1.0	12.8	2.7	3.2	100.0	1.8	677
Dhaka	8.0	0.0	5.6	2.3	80.0	1.2	6.4	2.2	2.4	100.0	3.4	1,245
Khulna	4.0	0.0	4.2	0.4	85.7	0.4	6.2	1.3	1.9	100.0	0.8	493
Rajshahi	8.9	0.4	8.9	1.8	75.5	0.1	6.7	2.2	4.4	100.0	2.3	539
Rangpur	3.7	0.2	12.8	0.2	74.0	0.2	9.6	0.8	2.3	100.0	0.6	424
Sylhet	6.2	0.0	4.8	1.3	80.4	0.6	8.7	2.4	1.9	100.0	1.9	224
Education												
No education	4.4	0.1	6.5	0.7	80.5	0.4	8.5	0.8	2.5	100.0	1.2	2,224
Primary incomplete	7.8	0.1	7.5	1.8	75.6	0.5	9.1	2.9	2.4	100.0	2.5	780
Primary complete[1]	14.0	0.0	5.7	4.7	74.4	0.5	5.9	4.8	3.9	100.0	5.2	303
Secondary incomplete	11.2	0.0	6.7	0.4	73.4	2.7	8.6	4.2	4.0	100.0	3.0	331
Secondary complete or higher[2]	13.6	0.0	3.7	2.5	74.7	2.0	8.0	4.5	4.6	100.0	4.5	185
Wealth quintile												
Lowest	3.1	0.2	6.3	0.4	81.7	0.3	8.9	0.1	2.1	100.0	0.9	732
Second	2.3	0.0	10.2	0.5	78.0	0.4	9.6	0.0	1.4	100.0	0.9	717
Middle	5.2	0.3	6.0	0.7	82.5	0.0	6.4	0.5	3.6	100.0	1.0	770
Fourth	8.1	0.0	6.1	2.0	77.8	0.4	8.0	2.9	2.7	100.0	2.4	800
Highest	15.0	0.0	4.4	2.6	71.3	2.3	9.3	6.0	4.1	100.0	4.9	802
Nutritional status												
Thin (BMI <18.5)	2.9	0.1	7.6	0.8	82.2	0.2	7.3	0.4	1.5	100.0	1.1	1,119
Normal (BMI 18.5-24.9)	6.5	0.1	6.7	0.9	78.5	0.5	8.3	2.1	2.9	100.0	1.5	2,022
Overweight (BMI 25.0-29.9)	14.5	0.0	4.0	3.8	72.9	2.4	8.6	4.2	4.1	100.0	6.2	533
Obese (BMI ≥30.0)	15.4	0.0	5.5	1.6	61.6	1.4	17.5	4.1	8.3	100.0	3.0	138
Total	6.9	0.1	6.5	1.3	78.2	0.7	8.4	2.0	2.8	100.0	2.1	3,822

Note: Total includes 6 pregnant and postpartum women and 3 women with out of range nutritional status.

Table D.15.5.2 Fasting whole blood glucose values and treatment status by background characteristics: Men

Prevalence of diabetes, percent distribution of men age 35 and older by fasting whole blood glucose (FWBG) values and treatment status, and percentage with normal whole blood glucose values and taking medication, by background characteristics, Bangladesh 2011

Background characteristics	Prevalence of diabetes[1]	<3.9 mmol/L (Below normal)		3.9-6.0 mmol/L (Normal)		6.1-6.9 mmol/L (Prediabetic)		≥7 mmol/L (Elevated FWBG)		Total	Normal FWBG and taking medication	Number of men
		Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication	Taking medication	Not taking medication			
Age												
35-39	3.1	0.0	7.9	0.4	82.4	0.3	6.6	0.9	1.6	100.0	0.6	626
40-44	4.7	0.0	7.3	0.2	80.5	0.7	7.5	0.5	3.2	100.0	0.9	607
45-49	7.4	0.0	5.2	1.4	79.6	0.7	7.9	2.4	2.9	100.0	2.1	563
50-54	6.1	0.0	6.9	0.2	80.1	0.9	7.0	2.0	3.0	100.0	1.1	592
55-59	10.2	0.0	6.5	1.3	70.5	0.6	12.8	3.8	4.5	100.0	1.9	298
60-69	7.0	0.3	6.8	1.8	74.0	1.1	12.2	2.2	1.6	100.0	3.2	555
70+	7.8	0.2	6.1	1.3	76.7	0.3	9.5	1.9	4.0	100.0	1.8	479
Residence												
Urban	10.2	0.2	6.9	1.7	74.9	1.1	8.0	3.6	3.7	100.0	3.0	888
Rural	5.0	0.0	6.6	0.6	79.4	0.5	8.9	1.2	2.6	100.0	1.2	2,832
Division												
Barisal	6.7	0.0	5.7	1.4	76.2	0.3	11.5	1.0	4.0	100.0	1.7	208
Chittagong	8.2	0.0	4.4	0.5	75.5	1.3	12.0	3.1	3.2	100.0	1.8	579
Dhaka	6.3	0.1	5.1	1.2	80.5	0.8	8.1	2.1	2.0	100.0	2.1	1,212
Khulna	4.9	0.0	5.4	0.4	84.7	0.2	5.0	1.6	2.8	100.0	0.6	499
Rajshahi	6.0	0.0	11.0	0.7	73.8	0.4	9.3	1.4	3.4	100.0	1.1	543
Rangpur	5.1	0.2	11.6	0.7	76.1	0.2	7.2	0.6	3.5	100.0	1.0	475
Sylhet	6.6	0.0	4.1	1.9	77.8	0.8	11.5	1.7	2.2	100.0	2.7	205
Education												
No education	3.6	0.1	7.1	0.4	80.1	0.0	9.2	0.7	2.4	100.0	0.5	1,358
Primary incomplete	4.4	0.0	7.1	0.6	79.1	0.3	9.4	1.2	2.4	100.0	0.9	933
Primary complete[1]	7.9	0.3	5.1	0.8	77.7	0.7	9.3	2.2	3.9	100.0	1.8	443
Secondary incomplete	10.5	0.0	6.4	2.3	76.0	1.5	7.1	3.8	2.9	100.0	3.9	552
Secondary complete or higher[2]	11.2	0.0	6.6	1.4	75.1	2.0	7.1	3.7	4.0	100.0	3.4	435
Wealth quintile												
Lowest	3.0	0.0	5.0	0.3	82.8	0.2	9.2	0.5	2.0	100.0	0.4	740
Second	3.8	0.0	8.4	0.4	79.6	0.0	8.2	0.0	3.4	100.0	0.4	721
Middle	3.7	0.0	7.5	0.3	80.3	0.3	8.5	1.1	2.0	100.0	0.6	722
Fourth	5.7	0.1	7.6	0.8	77.5	0.5	9.2	1.3	2.8	100.0	1.5	761
Highest	14.4	0.2	5.2	2.5	72.0	2.1	8.4	5.9	3.8	100.0	4.8	777
Nutritional status												
Thin (BMI <18.5)	2.9	0.1	6.4	0.5	81.6	0.1	9.1	0.4	1.9	100.0	0.7	1,093
Normal (BMI 18.5-24.9)	6.3	0.1	7.3	1.0	78.3	0.5	8.2	2.0	2.7	100.0	1.6	2,279
Overweight (BMI 25.0-29.9)	15.5	0.0	4.2	1.2	70.0	3.2	10.3	4.5	6.6	100.0	4.4	317
Obese (BMI ≥30.0)	(23.1)	(0.0)	(3.7)	(6.0)	(55.6)	(1.7)	(17.6)	(9.5)	(5.9)	100.0	(7.7)	32
Total	6.2	0.1	6.7	0.9	78.4	0.6	8.7	1.8	2.8	100.0	1.6	3,721

Note: Figures in parentheses are based on 25-49 unweighted cases.

PERSONS INVOLVED IN THE SURVEY *Appendix* E

Members of the Technical Review Committee and the Technical Working Group

Technical Review Committee (TRC)

Dr. Shelina Afroza, Director General, NIPORT	Chairman
Deputy Secretary (Program), Ministry of Health and Family Welfare	Member
Deputy Chief (Health), Ministry of Health and Family Welfare	Member
Deputy Chief (Family Welfare), Ministry of Health and Family Welfare	Member
Deputy Chief, Population Planning Wing, Planning Commission	Member
Director (Planning and Research), Directorate General of Health Services	Member
Director (MIS), Directorate General of Health Services	Member
Director, National AIDS/STD Program (NASP), Directorate General of Health Services	Member
Line Director (MC-RH), Directorate General of Family Planning	Member
Director (Planning), Directorate General of Family Planning	Member
Director (MIS), Directorate General of Family Planning	Member
Director, Census Wing, Bangladesh Bureau of Statistics	Member
Prof. M. Kabir, Department of Statistics, Jahangeernagar University	Member
Prof. Sekandar Hayat Khan, ISRT, Dhaka University	Member
Prof. A.K.M. Nurun Nabi, Department of Population Sciences, Dhaka University	Member
Prof. Nitai Chakraborty, Department of Statistics, Dhaka University	Member
Representative, WHO, Dhaka	Member
Representative, UNFPA, Dhaka	Member
Health Manager, UKAID, British High Commission, Dhaka	Member
Representative, World Bank, Dhaka	Member
Representative, GIZ, Dhaka	Member
Representative, JICA, Dhaka	Member
Chief, Health and Nutrition, UNICEF	Member
Dr. Kanta Jamil, Senior Monitoring, Evaluation and Research Advisor, Office of Population, Health, Nutrition and Education, USAID, Bangladesh	Member
Dr. Ahmed Al-Sabir, Representative, MEASURE Evaluation	Member
Chief of Party, Smiling Sun Franchise Program (SSFP)	Member
Dr. Ishtiaq Mannan, Chief of Party, MCHIP	Member
Mr. Toslim Uddin Khan, General Manager (Program), Social Marketing Company (SMC)	Member
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Dr. Peter Kim Streatfield, Director, CPUCC, ICDDR,B	Member
Dr. Shams El Arifeen, Director, CCAH, ICDDR,B	Member
Representative, ICF International, USA	Member
Mr. S.N. Mitra, Executive Director, Mitra and Associates	Member
Ms. Shahin Sultana, Sr. Research Associate, NIPORT	Member
Mr. Subrata K. Bhadra, Sr. Research Associate, NIPORT	Member
Mr. Mohammed Ahsanul Alam, Evaluation Specialist, NIPORT	Member
Mr. Md. Rafiqul Islam Sarker, Director (Research), NIPORT	Member-Secretary

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Ms. Nasrin Akhter
Ms. Marjina
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Mr. Rabiul Alam
Mr. Rofiqul Islam
Mr. Sultan Mahmud
Mr. Golgar Hossain
Mr. Mojibur Rahman
Mr. Mizanur Rahman
Mr. Awlia Hasan
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Mr. Habibur Rahman
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Mr. Eahsanul Hoque
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Mr. Saifuzzaman
Mr. Al Amin
Mr. Sohel Rana
Mr. Yakub Biswas
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Mr. Liazul Islam
Mr. Mijanur Rahman
Mr. Moneruzzaman
Mr. Noor Shabir Siddiquee
Mr. Nurul Islam (Siraj)
Mr. Nurul Lslam (Jam)
Mr. Rezaul Islam
Mr. Sabbir Habibullha Ch.
Mr. Shahinul Islam
Mr. Sohel Hossain
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Mr. Anjan Kumar Bhakta
Mr. Zahangir Alom (Raj)
Mr. Alomgir Hossain
Mr. Mehedi Hasan
Mr. Rezwanul Karim
Mr. Koyes Ahmed
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Mr. Ashikur Rahman
Mr. Saidur Rahman
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Mr. Abdul Sattar
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Mr. Joynal Abdin, Secretary
Mr. Bimal Chandra Datta, Accounts Officer

QUESTIONNAIRES

Appendix F

BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY 2011
HOUSEHOLD QUESTIONNAIRE

NIPORT, MOHFW, and
Mitra and Associates

IDENTIFICATION

DIVISION _____
DISTRICT _____
UPAZILA _____
UNION/WARD _____
VILLAGE/MOHALLA/BLOCK _____
CLUSTER NUMBER . . . . . .
HOUSEHOLD NUMBER . . . . . .
RURAL=1, CITY CORPORATION=2, OTHER URBAN=3 . . . . . .
NAME OF THE HOUSEHOLD HEAD _____
HOUSEHOLD SELECTED FOR MEN'S SURVEY (YES=1, NO=2) _____
ALTITUDE (METER) . . . . . .

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR (2011)
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:
1 COMPLETED
2 NO HOUSEHOLD MEMBER AT HOME OR NO COMPETENT RESPONDENT AT HOME AT TIME OF VISIT
3 ENTIRE HOUSEHOLD ABSENT FOR EXTENDED PERIOD OF TIME
4 POSTPONED
5 REFUSED
6 DWELLING VACANT OR ADDRESS NOT A DWELLING
7 DWELLING DESTROYED
8 DWELLING NOT FOUND
9 OTHER _____ (SPECIFY)

TOTAL PERSONS IN HOUSEHOLD
TOTAL WOMEN 12-49 YR
TOTAL MEN 15-54 YR
TOTAL ADULTS 35+ YEARS
LINE NO. OF RESPONDENT TO HOUSEHOLD QUESTIONNAIRE

SUPERVISOR	FIELD EDITOR	HEALTH TECHNICIAN	OFFICE EDITOR	KEYED BY
NAME	NAME			

INTRODUCTION AND CONSENT

Hello. My name is _____. I am working with NIPORT, the Ministry of Health and Family Welfare, and Mitra and Associates, a private research organization located in Dhaka. We are conducting a survey about health all over Bangladesh. The information we collect will help the government to plan health services. Your household was selected for the survey. I would like to ask you some questions about your household. The questions usually take about 15 to 20 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.
In case you need more information about the survey, you may contact the person listed on this card.

GIVE CARD WITH CONTACT INFORMATION

Do you have any questions?
May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . 1 ↓

RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2 → END

HOUSEHOLD SCHEDULE

							IF AGE 12 OR OLDER	IF AGE 5 YEARS OR OLDER		IF AGE 5-24 YEARS		IF AGE 8 OR OLDER
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE		CURRENT WORK STATUS
1	2	3	4	5	6	7	8	9	10	11	12	13
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE. THEN ASK APPROPRIATE QUESTIONS IN COLUMNS 5-22 FOR EACH PERSON.	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF 95 OR MORE, RECORD '95'.	What is (NAME)'s current marital status? 1 = CURRENTLY MARRIED 2 = DIVORCED/ SEPARATED/ DESERTED/ WIDOWED 3 = NEVER-MARRIED	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? SEE CODES BELOW. What is the highest class (NAME) completed at that level? SEE CODES BELOW.	Did (NAME) attend school at any time during the **(2010-2011)** school year?	During this/that school year, what level and class [is/was] (NAME) attending? SEE CODES BELOW.	Is (NAME) currently working?
01			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS		Y N 1 2 GO TO 13	LEVEL CLASS	Y N 1 2 GO TO 13	LEVEL CLASS	Y N 1 2
02			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
03			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
04			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
05			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
06			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
07			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
08			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
09			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2
10			1 2	1 2	1 2			1 2 GO TO 13		1 2 GO TO 13		1 2

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LAW
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = OTHER RELATIVE
10 = ADOPTED/FOSTER/ STEPCHILD
11 = NOT RELATED
98 = DON'T KNOW

CODES FOR Qs. 10 AND 12: EDUCATION

LEVEL
1 = PRIMARY
2 = SECONDARY
3 = HIGHER
6 = PRE-PRIMARY
8 = DON'T KNOW

CLASS
00 = LESS THAN 1 YEAR COMPLETED (USE '00' FOR Q. 10 ONLY. THIS CODE IS NOT ALLOWED FOR Q. 12)
98 = DON'T KNOW

IF AGE 0-4 YEARS	ELIGIBILITY							
BIRTH REGIS-TRATION	INTERVIEW		BIOMARKERS					
	WOMEN	MEN	ALL HOUSEHOLDS		HOUSEHOLDS SELECTED FOR MEN'S SURVEY			
			CHILDREN	WOMEN	WOMEN		MEN	
14	15	16	17	18	19	20	21	22
Does (NAME) have a birth certificate? IF NO, PROBE: Has (NAME)'s birth ever been registered with the civil authority? 1 = HAS CERTIFICATE 2 = REGISTERED 3 = NEITHER 8 = DON'T KNOW	CIRCLE LINE NUMBER OF ALL EVER-MARRIED WOMEN AGE 12-49	CIRCLE LINE NUMBER OF ALL EVER-MARRIED MEN AGE 15-54 IF HOUSEHOLD SELECTED FOR MALE SURVEY	CIRCLE LINE NUMBER OF ALL CHILDREN AGE 0-5 IF COLUMN 7 IS 0 TO 5	HEIGHT WEIGHT ANEMIA CIRCLE LINE NUMBER EVER-MARRIED WOMEN AGE 12-49 IF COL. 4 IS 2 AND IF COL. 7 IS 12 - 49 AND IF COL. 8 IS 1 OR 2.	BLOOD PRESSURE BLOOD GLUCOSE CIRCLE LINE NUMBER EVER-MARRIED WOMEN AGE 35 -49 IF COL. 4 IS 2 AND IF COL. 7 IS 35 - 49 AND IF COL. 8 IS 1 OR 2.	HEIGHT WEIGHT BLOOD PRESSURE BLOOD GLUCOSE CIRCLE LINE NUMBER EVER-MARRIED WOMEN AGE 50 + IF COL. 4 IS 2 AND IF COL. 7 IS 50 + AND IF COL. 8 IS 1 or 2. NEVER-MARRIED WOMEN AGE 35+ IF COL. 4 IS 2 AND IF COL. 7 IS 35+ AND IF COL. 8 IS 3.	HEIGHT WEIGHT CIRCLE LINE NUMBER OF ALL EVER-MARRIED MEN AGE 15-34 IF COL. 4 IS 1 AND IF COL. 7 IS 15-34 AND IF COL. 8 IS 1 OR 2.	HEIGHT WEIGHT BLOOD PRESSURE BLOOD GLUCOSE CIRCLE LINE NUMBER OF ALL MEN AGE 35 + IF COL. 4 IS 1 AND IF COL. 7 IS 35 +.
☐	01	01	01	01	01	01	01	01
☐	02	02	02	02	02	02	02	02
☐	03	03	03	03	03	03	03	03
☐	04	04	04	04	04	04	04	04
☐	05	05	05	05	05	05	05	05
☐	06	06	06	06	06	06	06	06
☐	07	07	07	07	07	07	07	07
☐	08	08	08	08	08	08	08	08
☐	09	09	09	09	09	09	09	09
☐	10	10	10	10	10	10	10	10

							IF AGE 12 OR OLDER	IF AGE 5 YEARS OR OLDER		IF AGE 5-24 YEARS		IF AGE 8 OR OLDER
LINE NO.	USUAL RESIDENTS AND VISITORS	RELATIONSHIP TO HEAD OF HOUSEHOLD	SEX	RESIDENCE		AGE	MARITAL STATUS	EVER ATTENDED SCHOOL		CURRENT/RECENT SCHOOL ATTENDANCE		CURRENT WORK STATUS
1	2	3	4	5	6	7	8	9	10	11	12	13
	Please give me the names of the persons who usually live in your household and guests of the household who stayed here last night, starting with the head of the household. AFTER LISTING THE NAMES AND RECORDING THE RELATIONSHIP AND SEX FOR EACH PERSON, ASK QUESTIONS 2A-2C TO BE SURE THAT THE LISTING IS COMPLETE. THEN ASK APPROPRIATE	What is the relationship of (NAME) to the head of the household? SEE CODES BELOW.	Is (NAME) male or female?	Does (NAME) usually live here?	Did (NAME) stay here last night?	How old is (NAME)? IF 95 OR MORE, RECORD '95'.	What is (NAME)'s current marital status? 1 = CURRENTLY MARRIED 2 = DIVORCED/ SEPARATED/ DESERTED/ WIDOWED 3 = NEVER-MARRIED	Has (NAME) ever attended school?	What is the highest level of school (NAME) has attended? SEE CODES BELOW. What is the highest class (NAME) completed at that level? SEE CODES BELOW.	Did (NAME) attend school at any time during the (2010-2011) school year?	During this/that school year, what level and class [is/was] (NAME) attending? SEE CODES BELOW.	Is (NAME) currently working?
11			M F 1 2	Y N 1 2	Y N 1 2	IN YEARS		Y N 1 2 ↓ GO TO 13	LEVEL CLASS	Y N 1 2 ↓ GO TO 13	LEVEL CLASS	1 2
12			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
13			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
14			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
15			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
16			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
17			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
18			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
19			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2
20			1 2	1 2	1 2			1 2 ↓ GO TO 13		1 2 ↓ GO TO 13		1 2

TICK HERE IF CONTINUATION SHEET USED ☐

2A) Just to make sure that I have a complete listing: are there any other persons such as small children or infants that we have not listed?
YES ☐ → ADD TO TABLE NO ☐

2B) Are there any other people who may not be members of your family, such as domestic servants, lodgers, or friends who usually live here?
YES ☐ → ADD TO TABLE NO ☐

2C) Are there any guests or temporary visitors staying here, or anyone else who stayed here last night, who have not been listed?
YES ☐ → ADD TO TABLE NO ☐

CODES FOR Q. 3: RELATIONSHIP TO HEAD OF HOUSEHOLD

01 = HEAD
02 = WIFE OR HUSBAND
03 = SON OR DAUGHTER
04 = SON-IN-LAW OR DAUGHTER-IN-LA'
05 = GRANDCHILD
06 = PARENT
07 = PARENT-IN-LAW
08 = BROTHER OR SISTER
09 = OTHER RELATIVE
10 = ADOPTED/FOSTER/ STEPCHILD
11 = NOT RELATED
98 = DON'T KNOW

CODES FOR Qs. 10 AND 12: EDUCATION

LEVEL
1 = PRIMARY
2 = SECONDARY
3 = HIGHER
6 = PRE-PRIMARY
8 = DON'T KNOW

CLASS
00 = LESS THAN 1 YEAR COMPLETED (USE '00' FOR Q. 10 ONLY. THIS CODE IS NOT ALLOWED FOR Q. 12)
98 = DON'T KNOW

IF AGE 0-4 YEARS	ELIGIBILITY							
BIRTH REGIS-TRATION	INTERVIEW		BIOMARKERS					
	WOMEN	MEN	ALL HOUSEHOLDS		HOUSEHOLDS SELECTED FOR MEN'S SURVEY			
			CHILDREN	WOMEN	WOMEN		MEN	
14	15	16	17	18	19	20	21	22
Does (NAME) have a birth certificate? IF NO, PROBE: Has (NAME)'s birth ever been registered with the civil authority? 1 = HAS CERTIFICATE 2 = REGISTERED 3 = NEITHER 8 = DON'T KNOW	CIRCLE LINE NUMBER OF ALL EVER-MARRIED WOMEN AGE 12-49	CIRCLE LINE NUMBER OF ALL EVER-MARRIED MEN AGE 15-54 IF HOUSEHOLD SELECTED FOR MALE SURVEY	CIRCLE LINE NUMBER OF ALL CHILDREN AGES 0-5 IF COLUMN 7 IS 0 TO 5	HEIGHT WEIGHT ANEMIA CIRCLE LINE NUMBER EVER-MARRIED WOMEN AGE 12-49 IF COL. 4 IS 2 AND IF COL. 7 IS 12 - 49 AND IF COL. 8 IS 1 OR 2.	BLOOD PRESSURE BLOOD GLUCOSE CIRCLE LINE NUMBER EVER-MARRIED WOMEN AGE 35 -49 IF COL. 4 IS 2 AND IF COL. 7 IS 35 - 49 AND IF COL. 8 IS 1 OR 2.	HEIGHT WEIGHT BLOOD PRESSURE BLOOD GLUCOSE CIRCLE LINE NUMBER EVER-MARRIED WOMEN AGE 50 + IF COL. 4 IS 2 AND IF COL. 7 IS 50 + AND IF COL. 8 IS 1 or 2. NEVER-MARRIED WOMEN AGE 35+ IF COL. 4 IS 2 AND IF COL. 7 IS 35+ AND IF COL. 8 IS 3.	HEIGHT WEIGHT CIRCLE LINE NUMBER OF ALL EVER-MARRIED MEN AGE 15-34 IF COL. 4 IS 1 AND IF COL. 7 IS 15-34 AND IF COL. 8 IS 1 OR 2.	HEIGHT WEIGHT BLOOD PRESSURE BLOOD GLUCOSE CIRCLE LINE NUMBER OF ALL MEN AGE 35 + IF COL. 4 IS 1 AND IF COL. 7 IS 35 +.
☐	11	11	11	11	11	11	11	11
☐	12	12	12	12	12	12	12	12
☐	13	13	13	13	13	13	13	13
☐	14	14	14	14	14	14	14	14
☐	15	15	15	15	15	15	15	15
☐	16	16	16	16	16	16	16	16
☐	17	17	17	17	17	17	17	17
☐	18	18	18	18	18	18	18	18
☐	19	19	19	19	19	19	19	19
☐	20	20	20	20	20	20	20	20

HOUSEHOLD CHARACTERISTICS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
102	What is the main source of drinking water for members of your your household?	PIPED WATER PIPED INTO DWELLING . . . . . 11 PIPED TO YARD/PLOT . . . . . 12 PUBLIC TAP/STANDPIPE . . . . . 13 TUBE WELL OR BOREHOLE . . . . . 21 DUG WELL PROTECTED WELL . . . . . 31 UNPROTECTED WELL . . . . . 32 WATER FROM SPRING PROTECTED SPRING . . . . . 41 UNPROTECTED SPRING . . . . . 42 RAINWATER . . . . . 51 TANKER TRUCK . . . . . 61 CART WITH SMALL TANK . . . . . 71 SURFACE WATER (RIVER/DAM/ LAKE/POND/STREAM/CANAL/ IRRIGATION CHANNEL) . . . . . 81 BOTTLED WATER . . . . . 91 OTHER _____ 96 (SPECIFY)	→ 105 → 105
103	Where is that water source located?	IN OWN DWELLING . . . . . 1 IN OWN YARD/PLOT . . . . . 2 ELSEWHERE 3	→ 105
104	How long does it take to go there, get water, and come back?	MINUTES . . . . . ☐☐☐ DON'T KNOW 998	
104A	Do you share this source with other households?	YES . . . . . 1 NO 2	→ 105
104B	How many households use this source of water?	NO. OF HOUSEHOLDS IF LESS THAN 10 . . . . . 0☐ 10 OR MORE HOUSEHOLDS . . . . . 95 DON'T KNOW 98	
105	Do you do anything to the water to make it safer to drink?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 107
106	What do you usually do to make the water safer to drink? Anything else? RECORD ALL MENTIONED.	BOIL . . . . . A ADD BLEACH/CHLORINE . . . . . B STRAIN THROUGH A CLOTH . . . . . C USE WATER FILTER (CERAMIC/ SAND/COMPOSITE/ETC.) . . . . . D SOLAR DISINFECTION . . . . . E LET IT STAND AND SETTLE . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
107	What kind of toilet facility do members of your household usually use?	FLUSH OR POUR FLUSH TOILET FLUSH TO PIPED SEWER SYSTEM . . . . . 11 FLUSH TO SEPTIC TANK . . . . . 12 FLUSH TO PIT LATRINE . . . . . 13 FLUSH TO SOMEWHERE ELSE . . . . . 14 FLUSH, DON'T KNOW WHERE . . . . . 15 PIT LATRINE VENTILATED IMPROVED PIT LATRINE . . . . . 21 PIT LATRINE WITH SLAB . . . . . 22 PIT LATRINE WITHOUT SLAB/ OPEN PIT . . . . . 23 COMPOSTING TOILET . . . . . 31 BUCKET TOILET . . . . . 41 HANGING TOILET/HANGING LATRINE . . . . . 51 NO FACILITY/BUSH/FIELD . . . . . 61 OTHER _____ 96 (SPECIFY)	→ 110
108	Do you share this toilet facility with other households?	YES . . . . . 1 NO 2	→ 110
109	How many households use this toilet facility?	NO. OF HOUSEHOLDS IF LESS THAN 10 . . . . . [0] 10 OR MORE HOUSEHOLDS . . . . . 95 DON'T KNOW 98	
110	Does your household have:	YES NO ELECTRICITY . . . . . 1 2 RADIO . . . . . 1 2 TELEVISION . . . . . 1 2 MOBILE TELEPHONE . . . . . 1 2 NON-MOBILE TELEPHONE . . . 1 2 REFRIGERATOR . . . . . 1 2 ALMIRAH/WARDROI . . . . . 1 2 TABLE . . . . . 1 2 CHAIR . . . . . 1 2 ELETRIC FAN . . . . . 1 2 DVD/VCD PLAYER . . . . . 1 2 WATER PUMP 1 2	
111	What type of fuel does your household mainly use for cooking?	ELECTRICITY . . . . . 01 LPG . . . . . 02 NATURAL GAS . . . . . 03 BIOGAS . . . . . 04 KEROSENE . . . . . 05 COAL, LIGNITE . . . . . 06 CHARCOAL . . . . . 07 WOOD . . . . . 08 STRAW/SHRUBS/GRASS . . . . . 09 AGRICULTURAL CROP . . . . . 10 ANIMAL DUNG . . . . . 11 NO FOOD COOKED IN HOUSEHOLD . . . . . 95 OTHER _____ 96 (SPECIFY)	→ 113A

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
112	Is the cooking usually done in the house, in a separate building, or outdoors?	IN THE HOUSE . . . . . 1 IN A SEPARATE BUILDING . . . . . 2 OUTDOORS . . . . . 3 OTHER _____ 6 (SPECIFY)	→ 113A
113	Do you have a separate room which is used as a kitchen?	YES . . . . . 1 NO 2	
113A	How often does anyone smoke inside your house? Would you say daily, weekly, monthly, less than monthly, or never?	DAILY . . . . . 1 WEEKLY . . . . . 2 MONTHLY . . . . . 3 LESS THAN MONTHLY . . . . . 4 NEVER 5	
114	MAIN MATERIAL OF THE FLOOR. RECORD OBSERVATION.	NATURAL FLOOR EARTH/SAND . . . . . 11 RUDIMENTARY FLOOR WOOD PLANKS . . . . . 21 PALM/BAMBOO . . . . . 22 FINISHED FLOOR PARQUET OR POLISHED WOOD . . . . . 31 CERAMIC TILES . . . . . 33 CEMENT . . . . . 34 CARPET . . . . . 35 OTHER _____ 96 (SPECIFY)	
115	MAIN MATERIAL OF THE ROOF. RECORD OBSERVATION.	NATURAL ROOFING NO ROOF . . . . . 11 THATCH/PALM LEAF . . . . . 12 RUDIMENTARY ROOFING PALM/BAMBOO . . . . . 22 WOOD PLANKS . . . . . 23 CARDBOARD . . . . . 24 FINISHED ROOFING TIN . . . . . 31 WOOD . . . . . 32 CERAMIC TILES . . . . . 34 CEMENT . . . . . 35 ROOFING SHINGLES . . . . . 36 OTHER _____ 96 (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
116	MAIN MATERIAL OF THE EXTERIOR WALLS. RECORD OBSERVATION.	NATURAL WALLS NO WALLS . . . . . 11 CANE/PALM/TRUNKS . . . . . 12 DIRT . . . . . 13 RUDIMENTARY WALLS BAMBOO WITH MUD . . . . . 21 STONE WITH MUD . . . . . 22 PLYWOOD . . . . . 24 CARDBOARD . . . . . 25 FINISHED WALLS TIN . . . . . 31 CEMENT . . . . . 32 STONE WITH LIME/CEMENT . . . . . 33 BRICKS . . . . . 34 WOOD PLANKS/SHINGLES . . . . . 36 OTHER _____ 96 (SPECIFY)	
117	How many rooms in this household are used for sleeping?	ROOMS	
118	Does any member of this household own: An autobike? A rickshaw/van? A bicycle? A motorcycle or motor scooter/tempo/CNG?	YES NO AUTOBIKE . . . . . 1 2 RICKSHAW . . . . . 1 2 BICYCLE . . . . . 1 2 MOTORCYCLE/SCOOTER . . . 1 2	
121	Does this household own any livestock, herds, other farm animals, or poultry?	YES . . . . . 1 NO 2	→ 122A
122	How many of the following animals does this household own? IF NONE, ENTER '00'. IF 95 OR MORE, ENTER '95'. IF UNKNOWN, ENTER '98'. Buffaloes? Cows? Goats or sheep? Chickens or ducks?	BULLS/BUFFALOES . . . . . . MILK COWS/BULLS . . . . . . GOAT/SHEEP . . . . . . CHICKENS/DUCKS	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
122A	Does your household own any homestead? IF 'NO' PROBE: Does your household own homestead in any other places?	YES . . . . . 1 NO 2	
122B	Does your household own any land (other than the homestead land)?	YES . . . . . 1 NO 2	→ 123
122C	How much land does your household own (other than the homestead land)? AMOUNT _____ SPECIFY UNIT _____ IF 95 OR MORE CIRCLE '9995'	ACRES DECIMALS AREA . . . . . ☐☐ . ☐☐ 95 OR MORE ACRES . . . . . 9995 DON'T KNOW 9998	
123	Does any member of this household have a bank account?	YES . . . . . 1 NO 2	
137	Please show me where members of your household most often wash their hands.	OBSERVED . . . . . 1 NOT OBSERVED, NOT IN DWELLING/YARD/PLOT . . . . . 2 NOT OBSERVED, NO PERMISSION TO SEE . . . . . 3 NOT OBSERVED, OTHER REASON . . . . . 4 (SKIP TO 140)	
138	OBSERVATION ONLY: OBSERVE PRESENCE OF WATER AT THE PLACE FOR HANDWASHING.	WATER IS AVAILABLE . . . . . 1 WATER IS NOT AVAILABLE 2	
139	OBSERVATION ONLY: OBSERVE PRESENCE OF SOAP, DETERGENT, OR OTHER CLEANSING AGENT.	SOAP (BAR, LIQUID, PASTE) . . . . . A DETERGENT (BAR, LIQUID, POWDER) . . . B ASH, MUD, SAND . . . . . C NONE . . . . . D	
140	ASK RESPONDENT FOR A TEASPOONFUL OF COOKING SALT. TEST SALT FOR IODINE.	IODINE PRESENT . . . . . 1 NO IODINE . . . . . 2 NO SALT IN HOUSEHOLD . . . . . 3 SALT NOT TESTED _____ 6 (SPECIFY REASON)	

WEIGHT, HEIGHT AND HAEMOGLOBIN MEASUREMENT FOR CHILDREN AGE 0-5

CLUSTER NUMBER ☐☐☐ HOUSEHOLD NUMBER ☐☐☐

		CHILD 1	CHILD 2	CHILD 3
201	CHECK **COLUMN 17** IN HOUSEHOLD SCHEDULE. RECORD THE LINE NUMBER AND NAME FOR ALL ELIGIBLE CHILDREN 0-5 YEARS IN QUESTION 202. IF MORE THAN SIX CHILDREN, USE ADDITIONAL QUESTIONNAIRE(S).			
202	LINE NUMBER FROM COLUMN 17 NAME FROM COLUMN 2	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
203	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR OF BIRTH FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME)'s birth date?	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐
204	CHECK 203: CHILD BORN IN JANUARY 2006 OR LATER?	YES . . . . . 1 NO . . . . . 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES . . . . . 1 NO . . . . . 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES . . . . . 1 NO . . . . . 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)
205	WEIGHT IN KILOGRAMS	KG. ☐☐.☐☐ NOT PRESENT . . . 9994 REFUSED . . . . . 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT . . . 9994 REFUSED . . . . . 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT . . . 9994 REFUSED . . . . . 9995 OTHER 9996
206	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT . . . 9994 REFUSED . . . . . 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT . . . 9994 REFUSED . . . . . 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT . . . 9994 REFUSED . . . . . 9995 OTHER 9996
207	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN . . . . . 1 STANDING UP . . . . . 2 NOT MEASURED 3	LYING DOWN . . . . . 1 STANDING UP . . . . . 2 NOT MEASURED 3	LYING DOWN . . . . . 1 STANDING UP . . . . . 2 NOT MEASURED 3
207A	CHECK THE COVER PAGE: HOUSEHOLD SELECTED FOR MEN'S SURVEY	YES . . . . . 1 ↓	NO . . . . . 2 (GO TO 213)	
208	CHECK 203: IS CHILD AGE 0-5 MONTHS, I.E., WAS CHILD BORN IN MONTH OF INTERVIEW OR FIVE PREVIOUS MONTHS?	0-5 MONTHS . . . . . 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS . . . . . 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS . . . . . 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2
209	LINE NUMBER OF PARENT/ OTHER ADULT RESPONSIBLE FOR THE CHILD (FROM COLUMN 1 OF HOUSEHOLD SCHEDULE). RECORD '00' IF NOT LISTED.	LINE NUMBER . . . . . ☐☐	LINE NUMBER . . . . . ☐☐	LINE NUMBER . . . . . ☐☐
210	ASK CONSENT FOR ANEMIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 209 AS RESPONSIBLE FOR CHILD.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. We ask that all children born in 2006 or later take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF CHILD) to participate in the anemia test?		
211	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . . 1 _____ (SIGN) REFUSED 2	GRANTED . . . . . 1 _____ (SIGN) REFUSED 2	GRANTED . . . . . 1 _____ (SIGN) REFUSED 2
212	RECORD HEMOGLOBIN LEVEL HERE AND IN THE ANEMIA	G/DL ☐☐.☐ NOT PRESENT . . . . . 994 REFUSED . . . . . 995 OTHER 996	G/DL ☐☐.☐ NOT PRESENT . . . . . 994 REFUSED . . . . . 995 OTHER 996	G/DL ☐☐.☐ NOT PRESENT . . . . . 994 REFUSED . . . . . 995 OTHER 996
213	GO BACK TO 203 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF THE NEXT PAGE; IF NO MORE CHILDREN, GO TO 214.			

WEIGHT, HEIGHT AND HAEMOGLOBIN MEASUREMENT FOR CHILDREN AGE 0-5

CLUSTER NUMBER ☐☐☐ HOUSEHOLD NUMBER ☐☐☐

		CHILD 3	CHILD 4	CHILD 5
201	CHECK **COLUMN 17** IN HOUSEHOLD SCHEDULE. RECORD THE LINE NUMBER AND NAME FOR ALL ELIGIBLE CHILDREN 0-5 YEARS IN QUESTION 202. IF MORE THAN SIX CHILDREN, USE ADDITIONAL QUESTIONNAIRE(S).			
202	LINE NUMBER FROM COLUMN 17 NAME FROM COLUMN 2	LINE NUMBER ..... ☐☐ NAME _____	LINE NUMBER ..... ☐☐ NAME _____	LINE NUMBER ..... ☐☐ NAME _____
203	IF MOTHER INTERVIEWED, COPY MONTH AND YEAR OF BIRTH FROM BIRTH HISTORY AND ASK DAY; IF MOTHER NOT INTERVIEWED, ASK: What is (NAME)'s birth date?	DAY ..... ☐☐ MONTH ..... ☐☐ YEAR ☐☐☐☐	DAY ..... ☐☐ MONTH ..... ☐☐ YEAR ☐☐☐☐	DAY ..... ☐☐ MONTH ..... ☐☐ YEAR ☐☐☐☐
204	CHECK 203: CHILD BORN IN JANUARY 2006 OR LATER?	YES ..... 1 NO ..... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES ..... 1 NO ..... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)	YES ..... 1 NO ..... 2 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214)
205	WEIGHT IN KILOGRAMS	KG. ☐☐.☐☐ NOT PRESENT ... 9994 REFUSED ..... 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT ... 9994 REFUSED ..... 9995 OTHER 9996	KG. ☐☐.☐☐ NOT PRESENT ... 9994 REFUSED ..... 9995 OTHER 9996
206	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT ... 9994 REFUSED ..... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ... 9994 REFUSED ..... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ... 9994 REFUSED ..... 9995 OTHER 9996
207	MEASURED LYING DOWN OR STANDING UP?	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED 3	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED 3	LYING DOWN ..... 1 STANDING UP ..... 2 NOT MEASURED 3
207A	CHECK THE COVER PAGE: HOUSEHOLD SELECTED FOR MEN'S SURVEY	YES ..... 1 ↓	NO ..... 2 (GO TO 213)	
208	CHECK 203: IS CHILD AGE 0-5 MONTHS, I.E., WAS CHILD BORN IN MONTH OF INTERVIEW OR FIVE PREVIOUS MONTHS?	0-5 MONTHS ..... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS ..... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2	0-5 MONTHS ..... 1 (GO TO 203 FOR NEXT CHILD OR, IF NO MORE CHILDREN, GO TO 214) OLDER 2
209	LINE NUMBER OF PARENT/ OTHER ADULT RESPONSIBLE FOR THE CHILD (FROM COLUMN 1 OF HOUSEHOLD SCHEDULE). RECORD '00' IF NOT LISTED.	LINE NUMBER ..... ☐☐	LINE NUMBER ..... ☐☐	LINE NUMBER ..... ☐☐
210	ASK CONSENT FOR ANEMIA TEST FROM PARENT/OTHER ADULT IDENTIFIED IN 209 AS RESPONSIBLE FOR CHILD.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. We ask that all children born in 2006 or later take part in anemia testing in this survey and give a few drops of blood from a finger or heel. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you allow (NAME OF CHILD) to participate in the anemia test?		
211	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED ..... 1 _____ (SIGN) REFUSED 2	GRANTED ..... 1 _____ (SIGN) REFUSED 2	GRANTED ..... 1 _____ (SIGN) REFUSED 2
212	RECORD HEMOGLOBIN LEVEL HERE AND IN THE ANEMIA	G/DL ☐☐.☐ NOT PRESENT ....994 REFUSED ..... 995 OTHER 996	G/DL ☐☐.☐ NOT PRESENT ....994 REFUSED ..... 995 OTHER 996	G/DL ☐☐.☐ NOT PRESENT ....994 REFUSED ..... 995 OTHER 996
213	GO BACK TO 203 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF THE NEXT PAGE; IF NO MORE CHILDREN, GO TO 214.			

WEIGHT, HEIGHT, HAEMOGLOBIN MEASUREMENT FOR EVER-MARRIED WOMEN AGE **12- 49**

CLUSTER NUMBER ☐☐☐ HOUSEHOLD NUMBER ☐☐☐

		WOMAN 1	WOMAN 2	WOMAN 3
214	CHECK COLUMN 18 IN HOUSEHOLD SCHEDULE. RECORD THE LINE NUMBER AND NAME OF ALL ELIGIBLE EVER-MARRIED WOMEN IN 215. IF THERE ARE MORE THAN THREE EVER MARRIED WOMEN, USE ADDITIONAL QUESTIONNAIRE(S).			
215	LINE NUMBER FROM COLUMN 18 NAME FROM COLUMN 2	LINE NUMBER ..... ☐☐ NAME _____	LINE NUMBER ..... ☐☐ NAME _____	LINE NUMBER ..... ☐☐ NAME _____
216	WEIGHT IN KILOGRAMS	KG. ☐☐☐.☐ NOT PRESENT ..... 99994 REFUSED ..... 99995 OTHER 99996	KG. ☐☐☐.☐ NOT PRESENT ..... 99994 REFUSED ..... 99995 OTHER 99996	KG. ☐☐☐.☐ NOT PRESENT ..... 99994 REFUSED ..... 99995 OTHER 99996
217	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT ..... 9994 REFUSED ..... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ..... 9994 REFUSED ..... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ..... 9994 REFUSED ..... 9995 OTHER 9996
218	CHECK COVER PAGE: HOUSEHOLD SELECTED FOR MEN'S SURVEY	YES ..... 1 ↓ NO ..... 2 → (GO TO 223)		
219	ASK CONSENT FOR ANEMIA TEST FROM RESPONDENT.	As part of this survey, we are asking people all over the country to take an anemia test. Anemia is a serious health problem that usually results from poor nutrition, infection, or chronic disease. This survey will assist the government to develop programs to prevent and treat anemia. For the anemia testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for anemia immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. Do you have any questions? You can say yes to the test, or you can say no. It is up to you to decide. Will you take the anemia test?		
220	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED ..... 1 RESPONDENT REFUSED ..... 2 → _____ (SIGN) (IF REFUSED, GO TO 223)	GRANTED ..... 1 RESPONDENT REFUSED ..... 2 → _____ (SIGN) (IF REFUSED, GO TO 223)	GRANTED ..... 1 RESPONDENT REFUSED ..... 2 → _____ (SIGN) (IF REFUSED, GO TO 223)
221	PREGNANCY STATUS: CHECK 226 IN WOMAN'S QUESTIONNAIRE OR ASK: Are you pregnant?	YES ..... 1 NO ..... 2 DK 8	YES ..... 1 NO ..... 2 DK 8	YES ..... 1 NO ..... 2 DK 8
222	RECORD HEMOGLOBIN LEVEL HERE AND IN ANEMIA PAMPHLET	G/DL ..... ☐☐.☐ NOT PRESENT ..... 994 REFUSED ..... 995 OTHER 996	G/DL ..... ☐☐.☐ NOT PRESENT ..... 994 REFUSED ..... 995 OTHER 996	G/DL ..... ☐☐.☐ NOT PRESENT ..... 994 REFUSED ..... 995 OTHER 996
223	GO BACK TO 216 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE: IF NO MORE EVER-MARRIED WOMEN AGE 12-49, BUT HOUSEHOLD IS SELECTED FOR MEN'S SURVEY, GO TO 224; OTHERWISE END MEASUREMENT.			

WEIGHT AND HEIGHT MEASUREMENT FOR EVER-MARRIED MEN AGE 15-34

CLUSTER NUMBER ☐☐☐ HOUSEHOLD NUMBER ☐☐☐

HOUSEHOLD SELECTED FOR MEN'S SURVEY ..... YES ☐ NO ☐

(END MEASUREMENT)

		MAN 1	MAN 2	MAN 3
224	CHECK COLUMN 21 IN HOUSEHOLD SCHEDULE, RECORD THE LINE NUMBER AND NAME FOR ALL ELIGIBLE EVER-MARRIED MEN AGE 15-34 IN 225. IF THERE ARE MORE THAN THREE EVER-MARRIED MEN AGE 15-34, USE ADDITIONAL QUESTIONNAIRE(S).			
225	LINE NUMBER FROM COLUMN 21 NAME FROM COLUMN 2	LINE NUMBER ..... ☐☐ NAME _____	LINE NUMBER ..... ☐☐ NAME _____	LINE NUMBER ..... ☐☐ NAME _____
226	WEIGHT IN KILOGRAMS	KG. ☐☐☐.☐☐ NOT PRESENT ..... 99994 REFUSED ..... 99995 OTHER 99996	KG. ☐☐☐.☐☐ NOT PRESENT ..... 99994 REFUSED ..... 99995 OTHER 99996	KG. ☐☐☐.☐☐ NOT PRESENT ..... 99994 REFUSED ..... 99995 OTHER 99996
227	HEIGHT IN CENTIMETERS	CM. ☐☐☐.☐ NOT PRESENT ..... 9994 REFUSED ..... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ..... 9994 REFUSED ..... 9995 OTHER 9996	CM. ☐☐☐.☐ NOT PRESENT ..... 9994 REFUSED ..... 9995 OTHER 9996
228	GO BACK TO 225 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE: IF NO MORE EVER-MARRIED MEN AGE 15-34, GO TO 229.			

BIOMARKER DATA FORM (FOR ADULTS 35 OR OLDER)

CLUSTER NUMBER ☐☐☐ HOUSEHOLD NUMBER ☐☐☐☐

USE THIS BIOMARKER DATA FORM ONLY IF HOUSEHOLD IS SELECTED FOR MEN'S SURVEY AND RESPONDENT IS 35 OR OLDER

229 CHECK **COLUMNS 19, 20, AND 22 IN HOUSEHOLD SCHEDULE**. RECORD THE LINE NUMBER AND NAME OF ALL ELIGIBLE WOMEN AND MEN AGE 35 AND ABOVE FOR BIOMARKER MEASUREMENTS IN 230. IF THERE ARE MORE THAN THREE ADULTS, USE ADDITIONAL QUESTIONNAIRE(S).

		ADULT 1	ADULT 2	ADULT 3
230	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER . . . . . ☐☐ NAME_____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
231	SEX FROM COLUMN 4 OF THE HOUSEHOLD SCHEDULE	MALE . . . . . 1 (GO TO 233) FEMALE 2	MALE . . . . . 1 (GO TO 233) FEMALE 2	MALE . . . . . 1 (GO TO 233) FEMALE 2
232	PREGNANCY STATUS: CHECK 226 IN WOMAN'S QUESTIONNAIRE OR ASK: Are you pregnant?	YES . . . . . 1 NO . . . . . 2 DK 3	YES . . . . . 1 NO . . . . . 2 DK 3	YES . . . . . 1 NO . . . . . 2 DK 3
233	CHECK HOUSEHOLD SCHEDULE: COLUMN 19 CIRCLED	NO ☐ YES ☐ (GO TO 240)	NO ☐ YES ☐ (GO TO 240)	NO ☐ YES ☐ (GO TO 240)
233A	**PROVIDE INFORMATION ABOUT BIOMARKER TESTING** Now I am going to ask you to participate in several physical measurements or tests. I will explain each measurement or test before starting the procedure. You will be free to say yes or no to each one. Before taking the measurements, I am going to ask a few questions about yourself.			
234	AGE How old were you at your last birthday?	YEARS . . . . . ☐☐	YEARS . . . . . ☐☐	YEARS . . . . . ☐☐
235	MARITAL STATUS What is your current marital status?	NEVER MARRIED . . . . . 1 MARRIED, DIVORCED, SEPARATED, DESERTED OR WIDOWED 2	NEVER MARRIED . . . . . 1 MARRIED, DIVORCED, SEPARATED, DESERTED OR WIDOWED 2	NEVER MARRIED . . . . . 1 MARRIED, DIVORCED, SEPARATED, DESERTED OR WIDOWED 2
236	EDUCATION Have you ever attended school or madrasha?	YES . . . . . 1 NO . . . . . 2 (GO TO 238)	YES . . . . . 1 NO . . . . . 2 (GO TO 238)	YES . . . . . 1 NO . . . . . 2 (GO TO 238)
237	What is the highest level of school you attended, primary, secondary, college or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE OR HIGHER 3	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE OR HIGHER 3	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE OR HIGHER 3
238	WORK Are you currently working?	YES . . . . . 1 NO . . . . . 2 (GO TO 240)	YES . . . . . 1 NO . . . . . 2 (GO TO 240)	YES . . . . . 1 NO . . . . . 2 (GO TO 240)
239	What is your occupation, that is the kind of work do you mainly do?	_____ ☐☐ _____	_____ ☐☐ _____	_____ ☐☐ _____

		ADULT 1	ADULT 2	ADULT 3
	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
240	**ASK CONSENT FOR BLOOD PRESSURE MEASUREMENT** I would like to measure your blood pressure. This will be done three times during the interview, with an interval of about five to ten minute period. This is a harmless procedure. It is used to find out if a person has high blood pressure. If it is not treated, high blood pressure may eventually cause serious damage to the heart. The results of this blood pressure measurement will be given to you after the measurement process is completed. I will explain the meaning of your blood pressure numbers. If your blood pressure is high, we will suggest that you consult a health facility or doctor since we cannot provide any further testing or treatment during the survey. Do you have any questions about the blood pressure measurement so far? If you have any questions about the procedure at any time, please ask me. You can say yes or no to having the blood pressure measurement now. You can also decide at anytime not to participate in the blood pressure measures.			
241	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME. (MARK CODE 3 ONLY IF YOU HAVE MADE AT LEAST 3 CALL BACKS TO FIND THE RESPONDENT)	GRANTED . . . . . 1 RESPONDENT REFUSED ..... (GO TO 248) 2 RESPONDENT NOT PRESENT (GO TO 266) 3 _____ (SIGN)	GRANTED . . . . . 1 RESPONDENT REFUSED . (GO TO 248) 2 RESPONDENT NOT PRESENT (GO TO 266) 3 _____ (SIGN)	GRANTED . . . . . 1 RESPONDENT REFUSED . . . . . (GO TO 248) 2 RESPONDENT NOT PRESENT (GO TO 266) 3 _____ (SIGN)
242	Before taking your blood pressure, I would like to ask a few questions about things that may affect these measurements. Have you done any of the following within the past 30 minutes: Eaten anything? Had coffee, tea, cola or other drink that has caffeine? Smoked any tobacco product?	YES NO EATEN . . . . . 1 2 HAD CAFFEINATED DRINK . . . . . 1 2 SMOKED 1 2	YES NO EATEN . . . . . . HAD CAFFEINATED DRINK . . . . . . SMOKED	YES NO EATEN . . . . . 1 2 HAD CAFFEINATED DRINK . . . . . 1 2 SMOKED 1 2
243	May I begin the process of measuring your blood pressure? I will begin by measuring the circumference of your arm to make sure that I use the right equipment. BEFORE TAKING THE FIRST BLOOD PRESSURE READING, MEASURE THE CIRCUM-FERENCE OF THE RESPONDENT'S ARM MIDWAY BETWEEN THE ELBOW AND THE SHOULDER. RECORD THE MEASUREMENT IN CENTIMETRES.	ARM CIRCUMFERENCE (IN CENTIMETRES) ☐☐	ARM CIRCUMFERENCE (IN CENTIMETRES) ☐☐	ARM CIRCUMFERENCE (IN CENTIMETRES) ☐☐

		ADULT 1	ADULT 2	ADULT 3
	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
244	USE THE ARM CIRCUM-FERENCE MEASUREMENT TO SELECT THE APPROPRIATE BLOOD PRESSURE MONITOR CUFF SIZE. CIRCLE THE CODE FOR THE CUFF SIZE.	SMALL: 16 CM – 23 CM . . . 1 MEDIUM: 24 CM – 35 CM 2 LARGE: 36 CM – 45 CM . . . 3	SMALL: 16 CM – 23 CM . . . 1 MEDIUM: 24 CM – 35 CM . . . 2 LARGE: 36 CM – 45 CM . . . 3	SMALL: 16 CM – 23 CM . . . . 1 MEDIUM: 24 CM – 35 CM . . . . 2 LARGE: 36 CM – 45 CM 3
245	RECORD TIME	HOURS . . . . . ☐☐ MINUTES . . . . ☐☐	HOURS . . . . . ☐☐ MINUTES . . . . ☐☐	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐
246	TAKE THE FIRST BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE, THEN PROCEED TO Q.248. IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON IN Q.247.	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . . . ☐☐☐ DIASTOLIC . . . . . ☐☐☐	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . . . ☐☐☐ DIASTOLIC . . . . . ☐☐☐	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . ☐☐☐ DIASTOLIC . . . ☐☐☐
247	RECORD REASON BLOOD PRESSURE IS NOT MEASURED	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . 995 OTHER 996	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . 995 OTHER 996	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . 995 OTHER 996
248	Before this survey, has your blood pressure ever been checked?	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
249	Have you ever been told by a doctor or a nurse that you have high blood pressure?	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
250	To lower your blood pressure, are you now taking a prescribed medicine?	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2

		ADULT 1	ADULT 2	ADULT 3
	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
252	**HEALTH TECHNICIAN: CHECK THAT IT HAS BEEN AT LEAST 5 MINUTES BEFORE TAKING THE SECOND BLOOD PRESSURE MEASUREMENT.**			
253	RECORD TIME	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐
254	May I take your blood pressure this time?	YES . . . . . 1 NO . . . . . 2 (GO TO 256)	YES . . . . . 1 NO . . . . . 2 (GO TO 256)	YES . . . . . 1 NO . . . . . 2 (GO TO 256)
255	TAKE THE SECOND BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE, THEN PROCEED TO Q. 257. IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON IN Q.256.	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . ☐☐☐ DIASTOLIC . . . . . ☐☐☐	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . . . ☐☐☐ DIASTOLIC . . . . . ☐☐☐	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . ☐☐☐ DIASTOLIC . . . ☐☐☐
256	RECORD REASON BLOOD PRESSURE IS NOT MEASURED	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . . . 995 OTHER 996	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . . . 995 OTHER 996	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . 995 OTHER 996
257	Have you ever heard of an illness called diabetes (local name)?	YES . . . . . 1 NO . . . . . 2 (GO TO 261)	YES . . . . . 1 NO . . . . . 2 (GO TO 261)	YES . . . . . 1 NO . . . . . 2 (GO TO 261)
258	Have you ever been told by a doctor or nurse that you have diabetes?	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
259	Are you taking medication for diabetes prescribed by a doctor or nurse?	YES . . . . . 1 NO . . . . . 2 (GO TO 261)	YES . . . . . 1 NO . . . . . 2 (GO TO 261)	YES . . . . . 1 NO . . . . . 2 (GO TO 261)
260	How do you take the medication?	INJECTED . . . . . 1 ORALLY . . . . . 2 INJECTED AND ORALLY 3	INJECTED . . . . . 1 ORALLY . . . . . 2 INJECTED AND ORALLY 3	INJECTED . . . . . 1 ORALLY . . . . . 2 INJECTED AND ORALLY 3

		ADULT 1	ADULT 2	ADULT 3
	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____	LINE NUMBER . . . . . ☐☐ NAME _____
261	**HEALTH TECHNICIAN: CHECK THAT IT HAS BEEN AT LEAST 5 MINUTES BEFORE TAKING THE THIRD BLOOD PRESSURE MEASUREMENT.**			
262	RECORD TIME	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐
263	May I take your blood pressure this time?	YES . . . . . 1 NO . . . . . 2 (GO TO 265)	YES . . . . . 1 NO . . . . . 2 (GO TO 265)	YES . . . . . 1 NO . . . . . 2 (GO TO 265)
264	TAKE THE THIRD BLOOD PRESSURE READING. RECORD THE SYSTOLIC AND DIASTOLIC PRESSURE, THEN PROCEED TO Q. 266. IF YOU ARE UNABLE TO MEASURE THE RESPONDENT'S BLOOD PRESSURE, RECORD THE REASON IN Q.265.	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . ☐☐☐ DIASTOLIC . . . ☐☐☐	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . ☐☐☐ DIASTOLIC . . . ☐☐☐	**BLOOD PRESSURE MEASURED** SYSTOLIC . . . . ☐☐☐ DIASTOLIC . . . ☐☐☐
265	RECORD REASON BLOOD PRESSURE IS NOT MEASURED	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . 995 OTHER 996	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . 995 OTHER 996	**REASON BLOOD PRESSURE NOT MEASURED** REFUSED . . . . . 994 TECHNICAL PROBLEMS . . . 995 OTHER 996
266	**CHECK HOUSEHOLD SCHEDULE: COLUMN 19 CIRCLED**	**NO** ☐ **YES** ☐ **(GO TO 275)**	**NO** ☐ **YES** ☐ **(GO TO 275)**	**NO** ☐ **YES** ☐ **(GO TO 275)**

		ADULT 1	ADULT 2	ADULT 3
	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER . . . . . ☐☐ NAME	LINE NUMBER . . . . . ☐☐ NAME	LINE NUMBER . . . . . ☐☐ NAME
271	RECORD THE WEIGHT IN KILOGRAMS THEN PROCEED TO Q273. IF YOUR ARE UNABLE TO MEASURE THE RESPONDENTS WEIGHT RECORD THE REASON IN Q272.	KG. ☐☐☐.☐☐	KG. ☐☐☐.☐☐	KG. ☐☐☐.☐☐
272	RECORD REASON WEIGHT IS NOT MEASURED	**REASON WEIGHT NOT MEASURED** NOT PRESENT . . . . . 99994 REFUSED . . . . . 99995 OTHER 99996	**REASON WEIGHT NOT MEASURED** NOT PRESENT . . . . . 99994 REFUSED . . . . . 99995 OTHER 99996	**REASON WEIGHT NOT MEASURED** NOT PRESENT . . . . . 99994 REFUSED . . . . . 99995 OTHER 99996
273	RECORD THE HEIGHT IN CENTIMETERS THEN PROCEED TO Q275. IF YOUR ARE UNABLE TO MEASURE THE RESPONDENTS HEIGHT RECORD THE REASON IN Q274.	CM. ☐☐☐.☐	CM. ☐☐☐.☐	CM. ☐☐☐.☐
274	RECORD REASON HEIGHT IS NOT MEASURED	**REASON HEIGHT NOT MEASURED** NOT PRESENT . . . . . 9994 REFUSED . . . . . 9995 OTHER 9996	**REASON HEIGHT NOT MEASURED** NOT PRESENT . . . . . 9994 REFUSED . . . . . 9995 OTHER 9996	**REASON HEIGHT NOT MEASURED** NOT PRESENT . . . . . 9994 REFUSED . . . . . 9995 OTHER 9996

		ADULT 1	ADULT 2	ADULT 3
	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER ☐☐ NAME_____	LINE NUMBER ☐☐ NAME _____	LINE NUMBER ☐☐ NAME _____
275	**ASK CONSENT FOR FASTING BLOOD SUGAR TESTING** As part of this survey, we are also measuring the level of sugar in blood. If it is not treated, high level of blood sugar may increase the risk for heart disease and stroke. For the blood glucose testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for glucose immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. The results of this blood glucose test will be given to you with an explanation of the meaning of your blood glucose numbers. If your blood glucose is high, we will suggest that you consult a health facility or doctor since we cannot provide any counseling, further testing or treatment during the survey. Do you have any questions about the blood glucose measurement so far? If you have any questions about the procedure at any time, please ask me. To obtain correct measurement, we would ask that you do not eat or drink anything except plain water from about the time of call of the evening prayer until my visit tomorrow morning. Would you allow me to return in the morning to take your blood glucose measurement before you break your fast?			
276	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . . 1 RESPONDENT REFUSED . 2 _____ (SIGN) (IF REFUSED, GO TO 286)	GRANTED . . . . . 1 RESPONDENT REFUSED . . . 2 _____ (SIGN) (IF REFUSED, GO TO 286)	GRANTED . . . . . 1 RESPONDENT REFUSED . . . . . 2 _____ (SIGN) (IF REFUSED, GO TO 286)
277	FIRST APPOINTMENT FOR BLOOD GLUCOSE TESTING	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐
277A	SECOND APPOINTMENT FOR BLOOD GLUCOSE TESTING (IF THE RESPONDENT WAS NOT FASTING AT THE DATE AND TIME IN Q277, TAKE ANOTHER APPOINTMENT)	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐
277B	THIRD APPOINTMENT FOR BLOOD GLUCOSE TESTING (IF THE RESPONDENT WAS NOT FASTING AT THE DATE AND TIME IN Q277A, TAKE ANOTHER APPOINTMENT)	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐ (IF RESPONDENT IS NOT AVAILABLE FOR THE MEASUREMENT, **SKIP TO 285**)	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐ (IF RESPONDENT IS NOT AVAILABLE FOR THE MEASUREMENT, **SKIP TO 285**)	DATE _____ HOURS . . . . . ☐☐ MINUTES . . . . . ☐☐ (IF RESPONDENT IS NOT AVAILABLE FOR THE MEASUREMENT, **SKIP TO 285**)
278	**ASK CONSENT FOR FASTING BLOOD SUGAR TESTING** As I mentioned yesterday, we are going to measure the level of sugar in blood. If it is not treated, high level of blood sugar may increase the risk for heart disease and stroke. For the blood glucose testing, we will need a few drops of blood from a finger. The equipment used to take the blood is clean and completely safe. It has never been used before and will be thrown away after each test. The blood will be tested for glucose immediately, and the result will be told to you right away. The result will be kept strictly confidential and will not be shared with anyone other than members of our survey team. The results of this blood glucose test will be given to you with an explanation of the meaning of your blood glucose numbers. If your blood glucose is high, we will suggest that you consult a health facility or doctor since we cannot provide any counseling, further testing or treatment during the survey. Do you have any questions about the blood glucose measurement so far? If you have any questions about the procedure at any time, please ask me. You can say yes or no to having the blood glucose measurement now. Would you allow me to proceed to take your measurement?			
279	CIRCLE THE APPROPRIATE CODE AND SIGN YOUR NAME.	GRANTED . . . . . 1 RESPONDENT REFUSED . 2 _____ (SIGN) (IF REFUSED, GO TO 286)	GRANTED . . . . . 1 RESPONDENT REFUSED . . . 2 _____ (SIGN) (IF REFUSED, GO TO 286)	GRANTED . . . . . 1 RESPONDENT REFUSED . . . . . 2 _____ (SIGN) (IF REFUSED, GO TO 286)

		ADULT 1	ADULT 2	ADULT 3
	LINE NUMBER FROM COLUMNS 19, 20, AND 22 NAME FROM COLUMN 2	LINE NUMBER ☐☐ NAME _____	LINE NUMBER ☐☐ NAME _____	LINE NUMBER ☐☐ NAME _____
280	When was the last time you had something to eat?	HOURS ☐☐ MINUTES ☐☐	HOURS ☐☐ MINUTES ☐☐	HOURS ☐☐ MINUTES ☐☐
281	When was the last time you had something to drink other than plain water?	HOURS ☐☐ MINUTES ☐☐	HOURS ☐☐ MINUTES ☐☐	HOURS ☐☐ MINUTES ☐☐
282	**PREPARE EQUIPMENT AND SUPPLIES FOR WHICH CONSENT HAS BEEN OBTAINED AND PROCEED WITH THE TEST.**			
283	RECORD TIME FOR BLOOD GLUCOSE TESTING	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐ HOURS ☐☐ MINUTES ☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐ HOURS ☐☐ MINUTES ☐☐	DAY . . . . . ☐☐ MONTH . . . . . ☐☐ YEAR ☐☐☐☐ HOURS ☐☐ MINUTES ☐☐
284	RECORD FASTING BLOOD SUGAR IN MG/DL THEN PROCEED TO Q286 IF YOUR ARE UNABLE TO MEASURE THE RESPONDENTS BLOOD GLUCOSE RECORD THE REASON IN Q285	MG/DL ☐☐☐	MG/DL ☐☐☐	MG/DL . . . . . ☐☐☐
285	RECORD REASON BLOOD GLUCOSE IS NOT MEASURED	**REASON BLOOD GLUCOSE NOT MEASURED** NOT PRESENT . . . . . 994 REFUSED . . . . . 995 OTHER 996	**REASON BLOOD GLUCOSE NOT MEASURED** NOT PRESENT . . . . . 994 REFUSED . . . . . 995 OTHER 996	**REASON BLOOD GLUCOSE NOT MEASURED** NOT PRESENT . . . . . 994 REFUSED . . . . . 995 OTHER 996
286	**GO BACK TO 230 IN NEXT COLUMN OF THIS QUESTIONNAIRE OR IN THE FIRST COLUMN OF AN ADDITIONAL QUESTIONNAIRE. IF NO MORE ADULTS ELIGIBLE FOR BIOMARKER, END MEASUREMENT.**			

BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY 2011
WOMAN'S QUESTIONNAIRE

NIPORT, MOHFW, and
Mitra and Associates

IDENTIFICATION

CLUSTER NUMBER . . . . . [ ][ ][ ]

HOUSEHOLD NUMBER . . . . . [ ][ ][ ]

NAME OF THE HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF WOMAN _____ [ ][ ]

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE	_____	_____	_____	DAY [ ][ ] MONTH [ ][ ] YEAR [ ][ ][ ][ ]
INTERVIEWER'S NAME	_____	_____	_____	INT. NUMBER [ ][ ][ ]
RESULT*	_____	_____	_____	RESULT [ ]
NEXT VISIT: DATE	_____	_____		TOTAL NUMBER OF VISITS [ ]
TIME	_____	_____		

*RESULT CODES:
1 COMPLETED
2 NOT AT HOME
3 POSTPONED
4 REFUSED
5 PARTLY COMPLETED
6 INCAPACITATED
7 OTHER _____ (SPECIFY)

NUMBER OF CHILD DEATHS 0-28 DAYS [ ]

NUMBER OF CHILD DEATHS 29 DAYS - <5 YEARS [ ]

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____ [ ][ ][ ]	NAME _____ [ ][ ][ ]	[ ][ ]	[ ][ ]
DATE _____	DATE _____		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____. I am working with NIPORT, the Ministry of Health and Family Welfare, and Mitra and Associates, a private research organization located in Dhaka. We are conducting a survey about health all over Bangladesh. The information we collect will help the government to plan health services. Your household was selected for the survey. The questions usually take about 30 to 60 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop he interview at any time.

Do you have any questions? May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . 1 ↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2 → END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	
102	In what month and year were you born?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	
103	How old were you at your last birthday? COMPARE AND CORRECT 102 AND/OR 103 IF INCONSISTENT.	AGE IN COMPLETED YEARS ☐☐	
103A	Are you now married, separated, deserted, divorced, widowed, or have you never been married?	CURRENTLY MARRIED . . . . . 1 SEPARATED . . . . . 2 DESERTED . . . . . 3 DIVORCED . . . . . 4 WIDOWED . . . . . 5 NEVER MARRIED 6	→ END
104	Have you ever attended school/madrasha?	YES . . . . . 1 NO 2	→ 108
104A	What type of school have you last attended?	SCHOOL . . . . . 1 MADRASHA 2	
105	What is the highest level of school you attended: primary, secondary, or higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 HIGHER 3	
106	What is the highest class you completed at that level? IF COMPLETED LESS THAN ONE YEAR AT THAT LEVEL, RECORD '00'.	CLASS . . . . . ☐☐	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
107	CHECK 105: PRIMARY ☐ SECONDARY OR HIGHER ☐ → 110		
108	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . . 1 ABLE TO READ ONLY PARTS OF SENTENCE . . . . . 2 ABLE TO READ WHOLE SENTENCE 3 NO CARD WITH REQUIRED LANGUAGE _____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED 5	
109	CHECK 108: CODE '2', '3' OR '4' CIRCLED ☐ CODE '1' OR '5' CIRCLED ☐ → 111		
110	Do you read a newspaper or magazine at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
111	Do you listen to the radio at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
112	Do you watch television at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
112A	Do you personally have a mobile phone?	YES . . . . . 1 NO 2	→ 113
112B	Do you have access to a mobile phone?	YES . . . . . 1 NO 2	
113	What is your religion?	ISLAM . . . . . 1 HINDUISM . . . . . 2 BUDDHISM . . . . . 3 CHRISTIANITY . . . . . 4 OTHER _____ 6 (SPECIFY)	
114	Do you belong to any of the following organizations: Grameen Bank? BRAC? BRDB? ASHA? PROSHIKA? Mother's Club? Any other organization (such as micro credit)?	YES NO GRAMEEN BANK . . . . . 1 2 BRAC . . . . . 1 2 BRDB . . . . . 1 2 ASHA . . . . . 1 2 PROSHIKA . . . . . 1 2 MOTHER'S CLUB . . . . . 1 2 OTHER _____ 1 2 (SPECIFY)	

SECTION 2. REPRODUCTION

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	Now I would like to ask about all the births you have had during your life. Have you ever given birth?	YES . . . . . 1 NO 2	→ 206
202	Do you have any sons or daughters to whom you have given birth who are now living with you?	YES . . . . . 1 NO 2	→ 204
203	How many sons live with you? And how many daughters live with you? IF NONE, RECORD '00'.	SONS AT HOME . . . . . [ ][ ] DAUGHTERS AT HOME . . . . . [ ][ ]	
204	Do you have any sons or daughters to whom you have given birth who are alive but do not live with you?	YES . . . . . 1 NO 2	→ 206
205	How many sons are alive but do not live with you? And how many daughters are alive but do not live with you? IF NONE, RECORD '00'.	SONS ELSEWHERE . . . . . [ ][ ] DAUGHTERS ELSEWHERE [ ][ ]	
206	Have you ever given birth to a boy or girl who was born alive but later died? IF NO, PROBE: Any baby who cried or showed signs of life but did not survive?	YES . . . . . 1 NO 2	→ 208
207	How many boys have died? And how many girls have died? IF NONE, RECORD '00'.	BOYS DEAD . . . . . [ ][ ] GIRLS DEAD . . . . . [ ][ ]	
208	SUM ANSWERS TO 203, 205, AND 207, AND ENTER TOTAL. IF NONE, RECORD '00'.	TOTAL BIRTHS . . . . . [ ][ ]	
209	CHECK 208: Just to make sure that I have this right: you have had in TOTAL _____ births during your life. Is that correct? YES ☐ ↓ NO ☐ → PROBE AND CORRECT 201-208 AS NECESSARY.		
210	CHECK 208: ONE OR MORE BIRTHS ☐ ↓ NO BIRTHS ☐		→ 226

211 Now I would like to record the names of all your births, whether still alive or not, starting with the first one you had.
RECORD NAMES OF ALL THE BIRTHS IN 212. RECORD TWINS AND TRIPLETS ON SEPARATE ROWS.
(IF THERE ARE MORE THAN 12 BIRTHS, USE AN ADDITIONAL QUESTIONNAIRE, STARTING WITH THE SECOND ROW).

212 What name was given to your (first/next) baby? RECORD NAME. BIRTH HISTORY NUMBER	213 Is (NAME) a boy or a girl?	214 Were any of these births twins?	215 In what month and year was (NAME) born? PROBE: When is his/her birthday?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COMPLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF ALIVE: RECORD HOUSEHOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSEHOLD).	220 IF DEAD: How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
01	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ (NEXT BIRTH)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	
02	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
03	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
04	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
05	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
06	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
07	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ (GO TO 221)	DAYS . . . 1 MONTHS 2 YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH

212 What name was given to your next baby? RECORD NAME. BIRTH HISTORY NUMBER	213 Is (NAME) a boy or a girl?	214 Were any of these births twins?	215 In what month and year was (NAME) born? PROBE: When is his/her birthday?	216 Is (NAME) still alive?	217 IF ALIVE: How old was (NAME) at his/her last birthday? RECORD AGE IN COM-PLETED YEARS.	218 IF ALIVE: Is (NAME) living with you?	219 IF ALIVE: RECORD HOUSE-HOLD LINE NUMBER OF CHILD (RECORD '00' IF CHILD NOT LISTED IN HOUSE-HOLD).	220 IF DEAD: How old was (NAME) when he/she died? IF '1 YR', PROBE: How many months old was (NAME)? RECORD DAYS IF LESS THAN 1 MONTH; MONTHS IF LESS THAN TWO YEARS; OR YEARS.	221 Were there any other live births between (NAME OF PREVIOUS BIRTH) and (NAME), including any children who died after birth?
08	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
09	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
10	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
11	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH
12	BOY 1 GIRL 2	SING 1 MULT 2	MONTH ☐☐ YEAR ☐☐☐☐	YES . . 1 NO . . 2 → 220	AGE IN YEARS ☐☐	YES . . . 1 NO 2	HOUSEHOLD LINE NUMBER ☐☐ → (GO TO 221)	DAYS . . . 1 ☐☐ MONTHS 2 ☐☐ YEARS . . 3 ☐☐	YES . . . . 1 ADD BIRTH NO . . . . . 2 NEXT BIRTH

222	Have you had any live births since the birth of (NAME OF LAST BIRTH)? IF YES, RECORD BIRTH(S) IN TABLE.	YES . . . . . 1 NO 2
223	COMPARE 208 WITH NUMBER OF BIRTHS IN HISTORY ABOVE AND MARK: NUMBERS ARE SAME ☐ ↓ NUMBERS ARE DIFFERENT ☐ → (PROBE AND RECONCILE)	
223A	CHECK 215, 216 AND 220 AND ENTER THE NUMBER OF DEATHS AT AGE DAYS, MONTHS AND 2-4 YEARS SINCE JANUARY 2006. IF NONE, RECORD '0' AND SKIP TO 224.	☐
223B	CHECK 223A. IF ONE OR MORE READ THE FOLLOWING STATEMENT: We would like to get more information on the circumstances around the deaths of young children so that the government can provide services to help reduce these deaths. We would like to come back and talk with you about your child(ren's) death. Is this okay?	☐
224	CHECK 215: ENTER THE NUMBER OF BIRTHS IN 2006 OR LATER.	NUMBER OF BIRTHS . . . . . ☐ NONE . . . . . 0 → 226

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
225	**C** FOR EACH BIRTH SINCE JANUARY 2006, ENTER 'B' IN THE MONTH OF BIRTH IN THE CALENDAR. WRITE THE NAME OF THE CHILD TO THE LEFT OF THE 'B' CODE. FOR EACH BIRTH, ASK THE NUMBER OF MONTHS THE PREGNANCY LASTED AND RECORD 'P' IN EACH OF THE PRECEDING MONTHS ACCORDING TO THE DURATION OF PREGNANCY. (NOTE: THE NUMBER OF 'P's MUST BE ONE LESS THAN THE NUMBER OF MONTHS THAT THE PREGNANCY LASTED.)		
226	Are you pregnant now?	YES . . . . . 1 NO . . . . . 2 UNSURE 8	→ 229A
227	How many months pregnant are you? RECORD NUMBER OF COMPLETED MONTHS. **C** ENTER 'P's IN THE CALENDAR, BEGINNING WITH THE MONTH OF INTERVIEW AND FOR THE TOTAL NUMBER OF COMPLETED MONTHS.	MONTHS . . . . . [ ][ ]	
228	When you got pregnant, did you want to get pregnant at that time?	YES . . . . . 1 NO 2	→ 229A
229	Did you want to have a baby later on or did you not want any (more) children?	LATER . . . . . 1 NO MORE 2	
229A	Have you ever heard of menstrual regulation (MR)?	YES . . . . . 1 NO 2	→ 230
229B	Have you ever used MR?	YES . . . . . 1 NO 2	→ 230
229C	In the last three years did you use MR?	YES . . . . . 1 NO 2	→ 230
229D	Where did you use it the last time?	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . 11 SPECIALISED GOVT.HOSPITAL HOSPITAL _____ (SPECIFY) 12 DISTRICT HOSPITAL . . . . . 13 MCWC . . . . . 14 UPAZILLA HEALTH COMPLEX . . . 15 H& FWC . . . . . 17 SAT. CLINIC/EPI OUTREACH . . . . . 18 COMMUNITY CLINIC . . . . . 19 GOVT. FIELD WORKER (FWA) 20 OTHER PUBLIC SECTOR _____ (SPECIFY) 16 NGO SECTOR NGO STATIC CLINIC . . . . . 21 NGO SATELLITE CLINIC . . . . . 22 NGO DEPO HOLDER . . . . . 23 NGO FIELDWORKER . . . . . 24 OTHER NGO SECTOR _____ (SPECIFY) 26 PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . 31 QUALIFIED DOCTOR'S CHAMBER . 32 NON-QUALIFIED DOCTOR'S CHAMBER . . . . . 33 PHARMACY/DRUG STORE . . . . . 34 PRIVATE MEDICAL COLLEGE HOSPITAL _____ (SPECIFY) 35 OTHER PRIVATE MEDICAL SECTOR _____ (SPECIFY) 36 OTHER _____ (SPECIFY) 96 DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
230	Have you ever had a pregnancy that miscarried, ended using menstrual regulation, was aborted, or ended in a stillbirth?	YES . . . . . 1 NO 2	→ 238
231	When did the last such pregnancy end?	MONTH . . . . . [ ][ ] YEAR . . . . . [ ][ ][ ][ ]	
232	CHECK 231: LAST PREGNANCY ENDED IN JAN. 2006 OR LATER ↓ LAST PREGNANCY ENDED BEFORE JAN. 2006 →		238
233	How many months pregnant were you when the last such pregnancy ended? **C** RECORD NUMBER OF COMPLETED MONTHS. ENTER 'T' IN THE CALENDAR IN THE MONTH THAT THE PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.	MONTHS . . . . . [ ][ ]	
234	Since January 2006, have you had any other pregnancies that did not result in a live birth?	YES . . . . . 1 NO 2	→ 236
235	ASK THE DATE AND THE DURATION OF PREGNANCY FOR EACH EARLIER NON-LIVE BIRTH PREGNANCY BACK TO JANUARY 2006 **C** ENTER 'T' IN THE CALENDAR IN THE MONTH THAT EACH PREGNANCY TERMINATED AND 'P' FOR THE REMAINING NUMBER OF COMPLETED MONTHS.		
236	Did you have any miscarriages, abortions or stillbirths that ended before 2006?	YES . . . . . 1 NO 2	→ 238
237	When did the last such pregnancy that terminated before 2006 end?	MONTH . . . . . [ ][ ] YEAR . . . . . [ ][ ][ ][ ]	
238	When did your last menstrual period start? _____ (DATE, IF GIVEN)	DAYS AGO . . . . . 1 [ ][ ] WEEKS AGO . . . . . 2 [ ][ ] MONTHS AGO . . . . . 3 [ ][ ] YEARS AGO . . . . . 4 [ ][ ] IN MENOPAUSE/ HAS HAD HYSTERECTOMY . . . 994 BEFORE LAST BIRTH . . . . . 995 NEVER MENSTRUATED 996	

SECTION 3. CONTRACEPTION

302	CHECK 103A: CURRENTLY MARRIED ☐ ↓ SEPARATED/DESERTED DIVORCED/WIDOWED ☐ → 311		
302A	CHECK 226: NOT PREGNANT OR UNSURE ☐ ↓ PREGNANT ☐ → 311		
303	Are you currently doing something or using any method to delay or avoid getting pregnant?	YES . . . . . 1 NO . . . . . 2 → 311	
304	Which method are you using? CIRCLE ALL MENTIONED. IF MORE THAN ONE METHOD MENTIONED, FOLLOW SKIP INSTRUCTION FOR HIGHEST METHOD IN LIST.	FEMALE STERILIZATION . . . . . A MALE STERILIZATION . . . . . B → 307 IUD . . . . . C INJECTABLES . . . . . D IMPLANTS . . . . . E → 308A PILL . . . . . F CONDOM . . . . . G → 306 SAFE PERIOD/PERIODIC ABST. . . . L WITHDRAWAL . . . . . M → 308A OTHER _____ X SPECIFY	
305	May I see the brand name of the pills you are using? RECORD NAME OF BRAND IF PACKAGE SEEN. IF PACKAGE NOT SEEN SHOW THE BRAND CHART. Please tell me among these which brand of pills are you using? WRITE THE BRAND NAME.	PACKAGE/CHART SEEN . . . . . 1 BRAND NAME _____ ☐☐ (SPECIFY) DON'T KNOW 8	→ 306A
306	May I see the brand name of the condom you are using? RECORD NAME OF BRAND IF PACKAGE SEEN. IF PACKAGE NOT SEEN SHOW THE BRAND CHART. Please tell me among these which brand of condom are you using? WRITE THE BRAND NAME.	PACKAGE/CHART SEEN . . . . . 1 BRAND NAME _____ ☐☐ (SPECIFY) DON'T KNOW 8	
306A	Who obtained the (pills/condoms) the last time you got them?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 SON/DAUGHTER . . . . . 3 OTHER RELATIVE . . . . . 4 OTHER _____ 6 (SPECIFY)	→ 308A

307	In what facility did the sterilization take place? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . 11 SPECIALISED GOVT.HOSPITAL HOSPITAL _____ (SPECIFY) 12 DISTRICT HOSPITAL . . . . . 13 MCWC . . . . . 14 UPAZILLA HEALTH COMPLEX . . . 15 H& FWC . . . . . 17 OTHER PUBLIC SECTOR _____ (SPECIFY) 16 NGO SECTOR NGO STATIC CLINIC . . . . . 21 OTHER NGO SECTOR _____ (SPECIFY) 26 PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . 31 QUALIFIED DOCTOR'S CHAMBER 32 PRIVATE MEDICAL COLLEGE HOSPITAL _____ (SPECIFY) 34 OTHER PRIVATE MEDICAL SECTOR _____ (SPECIFY) 36 OTHER _____ (SPECIFY) 96 DON'T KNOW 98	
308	In what month and year was the sterilization performed?	
308A	Since what month and year have you been using (CURRENT METHOD) without stopping? PROBE: For how long have you been using (CURRENT METHOD) now without stopping?	MONTH . . . . . ☐☐ YEAR . . . . . ☐☐☐☐
309	CHECK 308/308A, 215 AND 231: ANY BIRTH OR PREGNANCY TERMINATION AFTER MONTH AND YEAR OF START OF USE OF CONTRACEPTION IN 308/308A YES ☐ → GO BACK TO 308/308A, PROBE AND RECORD MONTH AND YEAR AT START OF CONTINUOUS USE OF CURRENT METHOD (MUST BE AFTER LAST BIRTH OR PREGNANCY TERMINATION). NO ☐	
310	CHECK 308/308A: YEAR IS 2006 OR LATER ☐ **C** ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND IN EACH MONTH BACK TO THE DATE STARTED USING. YEAR IS 2005 OR EARLIER ☐ **C** ENTER CODE FOR METHOD USED IN MONTH OF INTERVIEW IN THE CALENDAR AND EACH MONTH BACK TO JANUARY 2006. THEN SKIP TO → 314	

311 I would like to ask you some questions about the times you or your partner may have used a method to avoid getting pregnant during the last few years.

USE CALENDAR TO PROBE FOR EARLIER PERIODS OF USE AND NONUSE, STARTING WITH MOST RECENT USE, BACK TO JANUARY 2006.
USE NAMES OF CHILDREN, DATES OF BIRTH, AND PERIODS OF PREGNANCY AS REFERENCE POINTS.

C **IN COLUMN 1**, ENTER METHOD USE CODE OR '0' FOR NONUSE IN EACH BLANK MONTH.

ILLUSTRATIVE QUESTIONS:
* When was the last time you used a method? Which method was that?
* When did you start using that method? How long after the birth of (NAME)?
* How long did you use the method then?

IN COLUMN 2, ENTER CODES FOR DISCONTINUATION NEXT TO THE LAST MONTH OF USE. NUMBER OF CODES IN COLUMN 2 MUST BE SAME AS NUMBER OF INTERRUPTIONS OF METHOD USE IN COLUMN 1.

ASK WHY SHE STOPPED USING THE METHOD. IF A PREGNANCY FOLLOWED, ASK WHETHER SHE BECAME PREGNANT UNINTENTIONALLY WHILE USING THE METHOD OR DELIBERATELY STOPPED TO GET PREGNANT.

ILLUSTRATIVE QUESTIONS:
* Why did you stop using the (METHOD)? Did you become pregnant while using (METHOD), or did you stop to get pregnant, or did you stop for some other reason?
* IF DELIBERATELY STOPPED TO BECOME PREGNANT, ASK: How many months did it take you to get pregnant after you stopped using (METHOD)? AND ENTER '0' IN EACH SUCH MONTH IN COLUMN 1.

312 CHECK THE CALENDAR FOR USE OF ANY CONTRACEPTIVE METHOD IN ANY MONTH

NO METHOD USED → ANY METHOD USED → 314

313 Have you ever used anything or tried in any way to delay or avoid getting pregnant?

YES	1	
NO	2	→ 324

314 CHECK 304:

CIRCLE METHOD CODE:

IF MORE THAN ONE METHOD CODE CIRCLED IN 304, CIRCLE CODE FOR HIGHEST METHOD IN LIST.

NO CODE CIRCLED	00	→ 324
FEMALE STERILIZATION	01	→ 325A
MALE STERILIZATION	02	
IUD	03	
INJECTABLES	04	
IMPLANTS	05	
PILL	06	
CONDOM	07	
SAFE PERIOD	12	→ 324
WITHDRAWAL	13	
OTHER MODERN METHOD	96	

323	Where did you obtain (CURRENT METHOD) the last time? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . 11 SPECIALISED GOVT.HOSPITAL HOSPITAL _____ 12 (SPECIFY) DISTRICT HOSPITAL . . . . . 13 MCWC . . . . . 14 UPAZILLA HEALTH COMPLEX . . . 15 H& FWC . . . . . 17 SAT. CLINIC/EPI OUTREACH . . . . . 18 COMMUNITY CLINIC . . . . . 19 GOVT. FIELD WORKER (FWA) 20 OTHER PUBLIC SECTOR _____ 16 (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . 21 NGO SATELLITE CLINIC . . . . . 22 NGO DEPO HOLDER . . . . . 23 NGO FIELD WORKER . . . . . 24 OTHER NGO SECTOR _____ 26 (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . 31 QUALIFIED DOCTOR'S CHAMBER . 32 NON-QUALIFIED DOCTOR'S CHAMBER . . . . . 33 PHARMACY . . . . . 34 PRIVATE MEDICAL COLLEGE HOSPITAL _____ 35 (SPECIFY) OTHER PRIVATE MEDICAL SECTOR _____ 36 (SPECIFY) OTHER SOURCE GROCERY . . . . . 41 FRIENDS/RELATIVES . . . . . 42 OTHER _____ 96 (SPECIFY)	→ 325A
324	Do you know of a place where you can obtain a method of family planning?	YES . . . . . 1 NO 2	→ 325A

325	Where is that? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . A SPECIALISED GOVT.HOSPITAL HOSPITAL _____ B (SPECIFY) DISTRICT HOSPITAL . . . . . C MCWC . . . . . D UPAZILLA HEALTH COMPLEX . . . E H& FWC . . . . . F SAT. CLINIC/EPI OUTREACH . . . . . G COMMUNITY CLINIC . . . . . H GOVT. FIELD WORKER (FWA) . . . I OTHER PUBLIC SECTOR _____ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . K NGO SATELLITE CLINIC . . . . . L NGO DEPO HOLDER . . . . . M NGO FIELD WORKER . . . . . N OTHER NGO SECTOR _____ O (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC . . . . . P QUALIFIED DOCTOR'S CHAMBER . Q NON-QUALIFIED DOCTOR'S CHAMBER . . . . . R PHARMACY . . . . . S PRIVATE MEDICAL COLLEGE HOSPITAL _____ T (SPECIFY) OTHER PRIVATE MEDICAL SECTOR _____ U (SPECIFY) OTHER SOURCE GROCERY . . . . . V FRIENDS/RELATIVES . . . . . W OTHER _____ X (SPECIFY)	
325A	In some places, there is a clinic set up for a day or part of a day in someone's house or in a school. During the past three months, was there any such clinic in this village or mohalla?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 325D
325B	Did you visit such temporary health clinic in the past three months?	YES . . . . . 1 NO 2	→325D

325C	What services did you receive?	FAMILY PLANNING METHODS . . . . . A IMMUNIZATIONS . . . . . B CHILD GROWTH MONITORING . . . . . C TETANUS INJECTION . . . . . D ANTENATAL CARE . . . . . E VITAMIN A FOR CHILDREN . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
325D	Are you aware of any community clinic in your area?	YES . . . . . 1 NO 2	→326
325E	Did you visit the community clinic in the past three months?	YES . . . . . 1 NO 2	→326
325F	What services did you receive?	FAMILY PLANNING METHODS . . . . . A IMMUNIZATIONS . . . . . B CHILD GROWTH MONITORING . . . . . C TETANUS INJECTION . . . . . D ANTENATAL CARE . . . . . E VITAMIN A FOR CHILDREN . . . . . F OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
326	In the last 6 months, were you visited by a fieldworker who talked to you about family planning or gave you a family planning method?	TALKED . . . . . 1 GAVE FAMILY PLANNING METHOD . 2 TALKED AND GAVE METHOD . . . . . 3 NO 4	→ 401
326A	Who visited you to talk about family planning or to give you family planning methods? Name _____ Anyone else? Name _____	GOVT. FP WORKER . . . . . A GOVT. HEALTH WORKER . . . . . B NGO WORKER . . . . . C OTHER _____ X (SPECIFY)	
326B	During the last six months, how many times did a health worker or workers visit you to talk about family planning or to give you family planning methods?	NUMBER OF TIMES . . . . . [ ][ ] DON'T KNOW 98	
326C	When was the last time you were visited by a fieldworker who talked to you about family planning? IF MORE THAN ONE WORKER VISITED: When did the last worker visit you? IF LESS THAN ONE MONTH AGO WRITE '0'	MONTHS AGO . . . . . [ ] DON'T KNOW 8	

SECTION 4. PREGNANCY AND POSTNATAL CARE

401	CHECK 224: ONE OR MORE BIRTHS IN 2006 OR LATER ☐ ↓ NO BIRTHS IN 2006 OR LATER ☐ → 601			
402	CHECK 215: ENTER IN THE TABLE THE BIRTH HISTORY NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2006 OR LATER. ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH. (IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES). Now I would like to ask some questions about your children born in the last five years. (We will talk about each separately.)			
403	BIRTH HISTORY NUMBER FROM 212 IN BIRTH HISTORY	LAST BIRTH BIRTH HISTORY NUMBER ☐☐	NEXT-TO-LAST BIRTH BIRTH HISTORY NUMBER ☐☐	SECOND-FROM-LAST BIRTH BIRTH HISTORY NUMBER ☐☐
404	FROM 212 AND 216	NAME _____ LIVING ☐ DEAD ☐	NAME _____ LIVING ☐ DEAD ☐	NAME _____ LIVING ☐ DEAD ☐
405	When you got pregnant with (NAME), did you want to get pregnant at that time?	YES . . . . . 1 (SKIP TO 408) NO 2	YES . . . . . 1 (SKIP TO 430) NO 2	YES . . . . . 1 (SKIP TO 430) NO 2
406	Did you want to have a baby later on, or did you not want any (more) children?	LATER . . . . . 1 NO MORE . . . . . 2 (SKIP TO 408)	LATER . . . . . 1 NO MORE . . . . . 2 (SKIP TO 430)	LATER . . . . . 1 NO MORE . . . . . 2 (SKIP TO 430)
407	How much longer did you want to wait?	MONTHS . .1 ☐☐ YEARS . . 2 ☐☐ DON'T KNOW 998	MONTHS . .1 ☐☐ YEARS . . 2 ☐☐ DON'T KNOW . . . 998	MONTHS . .1 ☐☐ YEARS . . 2 ☐☐ DON'T KNOW . . . 998
408	Did you see anyone for antenatal care for this pregnancy?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 415)		
409	Whom did you see? Anyone else? PROBE TO IDENTIFY EACH TYPE OF PERSON AND RECORD ALL MENTIONED. IF `D' MENTIONED WRITE THE NAME OF THE CSBA. NAME _____ NAME _____	HEALTH PERSONNEL QUAL. DOCTOR . A NURSE/MIDWIFE/ PARAMEDIC . B FAMILY WELFARE VISITOR . . . . . C COMMUNITY SKILLED BIRTH ATTENDANT . D MA/SACMO . . . . . E HEALTH ASST. . F FAMILY WELFARE ASSISTANT . . . . G OTHER PERSON TRAINED TBA . . . . H UNTRAINED TBA . I UNQUALIFIED DOCTOR . . . . . J NGO WORKER . . . . K OTHER _____ X (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
410	Where did you receive antenatal care for this pregnancy? Anywhere else? PROBE TO IDENTIFY EACH TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	HOME HOME . . . . . A PUBLIC SECTOR HOSP./MEDICAL COLLEGE . . . . B SPE. MEDICAL COL._____ C (SPECIFY) DIST. HOSP. . . . . D MCWC . . . . . E UPAZILLA HEALTH COMPLEX . . . . F H & FAMILY WELFARE CENTRE . . . . . G SAT. CLINIC/EPI OUTREACH . H COMM. CLINIC . . . . I OTHER _____ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . K NGO SAT CLINIC . L OTHER _____ M (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . N QUAL.DOCTOR . . . . O TRAD. DOCTOR ... P PHARMACY . . . . . Q PVT. MED COLL. HOSP. _____ R (SPECIFY) OTHER _____ X (SPECIFY)	
412	How many times did you receive antenatal care during this pregnancy?	NUMBER OF TIMES ☐☐ DON'T KNOW 98		
414	During (any of) your antenatal care visit(s), were you told about things to look out for that might suggest problems with the pregnancy?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
415	During this pregnancy, were you given an injection in the arm to prevent the baby from getting tetanus, that is, convulsions after birth?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 418) DON'T KNOW 8		
416	During this pregnancy, how many times did you get a tetanus injection?	TIMES . . . . . ☐ DON'T KNOW 8		
417	CHECK 416:	2 OR MORE TIMES ☐ OTHER ☐ (SKIP TO 430)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ______	NEXT-TO-LAST BIRTH NAME ______	SECOND-FROM-LAST BIRTH NAME ______
418	At any time before this pregnancy, did you receive any tetanus injections?	YES . . . . 1 NO . . . . 2 (SKIP TO 430) DON'T KNOW 8		
419	Before this pregnancy, how many times did you receive a tetanus injection? IF 7 OR MORE TIMES, RECORD '7'.	TIMES . . . . DON'T KNOW 8		
420	How many years ago did you receive the last tetanus injection before this pregnancy?	YEARS AGO		
430	When (NAME) was born, was he/she very large, larger than average, average, smaller than average, or very small?	VERY LARGE . . . . . . 1 LARGER THAN AVERAGE . . . . . . 2 AVERAGE . . . . 3 SMALLER THAN AVERAGE . . . . . . 4 VERY SMALL . . . . . . 5 DON'T KNOW 8	VERY LARGE . . . . . . 1 LARGER THAN AVERAGE . . . . . . 2 AVERAGE . . . . 3 SMALLER THAN AVERAGE . . . . . . 4 VERY SMALL . . . . . . 5 DON'T KNOW 8	VERY LARGE . . . . . . 1 LARGER THAN AVERAGE . . . . . . 2 AVERAGE . . . . 3 SMALLER THAN AVERAGE . . . . . . 4 VERY SMALL . . . . . . 5 DON'T KNOW 8
433	Who assisted with the delivery of (NAME)? Anyone else? PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED. IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT AT THE DELIVERY. IF `D' MENTIONED WRITE THE NAME OF THE CSBA. NAME ______ NAME ______	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR . . . . . . C COMMUNITY SKILLED BIRTH ATTENDANT ... D MA/SACMO . . . . . . E HEALTH ASST. ... F FAMILY WELFARE ASSISTANT . . . . G OTHER PERSON TRAINED TBA . . . . H UNTRAINED TBA ... I UNQUALIFIED DOCTOR . . . . . . J RELATIVES . . . . . . K NEIGHBORS/FRIEND L NGO WORKER . . . . M OTHER ______ X (SPECIFY) NO ONE ASSISTED ... Y	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR . . . . . . C COMMUNITY SKILLED BIRTH ATTENDANT ... D MA/SACMO . . . . . . E HEALTH ASST. ... F FAMILY WELFARE ASSISTANT . . . G OTHER PERSON TRAINED TBA . . . H UNTRAINED TBA ... I UNQUALIFIED DOCTOR . . . . . . J RELATIVES . . . . . . K NEIGHBORS/FRIEN L NGO WORKER . . . M OTHER ______ X (SPECIFY) NO ONE ASSISTED ... Y	HEALTH PERSONNEL QUAL. DOCTOR ... A NURSE/MIDWIFE/ PARAMEDIC ... B FAMILY WELFARE VISITOR . . . . . . C COMMUNITY SKILLED BIRTH ATTENDANT ... D MA/SACMO . . . . . . E HEALTH ASST. ... F FAMILY WELFARE ASSISTANT . . . G OTHER PERSON TRAINED TBA . . . H UNTRAINED TBA ... I UNQUALIFIED DOCTOR . . . . . . J RELATIVES . . . . . . K NEIGHBORS/FRIEN L NGO WORKER . . . M OTHER ______ X (SPECIFY) NO ONE ASSISTED ... Y

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
434	Where did you give birth to (NAME)? PROBE TO IDENTIFY THE TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. (NAME OF PLACE)	HOME HOME . . . . 11 (SKIP TO 435A) ←┘ PUBLIC SECTOR HOSP./MEDICAL COLLEGE . . . . 21 SPE. MED COL _____ 22 (SPECIFY) DIST. HOSP. . . . . 23 MCWC . . . . . 24 UPAZILLA HEALTH COMPLEX . . . . 25 H & FAMILY WELFARE CENTRE . . . . . 26 NGO SECTOR NGO STATIC CLINIC . . . . . 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 41 PVT. MED COLL. HOSP. _____ 42 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 435A)	HOME HOME . . . 11 (SKIP TO 448) ←┘ PUBLIC SECTOR HOSP./MEDICAL COLLEGE . . . 21 SPE. MED COL _____ 22 (SPECIFY) DIST. HOSP. . . . 23 MCWC . . . . . 24 UPAZILLA HEALTH COMPLEX . . . 25 H & FAMILY WELFARE CENTRE . . . . . 26 NGO SECTOR NGO STATIC CLINIC . . . . . 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 41 PVT. MED COLL. HOSP. _____ 42 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 448)	HOME HOME . . . 11 (SKIP TO 448) ←┘ PUBLIC SECTOR HOSP./MEDICAL COLLEGE . . . 21 SPE. MED COL _____ 22 (SPECIFY) DIST. HOSP. . . . 23 MCWC . . . . . 24 UPAZILLA HEALTH COMPLEX . . . 25 H & FAMILY WELFARE CENTRE . . . . . 26 NGO SECTOR NGO STATIC CLINIC . . . . . 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 41 PVT. MED COLL. HOSP. _____ 42 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 448)
434A	How long after (NAME) was delivered did you stay there? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 DAYS 2 WEEKS 3 DON'T KNOW 998		
435	Was (NAME) delivered by caesarean, that is, did they cut your belly open to take the baby out?	YES . . . . . 1 (SKIP TO 436) ←┘ NO 2	YES . . . . . 1 (SKIP TO 448) ←┘ NO 2	YES . . . . . 1 (SKIP TO 448) ←┘ NO 2
435A	CHECK 215:	LAST BIRTH IN JAN 2008 OR LATER LAST BIRTH BEFORE 2008 JAN (SKIP TO 438)		
435B	CHECK 434:	DELIVERED AT HOME (CODE 11 CIRCLED) DELIVERED AT HEALTH FACILITY (CIRCLED ANY CODE 21 TO 96) (SKIP TO 435F)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
	Now I would like to ask you some specific questions about what was done with (NAME) during and immediately following delivery.			
435C	Was a Clean Delivery Kit used during the delivery of (NAME)? SHOW THE DELIVERY KIT	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
435D	What was used to cut the cord?	BLADE FROM DELIVERY KIT . . . . 1 BLADE FROM OTHER SOURCE . 2 BAMBOO STRIPS . . . . 3 SCISSOR . . . . . 4 OTHER _____ 6 (SPECIFY) CORD WAS NOT CUT 7 (SKIP TO 435F) DON'T KNOW 8		
435E	Was the _____ (INSTRUMENT IN 435D) boiled before the cord was cut?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
435F	Was anything applied to the cord immediately after cutting and tying it?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 435H) DON'T KNOW 8		
435G	What was applied to the cord after it was cut and tied? Anything else?	ANTIBIOTICS (POWDER/OINTM) . A ANTISEPTIC (DETOL/SAVLON HEXISOL) . . . . . B SPIRIT/ALCOHOL . . . . C MUSTARD OIL WITH GARLIC . . . . . D CHEWED RICE . . . . E TUMERIC JUICE/ POWDER . . . . . F GINGER JUICE . . . . G SHIDUR . . . . . H BORIC POWDER . . . . I GENTIAN VIOLET (BLUE INK) . . . . . J TALCOM POWDER . K OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z		
435H	How long after delivery was (NAME) bathed for the first time? IF LESS THAN ONE DAY, RECORD IN HOURS IF LESS THAN ONE WEEK, RECORD IN DAYS	HOURS 1 DAYS 2 WEEKS 3 NOT BATHED . . . . . 995 DON'T KNOW 998		
435I	How long after birth was (NAME) dried ?	<5 minutes . . . . . 1 5-9 minutes . . . . . 2 10+ minutes . . . . . 3 Not dried . . . . . 4 Don't know 8		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
435J	How long after birth was (NAME) wrapped?	<5 minutes . . . . . 1 5-9 minutes . . . . . 2 10+ minutes . . . . . 3 No wrapped . . . . . 4 Don't know 8		
435K	CHECK 434:	DELIVERED AT HOME (CODE 11 CIRCLED) → (SKIP TO 438) DELIVERED AT HEALTH FACILITY (CODE 21 TO 96) →		
436	I would like to talk to you about checks on your health after delivery, for example, someone asking you questions about your health or examining you. Did anyone check on your health while you were still in the facility?	YES . . . . . 1 (SKIP TO 439) ← NO 2		
437	Did anyone check on your health after you left the facility?	YES . . . . . 1 (SKIP TO 439) ← NO . . . . . 2 (SKIP TO 442) ←		
438	I would like to talk to you about checks on your health after delivery, for example, someone asking you questions about your health or examining you. Did anyone check on your health after you gave birth do (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 442) ←		
439	Who checked on your health at that time? PROBE FOR MOST QUALIFIED PERSON. IF `14' MENTIONED WRITE THE NAME OF THE CSBA. NAME _____	HEALTH PERSONNEL QUAL. DOCTOR . 11 NURSE/MIDWIFE/ PARAMEDIC . 12 FAMILY WELFARE VISITOR . . . . . 13 COMMUNITY SKILLED BIRTH ATTENDANT . 14 MA/SACMO . . . . . 15 HEALTH ASST. ... 16 FAMILY WELFARE ASSISTANT . . . . 17 OTHER PERSON TRAINED TBA . . . . 21 UNTRAINED TBA ... 22 UNQUALIFIED DOCTOR . . . . . 23 NGO WORKER . . . . 31 OTHER _____ 96 (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
439A	Where did this first check take place?	HOME HOME . . . . 11 (SKIP TO 442) ← PUBLIC SECTOR HOSP./MEDICAL COLLEGE . . . . 21 SPE. MED COL _____ 22 (SPECIFY) DIST. HOSP. . . . . 23 MCWC . . . . . 24 UPAZILLA HEALTH COMPLEX . . . . 25 H & FAMILY WELFARE CENTRE . . . . . 27 SAT. CLINIC/EPI OUTREACH . . . . 28 COMM. CLINIC . . . . 29 OTHER _____ 26 (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . 31 NGO SAT CLINIC . 32 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . . 41 QUALIFIED DOC. CHAMBER . . . . 42 UNQUALIFIED DOC. CHAMBER . . . . 43 PHARMACY . . . . . 44 PVT. MED COLL. HOSP. _____ 45 (SPECIFY) OTHER _____ 96 (SPECIFY) (SKIP TO 442) ←		
440	How long after delivery did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HOURS 1 ☐☐ DAYS 2 ☐☐ WEEKS 3 ☐☐ DON'T KNOW 998		
442	In the two months after (NAME) was born, did any health care provider or a traditional birth attendant check on his/her health?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 446) ← DON'T KNOW 8		
443	How many hours, days or weeks after the birth of (NAME) did the first check take place? IF LESS THAN ONE DAY, RECORD HOURS. IF LESS THAN ONE WEEK, RECORD DAYS.	HRS AFTER BIRTH . . 1 ☐☐ DAYS AFTER BIRTH . . 2 ☐☐ WKS AFTER BIRTH . . 3 ☐☐ DON'T KNOW 998		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
444	Who checked on (NAME)'s health at that time? PROBE FOR MOST QUALIFIED PERSON. IF `14' MENTIONED WRITE THE NAME OF THE CSBA. NAME _____	HEALTH PERSONNEL QUAL. DOCTOR . 11 NURSE/MIDWIFE/ PARAMEDIC .... 12 FAMILY WELFARE VISITOR ..... 13 COMMUNITY SKILLED BIRTH ATTENDANT .... 14 MA/SACMO ..... 15 HEALTH ASST. .... 16 FAMILY WELFARE ASSISTANT .... 17 OTHER PERSON TRAINED TBA .... 21 UNTRAINED TBA . 22 UNQUALIFIED DOCTOR ..... 23 NGO WORKER .... 31 OTHER _____ 96 (SPECIFY)		
445	Where did this first check of (NAME) take place? PROBE TO IDENTIFY THE TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE)	HOME YOUR HOME .... 11 PUBLIC SECTOR HOSP./MEDICAL COLLEGE .... 21 SPE. MED COL _____ 22 (SPECIFY) DIST. HOSP. .... 23 MCWC ..... 24 UPAZILLA HEALTH COMPLEX .... 25 H & FAMILY WELFARE CENTRE ..... 27 SAT. CLINIC/EPI OUTREACH . 28 COMM. CLINIC .... 29 OTHER _____ 26 (SPECIFY) NGO SECTOR NGO STATIC CLINIC ..... 31 NGO SAT CLINIC . 32 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC ..... 41 QUALIFIED DOC. CHAMBER .... 42 UNQUALIFIED DOC. CHAMBER .... 43 PHARMACY ..... 44 PVT. MED COLL. HOSP. _____ 45 (SPECIFY) OTHER _____ 96 (SPECIFY)		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
446	In the first two months after delivery, did you receive a vitamin A dose like (this/any of these)? SHOW COMMON TYPES OF AMPULES/CAPSULES/SYRUPS.	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8		
447	Has your menstrual period returned since the birth of (NAME)?	YES . . . . . 1 (SKIP TO 449) ← NO . . . . . 2 (SKIP TO 450) ←		
448	Did your period return between the birth of (NAME) and your next pregnancy?		YES . . . . . 1 NO . . . . . 2 (SKIP TO 452) ←	YES . . . . . 1 NO . . . . . 2 (SKIP TO 452) ←
449	For how many months after the birth of (NAME) did you not have a period?	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98
450	CHECK 226: IS RESPONDENT PREGNANT?	NOT PREG-NANT → ☐ PREGNANT OR UNSURE → ☐ (SKIP TO 452)		
451	Have you had sexual intercourse since the birth of (NAME)?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 453) ←		
452	For how many months after the birth of (NAME) did you not have sexual intercourse?	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98	MONTHS . . . ☐☐ DON'T KNOW 98
453	Did you ever breastfeed (NAME)?	YES . . . . . 1 (SKIP TO 455) ← NO 2	YES . . . . . 1 NO 2	YES . . . . . 1 NO 2
454	CHECK 404: IS CHILD LIVING?	LIVING → ☐ (SKIP TO 460) DEAD → ☐ (GO BACK TO 405 IN NEXT COLUMN; OR IF NO MORE BIRTHS, GO TO 501)		
455	How long after birth did you first put (NAME) to the breast? IF LESS THAN 1 HOUR, RECORD '00' HOURS. IF LESS THAN 24 HOURS, RECORD HOURS. OTHERWISE, RECORD DAYS.	IMMEDIATELY . . . . 000 HOURS 1 ☐☐ DAYS 2 ☐☐		
456	In the first three days after delivery, was (NAME) given anything to drink other than breast milk?	YES . . . . . 1 NO . . . . . 2 (SKIP TO 458) ←		

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME _____	NEXT-TO-LAST BIRTH NAME _____	SECOND-FROM-LAST BIRTH NAME _____
457	What was (NAME) given to drink? Anything else? RECORD ALL LIQUIDS MENTIONED.	MILK (OTHER THAN BREAST MILK) A PLAIN WATER . . . . B SUGAR OR GLUCOSE WATER . . . . C GRIPE WATER . . . . D SUGAR-SALT-WATER SOLUTION . . . . . E FRUIT JUICE . . . . . F INFANT FORMULA G TEA/INFUSIONS . . . . H COFFEE . . . . . I HONEY . . . . . J OTHER _____ X (SPECIFY)		
458	CHECK 404: IS CHILD LIVING?	LIVING ☐ DEAD ☐ → (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501)	LIVING ☐ DEAD ☐ → (GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501)	LIVING ☐ DEAD ☐ → (GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501)
459	Are you still breastfeeding (NAME)?	YES . . . . . 1 (SKIP TO 460) ← NO 2		
459A	For how many months did you breastfeed (NAME)?	MONTHS . . . ☐☐ DON'T KNOW 98		
460	Did (NAME) drink anything from a bottle with a nipple yesterday or last night?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8
461		GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 501.	GO BACK TO 405 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 501.

SECTION 5. CHILD IMMUNIZATION, HEALTH AND NUTRITION

501 ENTER IN THE TABLE THE BIRTH HISTORY NUMBER, NAME, AND SURVIVAL STATUS OF EACH BIRTH IN 2006 OR LATER.
ASK THE QUESTIONS ABOUT ALL OF THESE BIRTHS. BEGIN WITH THE LAST BIRTH.
(IF THERE ARE MORE THAN 3 BIRTHS, USE LAST 2 COLUMNS OF ADDITIONAL QUESTIONNAIRES).

		LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
502	BIRTH HISTORY NUMBER FROM 212 IN BIRTH HISTORY	BIRTH HISTORY NUMBER	BIRTH HISTORY NUMBER	BIRTH HISTORY NUMBER . . . . .
503	FROM 212 AND 216	NAME _____ LIVING / DEAD → (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 557)	NAME _____ LIVING / DEAD → (GO TO 503 IN NEXT COLUMN OR, IF NO MORE BIRTHS, GO TO 557)	NAME _____ LIVING / DEAD → (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE, OR IF NO MORE BIRTHS, GO TO 557)
504	Do you have a card where (NAME)'s vaccinations are written down? IF YES: May I see it please?	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 509) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 509) NO CARD 3	YES, SEEN . . . . . 1 (SKIP TO 506) YES, NOT SEEN . . . . . 2 (SKIP TO 509) NO CARD 3
505	Did you ever have a vaccination card for (NAME)?	YES . . . . . 1 (SKIP TO 509) NO 2	YES . . . . . 1 (SKIP TO 509) NO 2	YES . . . . . 1 (SKIP TO 509) NO 2

506 (1) COPY DATES FROM THE CARD.
(2) WRITE '44' IN 'DAY' COLUMN IF CARD SHOWS THAT A DOSE WAS GIVEN, BUT NO DATE IS RECORDED.
(3) IF HEP-B IS GIVEN IN COMBINATION WITH DPT, RECORD SEPARATELY FOR BOTH DPT AND HEP-B.

506A

	LAST BIRTH DAY	LAST BIRTH MONTH	LAST BIRTH YEAR		NEXT-TO-LAST BIRTH DAY	NEXT-TO-LAST BIRTH MONTH	NEXT-TO-LAST BIRTH YEAR		SECOND-FROM-LAST BIRTH DAY	SECOND-FROM-LAST BIRTH MONTH	SECOND-FROM-LAST BIRTH YEAR
DATE OF BIRTH											
BCG				BCG				BCG			
POLIO 0 (POLIO GIVEN AT BIRTH)				P0				P0			
POLIO 1				P1				P1			
POLIO 2				P2				P2			
POLIO 3				P3				P3			
DPT 1				D1				D1			
DPT 2				D2				D2			
DPT 3				D3				D3			
HEP. B1				HE1				HE1			
HEP. B2				HE2				HE2			
HEP. B3				HE3				HE3			
MEASLES				MEA				MEA			
VITAMIN A				VIT A				VIT A			

		LAST BIRTH	NEXT-TO-LAST BIRTH	SECOND-FROM-LAST BIRTH
507	CHECK 506A:	BCG TO MEASLES ALL RECORDED → (GO TO 510J) / OTHER	BCG TO MEASLES ALL RECORDED → (GO TO 510J) / OTHER	BCG TO MEASLES ALL RECORDED → (GO TO 510J) / OTHER

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
508	Has (NAME) had any vaccinations that are not recorded on this card, including vaccinations given in a national immunization day campaign? RECORD 'YES' ONLY IF THE RESPONDENT MENTIONS AT LEAST ONE OF THE VACCINATIONS IN 506 THAT ARE NOT RECORDED AS HAVING BEEN GIVEN.	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506A) (SKIP TO 510J) NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506A) (SKIP TO 510J) NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8	YES . . . . 1 (PROBE FOR VACCINATIONS AND WRITE '66' IN THE CORRESPONDING DAY COLUMN IN 506A) (SKIP TO 510J) NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8
509	Did (NAME) ever have any vaccinations to prevent him/her from getting diseases, including vaccinations received in a national immunization day campaign?	YES . . . . 1 NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8
510	Please tell me if (NAME) had any of the following vaccinations:			
510A	A BCG vaccination against tuberculosis, that is, an injection in the arm or shoulder that usually causes a scar?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
510B	Polio vaccine, that is, drops in the mouth?	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510E) DON'T KNOW 8
510C	Was the first polio vaccine given in the first two weeks after birth or later?	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2	FIRST 2 WEEKS . . . 1 LATER 2
510D	How many times was the polio vaccine given?	NUMBER OF TIMES . . . . . . [ ]	NUMBER OF TIMES . . . . . . [ ]	NUMBER OF TIMES . . . . . . [ ]
510E	A DPT/Pentavalent vaccination, that is, an injection given in the thigh or buttocks, sometimes at the same time as polio drops?	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510G) DON'T KNOW 8
510F	How many times was the DPT/Pentavalent vaccination given?	NUMBER OF TIMES . . . . . . [ ]	NUMBER OF TIMES . . . . . . [ ]	NUMBER OF TIMES . . . . . . [ ]
510G	A measles injection or an MMR injection - that is, a shot in the arm at the age of 9 months or older - to prevent him/her from getting measles?	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8	YES . . . . 1 NO . . . . 2 DON'T KNOW 8
510H	A HEP-B vaccination, that is, an injection given in the right thigh, sometimes given at the same time as DPT?	YES . . . . 1 NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 510J) DON'T KNOW 8
510I	How many times was a HEP-B vaccination received?	NUMBER OF TIMES . . . . . . [ ]	NUMBER OF TIMES . . . . . . [ ]	NUMBER OF TIMES . . . . . . [ ]
510J	Did (NAME) receive any polio vaccine from the National Immunization Days (NID)?	YES . . . . 1 NO . . . . 2 (SKIP TO 511) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 511) DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
510K	At which national immunization day campaigns did (NAME) receive vaccinations? RECORD ALL CAMPAIGNS MENTIONED.	CAMPAIGN 1 (POLIO/JAN 2010) A CAMPAIGN 2 (POLIO/FEB 2010) B CAMPAIGN 3 (POLIO/JAN 2011) C CAMPAIGN 4 (POLIO/FEB 2011) D	CAMPAIGN 1 (POLIO/JAN 2010) A CAMPAIGN 2 (POLIO/FEB 2010) B CAMPAIGN 3 (POLIO/JAN 2011) C CAMPAIGN 4 (POLIO/FEB 2011) D	CAMPAIGN 1 (POLIO/JAN 2010) A CAMPAIGN 2 (POLIO/FEB 2010) B CAMPAIGN 3 (POLIO/JAN 2011) C CAMPAIGN 4 (POLIO/FEB 2011) D
511	Within the last six months, was (NAME) given a vitamin A dose like (this/any of these)? SHOW COMMON TYPES OF AMPULES/CAPSULES/SYRUPS.	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8
512	In the last seven days, was (NAME) given iron pills, sprinkles with iron, or iron syrup like (this/any of these)? SHOW COMMON TYPES OF PILLS/SPRINKLES/ SYRUPS.	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8
513	Was (NAME) given any drug for intestinal worms in the last six months?	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8
514	Has (NAME) had diarrhea in the last 2 weeks?	YES .... 1 NO .... 2 (SKIP TO 525) DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 525) DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 525) DON'T KNOW 8
515	Was there any blood in the stools?	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8
516	Now I would like to know how much (NAME) was given to drink during the diarrhea (including breastmilk). Was he/she given less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she given much less than usual to drink or somewhat less?	MUCH LESS ...... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS ...... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS ...... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 NOTHING TO DRINK 5 DON'T KNOW 8
517	When (NAME) had diarrhea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she given much less than usual to eat or somewhat less?	MUCH LESS ...... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS ...... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS ...... 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE .... 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8
518	Did you seek advice or treatment for the diarrhea from any source?	YES .... 1 NO .... 2 (SKIP TO 522)	YES .... 1 NO .... 2 (SKIP TO 522)	YES .... 1 NO .... 2 (SKIP TO 522)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
519	Where did you seek advice or or treatment? Anywhere else? PROBE TO IDENTIFY EACH TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. ________ (NAME OF PLACE(S))	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . A SPECIALIZED GOVT. HOSPITAL ________ B (SPECIFY) DISTRICT HOSP. C MCWC . . . . D UHC . . . . E H&FWC . . . . F SATELITE CLINIC/ EPI OUTREACH SITE . . . . G COMMUNITY CLINIC . . . . H FAMILY WELFARE ASSISTANT I OTHER ________ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . K NGO SATELLITE CLINIC . . . . L NGO FIELD WORKER M OTHER ________ N (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . O QUALIFIED DOCTOR . . . P UNQUALIFIED DOCTOR . . . . . . Q PHARMACY . . . . . . R PRIVATE MED. COLLEGE HOSPITAL ________ S (SPECIFY) OTHER PRIVATE SECTOR ____ T (SPECIFY) OTHER ________ X (SPECIFY)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . A SPECIALIZED GOVT. HOSPITAL ________ B (SPECIFY) DISTRICT HOSP. C MCWC . . . . D UHC . . . . E H&FWC . . . . F SATELITE CLINIC/ EPI OUTREACH SITE . . . . G COMMUNITY CLINIC . . . . H FAMILY WELFARE ASSISTANT I OTHER ________ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . K NGO SATELLITE CLINIC . . . . L NGO FIELD WORKER M OTHER ________ N (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . O QUALIFIED DOCTOR . . . P UNQUALIFIED DOCTOR . . . . . . Q PHARMACY . . . . . . R PRIVATE MED. COLLEGE HOSPITAL ________ S (SPECIFY) OTHER PRIVATE SECTOR ____ T (SPECIFY) OTHER ________ X (SPECIFY)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . A SPECIALIZED GOVT. HOSPITAL ________ B (SPECIFY) DISTRICT HOSP. C MCWC . . . . D UHC . . . . E H&FWC . . . . F SATELITE CLINIC/ EPI OUTREACH SITE . . . . G COMMUNITY CLINIC . . . . H FAMILY WELFARE ASSISTANT I OTHER ________ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . K NGO SATELLITE CLINIC . . . . L NGO FIELD WORKER M OTHER ________ N (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . O QUALIFIED DOCTOR . . . P UNQUALIFIED DOCTOR . . . . . . Q PHARMACY . . . . . . R PRIVATE MED. COLLEGE HOSPITAL ________ S (SPECIFY) OTHER PRIVATE SECTOR ____ T (SPECIFY) OTHER ________ X (SPECIFY)
522	Was he/she given any of the following to drink at any time since he/she started having the diarrhea:			
	a) A fluid made from a special saline packet called ORSaline PACKET?	YES NO DK ORS PKT 1 2 8	YES NO DK ORS PKT 1 2 8	YES NO DK ORS PKT 1 2 8
	b) A homemade sugar-salt-water solution (laban gur)?	LABAN GUR 1 2 8	LABAN GUR 1 2 8	LABAN GUR 1 2 8
	c) Zinc syrup?	ZINC SYRUP 1 2 8	ZINC SYRUP 1 2 8	ZINC SYRUP 1 2 8
	d) Zinc tablets?	ZINC TABLET 1 2 8	ZINC TABLET 1 2 8	ZINC TABLET 1 2 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
522A	CHECK 522:	ORS GIVEN ☐ ↓ ORS NOT GIVEN ☐ (SKIP TO 525)	ORS GIVEN ☐ ↓ ORS NOT GIVEN ☐ (SKIP TO 525)	ORS GIVEN ☐ ↓ ORS NOT GIVEN ☐ (SKIP TO 525)
523	Where did you get the ORS packet?	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL ... A SPECIALIZED GOVT. HOSPITAL ________ B (SPECIFY) DISTRICT HOPT. C MCWC .... D UHC .... E H&FWC .... F SATELITE CLINIC/ EPI OUTREACH SITE .... G COMMUNITY CLINIC .... H FAMILY WELFARE ASST. (FWA) I OTHER ________ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC .... K NGO SATELLITE CLINIC .... L NGO DEPO HOLDER ...... M NGO FIELD WORKER ...... N OTHER ________ O (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC .... P QUALIFIED DOCTOR ... Q UNQUALIFIED DOCTOR ...... R PHARMACY ...... S PRIVATE MED. COLLEGE HOSPITAL ________ T (SPECIFY) OTHER PRIVATE ______ U (SPECIFY) OTHER SOURCE SHOP .... V FRIEND/RELATIVE W OTHER ________ X (SPECIFY)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL ... A SPECIALIZED GOVT. HOSPITAL ________ B (SPECIFY) DISTRICT HOPT. C MCWC .... D UHC .... E H&FWC .... F SATELITE CLINIC/ EPI OUTREACH SITE .... G COMMUNITY CLINIC .... H FAMILY WELFARE ASST. (FWA) I OTHER ________ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC .... K NGO SATELLITE CLINIC .... L NGO DEPO HOLDER ...... M NGO FIELD WORKER ...... N OTHER ________ O (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC .... P QUALIFIED DOCTOR ... Q UNQUALIFIED DOCTOR ...... R PHARMACY ...... S PRIVATE MED. COLLEGE HOSPITAL ________ T (SPECIFY) OTHER PRIVATE ______ U (SPECIFY) OTHER SOURCE SHOP .... V FRIEND/RELATIVE W OTHER ________ X (SPECIFY)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL ... A SPECIALIZED GOVT. HOSPITAL ________ B (SPECIFY) DISTRICT HOPT. C MCWC .... D UHC .... E H&FWC .... F SATELITE CLINIC/ EPI OUTREACH SITE .... G COMMUNITY CLINIC .... H FAMILY WELFARE ASST. (FWA) I OTHER ________ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC .... K NGO SATELLITE CLINIC .... L NGO DEPO HOLDER ...... M NGO FIELD WORKER ...... N OTHER ________ O (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC .... P QUALIFIED DOCTOR ... Q UNQUALIFIED DOCTOR ...... R PHARMACY ...... S PRIVATE MED. COLLEGE HOSPITAL ________ T (SPECIFY) OTHER PRIVATE ______ U (SPECIFY) OTHER SOURCE SHOP .... V FRIEND/RELATIVE W OTHER ________ X (SPECIFY)
525	Has (NAME) been ill with a fever at any time in the last 2 weeks?	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8	YES .... 1 NO .... 2 DON'T KNOW 8
527	Has (NAME) had an illness with a cough at any time in the last 2 weeks?	YES .... 1 NO .... 2 (SKIP TO 530) DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 530) DON'T KNOW 8	YES .... 1 NO .... 2 (SKIP TO 530) DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ______	NEXT-TO-LAST BIRTH NAME ______	SECOND-FROM-LAST BIRTH NAME ______
528	When (NAME) had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths or have difficulty breathing?	YES . . . . 1 NO . . . . 2 (SKIP TO 531) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 531) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (SKIP TO 531) DON'T KNOW 8
529	Was the fast or difficult breathing due to a problem in the chest or to a blocked or runny nose?	CHEST ONLY . . . 1 NOSE ONLY . . . . . . 2 BOTH . . . . 3 OTHER ______ 6 (SPECIFY) DON'T KNOW . . . . . . 8 (SKIP TO 531)	CHEST ONLY . . . 1 NOSE ONLY . . . . . . 2 BOTH . . . . 3 OTHER ______ 6 (SPECIFY) DON'T KNOW . . . . . . 8 (SKIP TO 531)	CHEST ONLY . . . 1 NOSE ONLY . . . . . . 2 BOTH . . . . 3 OTHER ______ 6 (SPECIFY) DON'T KNOW . . . . . . 8 (SKIP TO 531)
530	CHECK 525: HAD FEVER?	YES ☐ NO OR DK ☐ (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 557)	YES ☐ NO OR DK ☐ (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 557)	YES ☐ NO OR DK ☐ (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 557)
531	Now I would like to know how much (NAME) was given to drink (including breastmilk) during the illness with a (fever/cough). Was he/she given less than usual to drink, about the same amount, or more than usual to drink? IF LESS, PROBE: Was he/she given much less than usual to drink or somewhat less?	MUCH LESS . . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8	MUCH LESS . . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 NOTHING TO DRINK 5 DON'T KNOW 8
532	When (NAME) had a (fever/cough), was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? IF LESS, PROBE: Was he/she given much less than usual to eat or somewhat less?	MUCH LESS . . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS . . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8	MUCH LESS . . . . . . 1 SOMEWHAT LESS 2 ABOUT THE SAME 3 MORE . . . . 4 STOPPED FOOD 5 NEVER GAVE FOOD 6 DON'T KNOW 8
533	Did you seek advice or treatment for the illness from any source?	YES . . . . 1 NO . . . . 2 (SKIP TO 537)	YES . . . . 1 NO . . . . 2 (SKIP TO 537)	YES . . . . 1 NO . . . . 2 (SKIP TO 537)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________	NEXT-TO-LAST BIRTH NAME ________	SECOND-FROM-LAST BIRTH NAME ________
536	Where did you first seek advice or treatment? FILL UP THE BOXES ACCORDING TO THE SEQUENCE OF CARE RECEIVED.	SEQUENCE OF CARE 1 2 3 4 [ ] [ ] [ ] [ ] HOME . . . . A PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . B SPECIALIZED GOVT. HOSPITAL ________ C (SPECIFY) DISTRICT HOSP. . D MCWC . . . . E UHC . . . . F H&FWC . . . . G SATELITE CLINIC/ EPI OUTREACH SITE . . . . H COMMUNITY CLINIC . . . . I FAMILY WELFARE ASSIST. . . . . . . J OTHER ________ K (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . L NGO SATELLITE CLINIC . . . . M NGO DEPO HOLDER . . . . . . N NGO FIELD WORKER . . . . . . O OTHER ________ (SPECIFY) P PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . Q QUALIFIED DOCTOR . . . . R UNQUALIFIED DOCTOR . . . S PHARMACY/ DRUG STORE . T PRIVATE MED. COLLEGE HOSPITAL ________ U (SPECIFY) OTHER PVT. ________ V (SPECIFY) OTHER ________ X (SPECIFY)	SEQUENCE OF CARE 1 2 3 4 [ ] [ ] [ ] [ ] HOME . . . . A PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . B SPECIALIZED GOVT. HOSPITAL ________ C (SPECIFY) DISTRICT HOSP. . D MCWC . . . . E UHC . . . . F H&FWC . . . . G SATELITE CLINIC/ EPI OUTREACH SITE . . . . H COMMUNITY CLINIC . . . . I FAMILY WELFARE ASSIST. . . . . . . J OTHER ________ K (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . L NGO SATELLITE CLINIC . . . . M NGO DEPO HOLDER . . . . . . N NGO FIELD WORKER . . . . . . O OTHER ________ (SPECIFY) P PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . Q QUALIFIED DOCTOR . . . . R UNQUALIFIED DOCTOR . . . S PHARMACY/ DRUG STORE . T PRIVATE MED. COLLEGE HOSPITAL ________ U (SPECIFY) OTHER PVT. ________ V (SPECIFY) OTHER ________ X (SPECIFY)	SEQUENCE OF CARE 1 2 3 4 [ ] [ ] [ ] [ ] HOME . . . . A PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . B SPECIALIZED GOVT. HOSPITAL ________ C (SPECIFY) DISTRICT HOSP. . D MCWC . . . . E UHC . . . . F H&FWC . . . . G SATELITE CLINIC/ EPI OUTREACH SITE . . . . H COMMUNITY CLINIC . . . . I FAMILY WELFARE ASSIST. . . . . . . J OTHER ________ K (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . L NGO SATELLITE CLINIC . . . . M NGO DEPO HOLDER . . . . . . N NGO FIELD WORKER . . . . . . O OTHER ________ (SPECIFY) P PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . Q QUALIFIED DOCTOR . . . . R UNQUALIFIED DOCTOR . . . S PHARMACY/ DRUG STORE . T PRIVATE MED. COLLEGE HOSPITAL ________ U (SPECIFY) OTHER PVT. ________ V (SPECIFY) OTHER ________ X (SPECIFY)
537	At any time during the illness, did (NAME) take any drugs for the illness?	YES . . . . 1 NO . . . . 2 (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 557) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 557) DON'T KNOW 8	YES . . . . 1 NO . . . . 2 (GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 557) DON'T KNOW 8

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ________________	NEXT-TO-LAST BIRTH NAME ________________	SECOND-FROM-LAST BIRTH NAME ________________
538	What drugs did (NAME) take? Any other drugs? RECORD ALL MENTIONED.	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE B QUININE . . . . D COMBINATION WITH ARTEMISININ E OTHER ANTI-MALARIAL __________ . . . F (SPECIFY) ANTIBIOTIC DRUGS PILL/SYRUP . . . G INJECTION . . . H OTHER DRUGS ASPIRIN . . . . I ACETA-MINOPHEN . . . J IBUPROFEN . . . K OTHER __________ X (SPECIFY) DON'T KNOW . . . . . . Z	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE . B QUININE . . . . D COMBINATION WITH ARTEMISININ E OTHER ANTI-MALARIAL __________ . . . F (SPECIFY) ANTIBIOTIC DRUGS PILL/SYRUP . . . G INJECTION . . . H OTHER DRUGS ASPIRIN . . . . I ACETA-MINOPHEN . . . J IBUPROFEN . . . K OTHER __________ X (SPECIFY) DON'T KNOW . . . . . . Z	ANTIMALARIAL DRUGS SP/FANSIDAR . . . A CHLOROQUINE B QUININE . . . . D COMBINATION WITH ARTEMISININ E OTHER ANTI-MALARIAL __________ . . . F (SPECIFY) ANTIBIOTIC DRUGS PILL/SYRUP . . . G INJECTION . . . H OTHER DRUGS ASPIRIN . . . . I ACETA-MINOPHEN . . . J IBUPROFEN . . . K OTHER __________ X (SPECIFY) DON'T KNOW . . . . . . Z
539	Did anybody prescribe the drug?	YES . . . . 1 NO . . . . 2 (SKIP TO 552)	YES . . . . 1 NO . . . . 2 (SKIP TO 552)	YES . . . . 1 NO . . . . 2 (SKIP TO 552)
540	Who prescribed the drug?	HEALTH PROFESSIONAL/ WORKER QUALIFIED DOCTOR . . . . . . A NURSE/MIDWIFE/ PARAMEDIC B FAMILY WELFARE VISITOR . . . . . . C CSBA . . . . . . D MA/SACMO . . . . . . E HEALTH ASSISTANT . . . F FAMILY WELFARE ASSISTANT . . . G OTHER PROVIDER TRAINED TBA . . . H UNTRAINED TBA . I UNQUALIFIED DOCTOR . . . . . . J DRUG SELLER . K NGO WORKER . . . . . . L OTHER ________ X (SPECIFY)	HEALTH PROFESSIONAL/ WORKER QUALIFIED DOCTOR . . . . . . A NURSE/MIDWIFE/ PARAMEDIC B FAMILY WELFARE VISITOR . . . . . . C CSBA . . . . . . D MA/SACMO . . . . . . E HEALTH ASSISTANT . . . F FAMILY WELFARE ASSISTANT . . . G OTHER PROVIDER TRAINED TBA . . . H UNTRAINED TBA . I UNQUALIFIED DOCTOR . . . . . . J DRUG SELLER . K NGO WORKER . . . . . . L OTHER ________ X (SPECIFY)	HEALTH PROFESSIONAL/ WORKER QUALIFIED DOCTOR . . . . . . A NURSE/MIDWIFE/ PARAMEDIC B FAMILY WELFARE VISITOR . . . . . . C CSBA . . . . . . D MA/SACMO . . . . . . E HEALTH ASSISTANT . . . F FAMILY WELFARE ASSISTANT . . . G OTHER PROVIDER TRAINED TBA . . . H UNTRAINED TBA . I UNQUALIFIED DOCTOR . . . . . . J DRUG SELLER . K NGO WORKER . . . . . . L OTHER ________ X (SPECIFY)

NO.	QUESTIONS AND FILTERS	LAST BIRTH NAME ______	NEXT-TO-LAST BIRTH NAME ______	SECOND-FROM-LAST BIRTH NAME ______
541	Where did you get the drug?	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . A SPECIALIZED GOVT. HOSPITAL ______ B (SPECIFY) DISTRICT HOPT. C MCWC . . . . D UHC . . . . E H&FWC . . . . F SATELITE CLINIC/ EPI OUTREACH SITE . . . . G COMMUNITY CLINIC . . . . H FAMILY WELFARE ASST. (FWA) I OTHER ______ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . K NGO SATELLITE CLINIC . . . . L NGO DEPO HOLDER . . . . . . M NGO FIELD WORKER . . . . . . N OTHER ______ O (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . P QUALIFIED DOCTOR . . . Q UNQUALIFIED DOCTOR . . . . . . R PHARMACY/ DRUG STORE . S PRIVATE MED. COLLEGE HOSPITAL ______ T (SPECIFY) OTHER PRIVATE ______ U (SPECIFY) OTHER SOURCE SHOP . . . . V FRIEND/RELATIVE W OTHER ______ X (SPECIFY)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . A SPECIALIZED GOVT. HOSPITAL ______ B (SPECIFY) DISTRICT HOPT. C MCWC . . . . D UHC . . . . E H&FWC . . . . F SATELITE CLINIC/ EPI OUTREACH SITE . . . . G COMMUNITY CLINIC . . . . H FAMILY WELFARE ASST. (FWA) I OTHER ______ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . K NGO SATELLITE CLINIC . . . . L NGO DEPO HOLDER . . . . . . M NGO FIELD WORKER . . . . . . N OTHER ______ O (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . P QUALIFIED DOCTOR . . . Q UNQUALIFIED DOCTOR . . . . . . R PHARMACY/ DRUG STORE . S PRIVATE MED. COLLEGE HOSPITAL ______ T (SPECIFY) OTHER PRIVATE ______ U (SPECIFY) OTHER SOURCE SHOP . . . . V FRIEND/RELATIVE W OTHER ______ X (SPECIFY)	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . A SPECIALIZED GOVT. HOSPITAL ______ B (SPECIFY) DISTRICT HOPT. C MCWC . . . . D UHC . . . . E H&FWC . . . . F SATELITE CLINIC/ EPI OUTREACH SITE . . . . G COMMUNITY CLINIC . . . . H FAMILY WELFARE ASST. (FWA) I OTHER ______ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . K NGO SATELLITE CLINIC . . . . L NGO DEPO HOLDER . . . . . . M NGO FIELD WORKER . . . . . . N OTHER ______ O (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/ CLINIC . . . . P QUALIFIED DOCTOR . . . Q UNQUALIFIED DOCTOR . . . . . . R PHARMACY/ DRUG STORE . S PRIVATE MED. COLLEGE HOSPITAL ______ T (SPECIFY) OTHER PRIVATE ______ U (SPECIFY) OTHER SOURCE SHOP . . . . V FRIEND/RELATIVE W OTHER ______ X (SPECIFY)
552		GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 557.	GO BACK TO 503 IN NEXT COLUMN; OR, IF NO MORE BIRTHS, GO TO 557.	GO TO 503 IN NEXT-TO-LAST COLUMN OF NEW QUESTIONNAIRE; OR, IF NO MORE BIRTHS, GO TO 557.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
557	CHECK 215 AND 218, ALL ROWS: NUMBER OF CHILDREN BORN IN 2009 OR LATER LIVING WITH THE RESPONDENT ONE OR MORE ☐ NONE ☐ → 601 RECORD NAME OF YOUNGEST CHILD LIVING WITH HER AND CONTINUE WITH 558 _____ (NAME)		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
558	Now I would like to ask you about liquids or foods that (NAME FROM 557) had yesterday during the day or at night. I am interested in whether your child had the item I mention even if it was combined with other foods. Did (NAME FROM 557) (drink/eat):	YES NO DK	
	a) Plain water?	**a)** 1 2 8	
	b) Juice or juice drinks?	**b)** 1 2 8	
	d) Milk such as tinned, powdered, or fresh animal milk?	**d)** 1 2 8	
	IF YES: How many times did (NAME) drink milk? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES DRANK MILK ☐	
	e) Infant formula like Lactogen?	**e)** 1 2 8	
	IF YES: How many times did (NAME) drink infant formula? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES DRANK FORMULA ☐	
	f) Any other liquids?	**f)** 1 2 8	
	g) Yogurt?	**g)** 1 2 8	
	IF YES: How many times did (NAME) eat yogurt? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES ATE YOGURT ☐	
	h) Any commercially fortified baby food like Cerelac?	**h)** 1 2 8	
	i) Bread, rice, noodles, porridge, or other foods made from grains?	**i)** 1 2 8	
	j) Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside?	**j)** 1 2 8	
	k) White potatoes, white yams, manioc, cassava, or any other foods made from roots?	**k)** 1 2 8	
	l) Any dark green, leafy vegetables like spinach, poi sag, methi, kolmi, kochu, palak?	**l)** 1 2 8	
	m) Ripe mangoes, papayas, ripe kathal, bangi or other Vitamin A rich fruits?	**m)** 1 2 8	
	n) Any other fruits like banana, grapes, apple, guava or other vegetables like cabbage, patal, kopi?	**n)** 1 2 8	
	o) Liver, kidney, heart or other organ meats?	**o)** 1 2 8	
	p) Any meat, such as beef, pork, lamb, goat, chicken, or duck?	**p)** 1 2 8	
	q) Eggs?	**q)** 1 2 8	
	r) Fish, shrimps or crab ?	**r)** 1 2 8	
	s) Any foods made from beans, peas, lentils, or nuts?	**s)** 1 2 8	
	t) Cheese or other food made from milk like paneer?	**t)** 1 2 8	
	u) Any other solid, semi-solid, or soft food (bengali sweets)?	**u)** 1 2 8	
559	CHECK 558 (CATEGORIES "g" THROUGH "u"): NOT A SINGLE "YES" ☐ ↓ AT LEAST ONE "YES" ☐ →		561

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
560	Did (NAME) eat any solid, semi-solid, or soft foods yesterday during the day or at night? IF 'YES' PROBE: What kind of solid, semi-solid or soft foods did (NAME) eat?	YES . . . . . 1 (GO BACK TO 558 TO RECORD FOOD EATEN YESTERDAY) NO . . . . . 2 → 601	
561	How many times did (NAME FROM 557) eat solid, semi-solid, or soft foods yesterday during the day or at night? IF 7 OR MORE TIMES, RECORD '7'.	NUMBER OF TIMES . . . . . ☐ DON'T KNOW 8	

SECTION 6. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	CHECK 103A: CURRENTLY MARRIED ☐ SEPARATED/DESERTED DIVORCED/WIDOWED ☐ → 609		
604	Is your husband living with you now or is he staying elsewhere?	LIVING WITH HER . . . . . 1 STAYING ELSEWHERE 2	→ 605
604A	How often did he come home in the past 12 months?	NUMBER OF TIMES . . . . . ☐☐ DID NOT COME IN THE LAST 12 MONTHS 96	
605	RECORD THE HUSBAND'S/PARTNER'S NAME AND LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE. IF HE IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NO. . . . . ☐☐	
609	Have you been married only once or more than once?	ONLY ONCE . . . . . 1 MORE THAN ONCE 2	
610	CHECK 609: MARRIED ONLY ONCE ☐ In what month and year did you start living with your (husband/partner)? MARRIED MORE THAN ONCE ☐ Now I would like to ask about your first (husband/partner). In what month and year did you start living with him?	MONTH . . . . . ☐☐ DON'T KNOW MONTH . . . . . 98 YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	→ 612
611	How old were you when you first started living with him?	AGE . . . . . ☐☐	
612	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
613	Now I would like to ask some questions about sexual activity in order to gain a better understanding of some important life issues. How old were you when you had sexual intercourse for the very first first time?	NEVER HAD SEXUAL INTERCOURSE . . . . . 00 AGE IN YEARS . . . . . ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) HUSBAND/PARTNER 95	→ 701
614	Now I would like to ask you some questions about your recent sexual activity. Let me assure you again that your answers are completely confidential and will not be told to anyone. If we should come to any question that you don't want to answer, just let me know and we will go to the next question.		
615	When was the last time you had sexual intercourse? IF LESS THAN 12 MONTHS, ANSWER MUST BE RECORDED IN DAYS, WEEKS OR MONTHS. IF 12 MONTHS (ONE YEAR) OR MORE, ANSWER MUST BE RECORDED IN YEARS.	DAYS AGO . . . . . 1 ☐☐ WEEKS AGO . . . . . 2 ☐☐ MONTHS AGO . . . . . 3 ☐☐ YEARS AGO . . . . . 4 ☐☐	→ 701
616	How many times during the last month did you have sexual intercourse? IF NON-NUMERIC ANSWER, PROBE TO GET AN ESTIMATE. IF NUMBER OF TIMES IS 95 OR MORE, WRITE '95'.	NUMBER OF TIMES . . . . . ☐☐	

SECTION 7. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
701	CHECK 103A: CURRENTLY MARRIED ☐ SEPARATED/DESERTED DIVORCED/WIDOWED ☐ →		712
701A	CHECK 304: NEITHER STERILIZED ☐ HE OR SHE STERILIZED ☐ →		710
702	CHECK 226: PREGNANT ☐ NOT PREGNANT OR UNSURE ☐ →		704
703	Now I have some questions about the future. After the child you are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE ANOTHER CHILD . . . . . 1 NO MORE . . . . . 2 UNDECIDED/DON'T KNOW 8	→ 705 → 711
704	Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 SAYS SHE CAN'T GET PREGNANT 3 UNDECIDED/DON'T KNOW 8	→ 707 → 712 → 710
705	CHECK 226: NOT PREGNANT OR UNSURE ☐ How long would you like to wait from now before the birth of (a/another) child? PREGNANT ☐ After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 SAYS SHE CAN'T GET PREGNANT 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	→ 710 → 712 → 710
706	CHECK 226: NOT PREGNANT OR UNSURE ☐ PREGNANT ☐ →		711
707	CHECK 303: USING A CONTRACEPTIVE METHOD? NOT CURRENTLY USING ☐ CURRENTLY USING ☐ →		712
708	CHECK 705: NOT ASKED ☐ 24 OR MORE MONTHS OR 02 OR MORE YEARS ☐ 00-23 MONTHS OR 00-01 YEAR ☐ →		711

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
709	CHECK 703 AND 704: WANTS TO HAVE A/ANOTHER CHILD →	WANTS NO MORE/ NONE →	
	You have said that you do not want (a/another) child soon. Can you tell me why you are not using a method to prevent pregnancy? Any other reason?	You have said that you do not want any (more) children. Can you tell me why you are not using a method to prevent pregnancy? Any other reason?	
	RECORD ALL REASONS MENTIONED.	FERTILITY-RELATED REASONS NOT HAVING SEX . . . . . B INFREQUENT SEX . . . . . C MENOPAUSAL/HYSTERECTOMY D CAN'T GET PREGNANT . . . . . E NOT MENSTRUATED SINCE LAST BIRTH . . . . . F BREASTFEEDING . . . . . G UP TO GOD/FATALISTIC . . . . . H OPPOSITION TO USE RESPONDENT OPPOSED . . . . . I HUSBAND/PARTNER OPPOSED . . . J OTHERS OPPOSED . . . . . K RELIGIOUS PROHIBITION . . . . . L LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . M KNOWS NO SOURCE . . . . . N METHOD-RELATED REASONS SIDE EFFECTS/HEALTH CONCERNS . . . . . O LACK OF ACCESS/TOO FAR . . . . . P COSTS TOO MUCH . . . . . Q PREFERRED METHOD NOT AVAILABLE . . . . . R NO METHOD AVAILABLE . . . . . S INCONVENIENT TO USE . . . . . T INTERFERES WITH BODY'S NORMAL PROCESSES . . . . . U OTHER _____ X (SPECIFY) DON'T KNOW . . . . . Z	
710	CHECK 303: USING A CONTRACEPTIVE METHOD? NOT ASKED → NOT CURRENTLY USING → CURRENTLY USING →		712
711	Do you think you will use a contraceptive method to delay or avoid pregnancy at any time in the future?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	711B
711A	Which contraceptive method would you prefer to use?	FEMALE STERILIZATION . . . . . 01 MALE STERILIZATION . . . . . 02 IUD . . . . . 03 INJECTABLES . . . . . 04 IMPLANTS . . . . . 05 PILL . . . . . 06 CONDOM . . . . . 07 SAFE PERIOD . . . . . 12 WITHDRAWAL . . . . . 13 OTHER _____ 96 (SPECIFY) UNSURE 98	712

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
711B	What is the main reason that you think you will not use a contraceptive method at any time in the future?	FERTILITY-RELATED REASONS INFREQUENT SEX/NO SEX . . . 22 MENOPAUSAL/HYSTERECTOMY 23 SUBFECUND/INFECUND . . . . . 24 WANTS AS MANY CHILDREN AS POSSIBLE . . . . . 26 OPPOSITION TO USE RESPONDENT OPPOSED . . . . . 31 HUSBAND/PARTNER OPPOSED 32 OTHERS OPPOSED . . . . . 33 RELIGIOUS PROHIBITION . . . . . 34 LACK OF KNOWLEDGE KNOWS NO METHOD . . . . . 41 KNOWS NO SOURCE . . . . . 42 METHOD-RELATED REASONS HEALTH CONCERNS . . . . . 51 FEAR OF SIDE EFFECTS . . . . . 52 LACK OF ACCESS/TOO FAR . . . 53 COSTS TOO MUCH . . . . . 54 INCONVENIENT TO USE . . . . . 55 INTERFERES WITH BODY'S NORMAL PROCESSES . . . . . 56 OTHER _____ (SPECIFY) 96 DON'T KNOW 98	
712	CHECK 216: HAS LIVING CHILDREN → If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN → If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . . 00 NUMBER . . . . . [ ][ ] OTHER _____ (SPECIFY) 96	→ 714 → 714
713	How many of these children would you like to be boys, how many would you like to be girls and for how many would it not matter if it's a boy or a girl?	BOYS GIRLS EITHER NUMBER [ ][ ] [ ][ ] [ ][ ] OTHER _____ (SPECIFY) 96	
714	In the last month have you: Heard about family planning on the radio? Seen anything about family planning on the television? Read about family planning in a newspaper or magazine? Read about family planning in a poster, billboard or leaflet? Heard about family planning from a community event?	YES NO RADIO . . . . . 1 2 TELEVISION . . . . . 1 2 NEWSPAPER OR MAGAZINE . . . 1 2 POSTER/BILLBOARD . . . . . 1 2 COMMUNITY EVENT 1 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
714A	In the last month have you heard about family planning from any community health worker?	YES . . . . . 1 NO 2	→ 716
714B	Were these government or non-government worker?	GOVERNMENT . . . . . A NON-GOVERNMENT . . . . . B DON'T KNOW C	
716	CHECK 103A: YES, CURRENTLY MARRIED ☐ ↓ SEPARATED/DESERTED DIVORCED/WIDOWED ☐ → 801		
717	CHECK 303: USING A CONTRACEPTIVE METHOD? CURRENTLY USING ☐ ↓ NOT CURRENTLY USING OR NOT ASKED ☐ → 720		
718	Would you say that using contraception is mainly your decision, mainly your (husband's/partner's) decision, or did you both decide together?	MAINLY RESPONDENT . . . . . 1 MAINLY HUSBAND/PARTNER . . . . . 2 JOINT DECISION . . . . . 3 OTHER _____ 6 (SPECIFY)	
719	CHECK 304: NEITHER STERILIZED ☐ ↓ HE OR SHE STERILIZED ☐ → 801		
720	Does your (husband/partner) want the same number of children that you want, or does he want more or fewer than you want?	SAME NUMBER . . . . . 1 MORE CHILDREN . . . . . 2 FEWER CHILDREN . . . . . 3 DON'T KNOW 8	

SECTION 8. HUSBAND'S BACKGROUND AND WOMAN'S WORK

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
801	CHECK 103A: CURRENTLY MARRIED ☐ ↓ SEPARATED/DESERTED DIVORCED/WIDOWED ☐ → 803		
802	How old was your (husband) on his last birthday?	AGE IN COMPLETED YEARS ☐☐	
803	Did your (last) (husband) ever attend school or madrasha?	YES . . . . . 1 NO 2	→ 806
803A	What type of schooling did your husband last attend?	SCHOOL . . . . . 1 MADRASHA 2	
804	What level of schooling did he last attend?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE AND HIGHER 3	
805	What is the highest class he completed at that level?	CLASS . . . . . ☐☐	
806	CHECK 801: CURRENTLY MARRIED/ LIVING WITH A MAN ☐ ↓ What is your (husband's/ partner's) occupation? That is, what kind of work does he mainly do? FORMERLY MARRIED/ LIVED WITH A MAN ☐ ↓ What was your (last) (husband's/ partner's) occupation? That is, what kind of work did he mainly do?	_____ ☐☐ _____ _____	
807	Aside from your own housework, have you done any work in the last seven days?	YES . . . . . 1 NO 2	→ 811
808	As you know, some women take up jobs for which they are paid in cash or kind. Others sell things, have a small business or work on the family farm or in the family business. In the last seven days, have you done any of these things or any other work?	YES . . . . . 1 NO 2	→ 811
809	Although you did not work in the last seven days, do you have any job or business from which you were absent for leave, illness, vacation, maternity leave, or any other such reason?	YES . . . . . 1 NO 2	→ 811
810	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	→ 815
811	What is your occupation, that is, what kind of work do you mainly mainly do?	_____ ☐☐ _____ _____	
812	Do you do this work for a member of your family, for someone else, or are you self-employed?	FOR FAMILY MEMBER . . . . . 1 FOR SOMEONE ELSE . . . . . 2 SELF-EMPLOYED 3	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
813	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR 2 ONCE IN A WHILE 3	
814	Are you paid in cash or kind for this work or are you not paid at all?	CASH ONLY . . . . . 1 CASH AND KIND . . . . . 2 IN KIND ONLY . . . . . 3 NOT PAID 4	
815	CHECK 103A: CURRENTLY MARRIED — SEPARATED/DESERTED DIVORCED/WIDOWED		→ 823A
816	CHECK 814: CODE 1 OR 2 CIRCLED — OTHER		→ 820
817	Who usually decides how the money you earn will be used: you, you, your husband, you and your husband jointly, or someone else?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . . . 3 OTHER _____ 6 (SPECIFY)	
820	Who usually makes decisions about health care for yourself: you, you, your husband, you and your husband jointly, or someone else?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . . . 3 SOMEONE ELSE . . . . . 4 OTHER 6	
821	Who usually makes decisions about making major household purchases?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . . . 3 SOMEONE ELSE . . . . . 4 OTHER 6	
822	Who usually makes decisions about visits to your family or relatives?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . . . 3 SOMEONE ELSE . . . . . 4 OTHER 6	
823	Who usually makes decisions about your child health care?	RESPONDENT . . . . . 1 HUSBAND . . . . . 2 RESPONDENT AND HUSBAND JOINTLY . . . . . 3 SOMEONE ELSE . . . . . 4 OTHER 6	
823A	Do you go to a health centre or hospital alone or with your young children?	YES, ALONE . . . . . 1 YES, WITH CHILDREN . . . . . 2 NO . . . . . 3 OTHER _____ 6 (SPECIFY)	→ 825

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
823B	Can you go to a health centre or hospital alone or with your young children?	YES, ALONE . . . . . 1 YES, WITH CHILDREN . . . . . 2 NO . . . . . 3 OTHER _____ 6 (SPECIFY)	
825	PRESENCE OF OTHERS AT THIS POINT (PRESENT AND LISTENING, PRESENT BUT NOT LISTENING, OR NOT PRESENT)	PRES./ LISTEN. / PRES./ NOT LISTEN. / NOT PRES. CHILDREN < 10 . . . . . 1 2 3 HUSBAND . . . . . 1 2 3 OTHER MALES . . . . . 1 2 3 OTHER FEMALES . . . 1 2 3	
826	In your opinion, is a husband justified in hitting or beating his wife in the following situations: If she goes out without telling him? If she neglects the children? If she argues with him? If she refuses to have sex with him? If she burns the food?	YES / NO / DK GOES OUT . . . . . 1 2 8 NEGL. CHILDREN . . . 1 2 8 ARGUES . . . . . 1 2 8 REFUSES SEX . . . . . 1 2 8 BURNS FOOD 1 2 8	

SECTION 9. HIV/AIDS

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
901	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . . 1 NO 2	→ 937
902	Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
903	Can people get the AIDS virus from mosquito bites?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
904	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
905	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
906	Can people get the AIDS virus because of witchcraft or other supernatural means?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
906A	Can people get the AIDS virus by using unsterilized needle or syringe?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
906B	Can people get the AIDS virus through unsafe blood transfusion?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
907	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
908	Can the virus that causes AIDS be transmitted from a mother to her baby: During pregnancy? During delivery? By breastfeeding?	YES NO DK DURING PREG. . . . . 1 2 8 DURING DELIVERY . . . 1 2 8 BREASTFEEDING . . . 1 2 8	
937	CHECK 901: HEARD ABOUT AIDS → Apart from AIDS, have you heard about other infections that can be transmitted through sexual contact? NOT HEARD ABOUT AIDS → Have you heard about infections that can be transmitted through sexual contact?	YES . . . . . 1 NO 2	
937A	Have you ever heard about: a) Syphilis? b) Gonorrhea?	YES NO SYPHILIS . . . . . 1 2 GONORRHEA 1 2	
938	CHECK 613: HAS HAD SEXUAL INTERCOURSE NEVER HAD SEXUAL INTERCOURSE →		→ 945A

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
939	CHECK 937 and 937A: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES ☐ (↓) NO ☐ → 941		
940	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
941	Sometimes women experience a bad-smelling abnormal genital discharge. During the last 12 months, have you had a bad-smelling abnormal genital discharge?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
942	Sometimes women have a genital sore or ulcer. During the last 12 months, have you had a genital sore or ulcer?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
943	CHECK 940, 941, AND 942: HAS HAD AN INFECTION (ANY 'YES') ☐ (↓) HAS NOT HAD AN INFECTION OR DOES NOT KNOW ☐ → 945A		
944	The last time you had (PROBLEM FROM 940/941/942), did you seek any kind of advice or treatment?	YES . . . . . 1 NO 2	→ 945A
945	Where did you go? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE. IF UNABLE TO DETERMINE IF PUBLIC OR PRIVATE SECTOR, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . . . A SPECIALIZED GOVT. HOSPITAL _____ (SPECIFY) B DISTRICT HOSPITAL . . . . . C MCWC . . . . . D UHC . . . . . E H&FWC . . . . . F SATELITE CLINIC/EPI OUTREACH SITE . . . . . G COMMUNITY CLINIC . . . . . H FAMILY WELFARE ASST. . . . . I OTHER _____ (SPECIFY) J NGO SECTOR NGO STATIC CLINIC . . . . . K NGO SATELLITE CLINIC . . . . . L NGO DEPO HOLDER . . . . . M NGO FIELD WORKER . . . . . N OTHER _____ (SPECIFY) O PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC/ . . . . . P QUALIFIED DOCTOR . . . . . Q UNQUALIFIED DOCTOR . . . . . R PHARMACY/DRUG STORE . . . . . S PRIVATE MEDICAL COLLEGE HOSPITAL _____ (SPECIFY) T OTHER _____ (SPECIFY) U OTHER SOURCE OTHER _____ (SPECIFY) X	
945A	Husbands and wives do not always agree on everything. If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in refusing to have sex with him?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

SECTION 10. FOOD SECURITY

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1001	How often did you eat three `square meals' (full stomach meals) a day in the past 12 months (not a festival day) ?	MOSTLY (3 MEALS EACH DAY) . . . 1 SOMETIMES (3 MEALS PER DAY) . . . . . 2 RARELY (3 MEALS PER DAY 1-6 TIMES THIS YEAR) . . . . . 3 NEVER 4	
1002	In the last 12 months how often did you yourself skip entire meals because there was not enough food?	NEVER . . . . . 1 RARELY (1-6 TIMES THIS YEAR) . . . 2 SOMETIMES (7-12 TIMES THIS YEAR) 3 OFTEN (FEW TIMES EACH MONTH) . 4	
1003	In the last 12 months how often did you personally eat less food in a meal because there was not enough food?	NEVER . . . . . 1 RARELY (1-6 TIMES THIS YEAR) . . . 2 SOMETIMES (7-12 TIMES THIS YEAR) 3 OFTEN (FEW TIMES EACH MONTH) . 4	
1004	In the last 12 months, how often did you or any of your family have to eat wheat (or another grain) although you wanted to eat rice (not including when you were sick)?	NEVER . . . . . 1 RARELY (1-6 TIMES THIS YEAR) . . . 2 SOMETIMES (7-12 TIMES THIS YEAR) 3 OFTEN (FEW TIMES EACH MONTH) . 4	
1005	In the past 12 months how often did your family have to ask food from relatives or neighbors to make a meal?	NEVER . . . . . 1 RARELY (1-6 TIMES THIS YEAR) . . . 2 SOMETIMES (7-12 TIMES THIS YEAR) 3 OFTEN (FEW TIMES EACH MONTH) . 4	
1006	RECORD THE TIME.	HOUR . . . . . [ ][ ] MINUTES . . . . . [ ][ ]	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____

INSTRUCTIONS:
ONLY ONE CODE SHOULD APPEAR IN ANY BOX.
COLUMN 1 REQUIRES A CODE IN EVERY MONTH.

INFORMATION TO BE CODED FOR EACH COLUMN

COLUMN 1: BIRTHS, PREGNANCIES, CONTRACEPTIVE USE**

- B BIRTHS
- P PREGNANCIES
- T TERMINATIONS

- 0 NO METHOD
- 1 FEMALE STERILIZATION
- 2 MALE STERILIZATION
- 3 IUD
- 4 INJECTABLES
- 5 IMPLANTS
- 6 PILL
- 7 CONDOM
- L RHYTHM METHOD
- M WITHDRAWAL

- X OTHER _____ (SPECIFY)

COLUMN 2: DISCONTINUATION OF CONTRACEPTIVE USE

- 0 INFREQUENT SEX/HUSBAND AWAY
- 1 BECAME PREGNANT WHILE USING
- 2 WANTED TO BECOME PREGNANT
- 3 HUSBAND/PARTNER DISAPPROVED
- 4 WANTED MORE EFFECTIVE METHOD
- 5 SIDE EFFECTS/HEALTH CONCERNS
- 6 LACK OF ACCESS/TOO FAR
- 7 COSTS TOO MUCH
- 8 INCONVENIENT TO USE
- F UP TO GOD/FATALISTIC
- A DIFFICULT TO GET PREGNANT/MENOPAUSAL
- D MARITAL DISSOLUTION/SEPARATION
- X OTHER _____ (SPECIFY)
- Z DON'T KNOW

				1	2	
	12	DEC	01			
	11	NOV	02			
	10	OCT	03			
	09	SEP	04			
2	08	AUG	05			2
0	07	JUL	06			0
1	06	JUN	07			1
1	05	MAY	08			1
	04	APR	09			
	03	MAR	10			
	02	FEB	11			
	01	JAN	12			
	12	DEC	13			
	11	NOV	14			
	10	OCT	15			
	09	SEP	16			
2	08	AUG	17			2
0	07	JUL	18			0
1	06	JUN	19			1
0	05	MAY	20			0
	04	APR	21			
	03	MAR	22			
	02	FEB	23			
	01	JAN	24			
	12	DEC	25			
	11	NOV	26			
	10	OCT	27			
	09	SEP	28			
2	08	AUG	29			2
0	07	JUL	30			0
0	06	JUN	31			0
9	05	MAY	32			9
	04	APR	33			
	03	MAR	34			
	02	FEB	35			
	01	JAN	36			
	12	DEC	37			
	11	NOV	38			
	10	OCT	39			
	09	SEP	40			
2	08	AUG	41			2
0	07	JUL	42			0
0	06	JUN	43			0
8	05	MAY	44			8
	04	APR	45			
	03	MAR	46			
	02	FEB	47			
	01	JAN	48			
	12	DEC	49			
	11	NOV	50			
	10	OCT	51			
	09	SEP	52			
2	08	AUG	53			2
0	07	JUL	54			0
0	06	JUN	55			0
7	05	MAY	56			7
	04	APR	57			
	03	MAR	58			
	02	FEB	59			
	01	JAN	60			
	12	DEC	61			
	11	NOV	62			
	10	OCT	63			
	09	SEP	64			
2	08	AUG	65			2
0	07	JUL	66			0
0	06	JUN	67			0
6	05	MAY	68			6
	04	APR	69			
	03	MAR	70			
	02	FEB	71			
	01	JAN	72			

2011 BANGLADESH DEMOGRAPHIC AND HEALTH SURVEYS
MAN'S QUESTIONNAIRE

NIPORT, MOHFW, and
Mitra and Associates

IDENTIFICATION

CLUSTER NUMBER . . . . . [ ][ ][ ]

HOUSEHOLD NUMBER . . . . . [ ][ ][ ]

NAME OF THE HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF MAN _____ [ ][ ]

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY [ ][ ]
				MONTH [ ][ ]
				YEAR 2011
INTERVIEWER'S NAME				INT. NUMBER [ ][ ][ ]
RESULT*				RESULT [ ]
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS [ ]
TIME				

*RESULT CODES:

1	COMPLETED	4	REFUSED		
2	NOT AT HOME	5	PARTLY COMPLETED	7	OTHER _____ (SPECIFY)
3	POSTPONED	6	INCAPACITATED		

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME _____	NAME _____	[ ][ ]	[ ][ ]
DATE _____ [ ][ ][ ]	DATE _____ [ ][ ][ ]		

SECTION 1. RESPONDENT'S BACKGROUND

INTRODUCTION AND CONSENT

INFORMED CONSENT

Hello. My name is _____. I am working with NIPORT, the Ministry of Health and Family Welfare and Mitra Associates, a private research company in Dhaka. We are conducting a survey about health all over Bangladesh. The information we collect will help the government to plan health services. Your household was selected for the survey. The questions usually take about 20 minutes. All of the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

In case you need more information about the survey, you may contact the person listed on the card that has already been given to your household.
Do you have any questions? May I begin the interview now?

SIGNATURE OF INTERVIEWER: _____ DATE: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . . . 1 ↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2→ END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
101	RECORD THE TIME.	HOUR . . . . . [ ][ ] MINUTES . . . . . [ ][ ]	
102	In what month and year were you born?	MONTH . . . . . [ ][ ] DON'T KNOW MONTH . . . . . 98 YEAR . . . . . [ ][ ][ ][ ] DON'T KNOW YEAR 9998	
103	How old were you at your last birthday? COMPARE AND CORRECT 102 AND/OR 103 IF INCONSISTENT.	AGE IN COMPLETED YEARS [ ][ ]	
103A	Are you now married, separated, deserted, widowed, divorced or have you never been married?	CURRENTLY MARRIED . . . . . 1 SEPARATED . . . . . 2 DESERTED . . . . . 3 DIVORCED . . . . . 4 WIDOWED . . . . . 5 NEVER MARRIED 6	→END
104	Have you ever attended school/madrasha?	YES . . . . . 1 NO 2	→108
104A	What type of school have you last attended?	SCHOOL . . . . . 1 MADRASHA 2	
105	What is the highest level of school you attended: primary, secondary, or college and higher?	PRIMARY . . . . . 1 SECONDARY . . . . . 2 COLLEGE AND HIGHER 3	
106	What is the highest class you completed at that level?	CLASS . . . . . [ ][ ]	

107	CHECK 105: PRIMARY ☐ SECONDARY OR HIGHER ☐ → 110		
108	Now I would like you to read this sentence to me. SHOW CARD TO RESPONDENT. IF RESPONDENT CANNOT READ WHOLE SENTENCE, PROBE: Can you read any part of the sentence to me?	CANNOT READ AT ALL . . . . . 1 ABLE TO READ ONLY PARTS OF SENTENCE . . . . . 2 ABLE TO READ WHOLE SENTENCE. . 3 NO CARD WITH REQUIRED LANGUAGE _____ 4 (SPECIFY LANGUAGE) BLIND/VISUALLY IMPAIRED 5	
109	CHECK 108: CODE '2', '3' OR '4' CIRCLED ☐ CODE '1' OR '5' CIRCLED ☐ → 111		
110	Do you read a newspaper or magazine, at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
111	Do you listen to the radio, at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
112	Do you watch television, at least once a week, less than once a week or not at all?	AT LEAST ONCE A WEEK . . . . . 1 LESS THAN ONCE A WEEK . . . . . 2 NOT AT ALL 3	
113	What is your religion?	ISLAM . . . . . 1 HINDUISM . . . . . 2 BUDDHISM . . . . . 3 CHRISTIANITY . . . . . 4 OTHER _____ 6 (SPECIFY)	
114	Are you currently working?	YES . . . . . 1 NO 2	→ 119
115	What is your occupation, that is, what kind of work do you mainly do?	_____ ☐☐ _____ _____	
116	Do you usually work throughout the year, or do you work seasonally, or only once in a while?	THROUGHOUT THE YEAR . . . . . 1 SEASONALLY/PART OF THE YEAR . 2 ONCE IN A WHILE 3	→ 118
117	During the last 12 months, how many months did you work?	NUMBER OF MONTHS . . . . . ☐☐	
118	Do you think that your earning is sufficient, moderately sufficient, or not sufficient to provide for your family's basic needs?	SUFFICIENT . . . . . 1 MODERATELY SUFFICIENT . . . . . 2 NOT SUFFICIENT 3	→ 201
119	Have you done any work in the last 12 months?	YES . . . . . 1 NO 2	→ 201
120	What have you been doing over the last 12 months?	GOING TO SCHOOL . . . . . 1 LOOKING FOR WORK . . . . . 2 INACTIVE . . . . . 3 COULD NOT WORK/HANDICAPPED 4 OTHER _____ 6 (SPECIFY)	

SECTION 2. MARRIAGE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
201	CHECK 103A: CURRENTLY MARRIED ☐ NOT CURRENTLY MARRIED (SEPARATED/DESERTED DIVORCED/WIDOWED) ☐	→ 207	
202	Is your wife staying with you now or is she staying elsewhere?	STAYING WITH HIM . . . . . 1 STAYING ELSEWHERE 2	
203	Do you currently have one wife or more than one wife?	ONE WIFE . . . . . 1 MORE THAN ONE WIFE 2	→ 205
204	Altogether, how many wives do you have?	TOTAL NUMBER OF WIVES . . . . . ☐☐	
205	CHECK 203: ONE WIFE ☐ Please tell me the name of your wife. MORE THAN ONE WIFE ☐ Please tell me the name of each of your current wives . RECORD THE NAME AND THE LINE NUMBER FROM THE HOUSEHOLD QUESTIONNAIRE FOR EACH WIFE AND LIVE-IN PARTNER. IF A WOMAN IS NOT LISTED IN THE HOUSEHOLD, RECORD '00'.	NAME _____ LINE NUMBER ☐☐ 206 How old was (NAME) on her last birthday? AGE ☐☐ _____ ☐☐ ☐☐ _____ ☐☐ ☐☐ _____ ☐☐ ☐☐ _____ ☐☐ ☐☐	
206	ASK 206 FOR EACH PERSON.		
206A	CHECK 203: ONE WIFE ☐ MORE THAN ONE WIFE ☐	→ 208A	
207	Have you been married only once or more than once?	ONLY ONCE . . . . . 1 MORE THAN ONCE 2	→ 208A
208	In what month and year did you start living with your wife?	MONTH . . . . . ☐☐ DON'T KNOW MONTH 98	
208A	Now I would like to ask about your first wife. In what month and year did you start living with her?	YEAR . . . . . ☐☐☐☐ DON'T KNOW YEAR 9998	→ 210
209	How old were you when you started living with her?	AGE . . . . . ☐☐	
210	CHECK FOR THE PRESENCE OF OTHERS. BEFORE CONTINUING, MAKE EVERY EFFORT TO ENSURE PRIVACY.		
211	Now I would like to ask you some questions about sexual activity in order to gain a better understanding of some important life issues. How old were you when you had sexual intercourse for the very first time?	NEVER HAD SEXUAL INTERCOURSE . . . . . 00 AGE IN YEARS . . . . . ☐☐ FIRST TIME WHEN STARTED LIVING WITH (FIRST) WIFE 95	

SECTION 3. FERTILITY PREFERENCES

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
301	CHECK 203: ONE OR MORE WIVES ☐ — QUESTION NOT ASKED ☐ → 307		
302	(Is your wife /Are any of your wives) currently pregnant?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
303	CHECK 302: NO WIFE PREGNANT OR DON'T KNOW ☐ — WIFE(WIVES) PREGNANT ☐ Now I have some questions about the future. Would you like to have (a/another) child, or would you prefer not to have any (more) children? Now I have some questions about the future. After the child(ren) you and your (wife/wives) are expecting now, would you like to have another child, or would you prefer not to have any more children?	HAVE (A/ANOTHER) CHILD . . . . . 1 NO MORE/NONE . . . . . 2 COUPLE INFECUND . . . . . 3 WIFE (WIVES) STERILIZED . . . . . 4 RESPONDENT STERILIZED . . . . . 5 UNDECIDED/DON'T KNOW 8	→ 307
304	CHECK 205: ONE WIFE ☐ — MORE THAN ONE WIFE ☐ → 306		
305	CHECK 303: WIFE NOT PREGNANT OR DON'T KNOW ☐ — WIFE PREGNANT ☐ How long would you like to wait from now before the birth of (a/another) child? After the birth of the child you are expecting now, how long would you like to wait before the birth of another child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 COUPLE INFECUND . . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	→ 307
306	How long would you like to wait from now before the birth of (a/another) child?	MONTHS . . . . . 1 ☐☐ YEARS . . . . . 2 ☐☐ SOON/NOW . . . . . 993 HE/ALL HIS WIVES ARE INFECUND . . . . . 994 OTHER _____ 996 (SPECIFY) DON'T KNOW 998	
307	Do you have any living children?	YES . . . . . 1 NO 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
308	CHECK 307: HAS LIVING CHILDREN → If you could go back to the time you did not have any children and could choose exactly the number of children to have in your whole life, how many would that be? NO LIVING CHILDREN → If you could choose exactly the number of children to have in your whole life, how many would that be? PROBE FOR A NUMERIC RESPONSE.	NONE . . . . . 00 NUMBER . . . . . [ ][ ] OTHER _____ 96 (SPECIFY)	→ 310 → 310
309	How many of these children would you like to be boys, how many would you like to be girls and for how many would the sex not matter?	BOYS GIRLS EITHER NUMBER [ ][ ][ ][ ][ ][ ] OTHER _____ 96 (SPECIFY)	
310	In the last month have you: Heard about family planning on the radio? Seen shows about family planning on the television? Read about family planning in a newspaper or magazine? Read about family planning in a poster, billboard or leaflet? Heard about family planning from a community event?	YES NO RADIO . . . . . 1 2 TELEVISION . . . . . 1 2 NEWSPAPER OR MAGAZINE . 1 2 POSTER/BILLBOARD . . . . . 1 2 COMMUNITY EVENT 1 2	
311	In the last month have you heard about family planning from any community health workers?	YES . . . . . 1 NO 2	→ 313
312	Were these government or non-government worker?	GOVERNMENT . . . . . A NON-GOVERNMENT . . . . . B DON'T KNOW C	
313	I will now read you some statements about contraception. Please tell me if you agree or disagree with each one. a) Contraception is women's business and a man should not have to worry about it. b) Women who use contraception may become promiscuous.	AGREE DISAGREE DK CONTRACEPTION WOMAN'S BUSINESS . 1 2 8 WOMAN MAY BECOME PROMISCUOUS . . . 1 2 8	

SECTION 5. PARTICIPATION IN HEALTH CARE

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
502	Do you think that women need to have a medical checkup when they are pregnant even if they are not sick?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 504
503	At what month of pregnancy do you think that women need to have their first checkup?	MONTH ☐☐ DON'T KNOW 98	
504	During their pregnancy, do you think that women need to eat more, the same, or less than they did before their pregnancy?	MORE . . . . . 1 SAME . . . . . 2 LESS . . . . . 3 DON'T KNOW 8	
505	CHECK 307: HAS LIVING CHILDREN ☐ ↓ / DOES NOT HAVE LIVING CHILDREN ☐ →		601
506	How many years old is your youngest child?	AGE IN YEARS ☐☐	
507	CHECK 506: YOUNGEST CHILD IS 0-3 YEARS OLD ☐ ↓ / YOUNGEST CHILD 4 YEARS OR OLDER ☐ →		601
508	What is the name of your youngest child? WRITE NAME OF YOUNGEST CHILD _____ (NAME OF YOUNGEST CHILD)		
509	Did your wife go to a health facility for antenatal care when she was pregnant with (NAME OF YOUNGEST CHILD)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 511
510	Did any medical persons such as a doctor, nurse, FWV or others visit your wife when she was pregnant with (NAME)?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 512

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
511	Were you present during any of the antenatal care visits?	YES . . . . . 1 NO 2	
512	At any time during this pregnancy, did any medical persons such as a doctor, nurse, FWV or others talk to you about this particular pregnancy?	YES . . . . . 1 NO 2	
513	At any time during this pregnancy, did you ever talk with your wife about what the medical persons such as a doctor, nurse FWV or others told her about her own health or that of the baby's health?	YES . . . . . 1 NO 2	
514	Where did your wife give birth to (NAME)?	HOME OWN HOME . . . . . 11 PUBLIC SECTOR HOSP./MEDICAL COLLEGE . . . . . 21 SPE. MED. COLLEGE _____ 22 (SPECIFY) DISTRICT HOSPITAL . . . . . 23 MCWC . . . . . 24 UPAZILLA HEALTH COMPLEX . . . . . 25 H & FAMILY WELFARE CENTRE . . . . . 26 NGO SECTOR NGO STATIC CLINIC . . . . . 31 OTHER _____ 36 (SPECIFY) PRIVATE MED. SECTOR PVT. HOSPITAL/CLINIC . . . . . 41 PVT. MED. COLLEGE HOSPITAL. _____ 42 (SPECIFY) OTHER _____ 96 (SPECIFY)	
515	Were you present at the birth of (NAME) in (NAME OF PLACE IN 514)?	YES . . . . . 1 NO 2	
516	In the first two months after (NAME) was born, did your wife visit a health facility to have her own health or the baby's health checked?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 518
517	In the first two months after (NAME) was born, did a medical person such as a doctor, nurse, FWV or others make a visit to check on your wife's or baby's health?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 519
518	Were you present during any of the visits?	YES . . . . . 1 NO 2	
519	Did (NAME OF THE YOUNGEST CHILD) ever receive any vaccinations to prevent him/her from getting diseases?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	→ 601
520	Did you take (NAME) to be vaccinated at any time?	YES . . . . . 1 NO 2	

SECTION 6. HIV/AIDS AND STI

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
601	Now I would like to talk about something else. Have you ever heard of an illness called AIDS?	YES . . . . . 1 NO 2	→ 613
602	Can people reduce their chance of getting the AIDS virus by having just one uninfected sex partner who has no other sex partners?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
603	Can people get the AIDS virus from mosquito bites?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
604	Can people reduce their chance of getting the AIDS virus by using a condom every time they have sex?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
605	Can people get the AIDS virus by sharing food with a person who has AIDS?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
606A	Can people get the AIDS virus because of witchcraft or other supernatural means?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
606B	Can people get the AIDS virus by using unsterilized needle or syringe?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
606C	Can people get the AIDS virus through unsafe blood transfusions?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
608	Is it possible for a healthy-looking person to have the AIDS virus?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
613	CHECK 601: HEARD ABOUT AIDS → Apart from AIDS, have you heard about other infections that can be transmitted through sexual contact? NOT HEARD ABOUT AIDS → Have you heard about infections that can be transmitted through sexual contact?	YES . . . . . 1 NO 2	
613A	Have you heard about:	YES NO	
	a) Syphilis?	SYPHILIS 1 2	
	b) Gonorrhea?	GONORRHEA 1 2	
614	CHECK 211: HAS HAD SEXUAL INTERCOURSE NEVER HAD SEXUAL INTERCOURSE →		622
615	CHECK 613/613A: HEARD ABOUT OTHER SEXUALLY TRANSMITTED INFECTIONS? YES NO →		617
616	Now I would like to ask you some questions about your health in the last 12 months. During the last 12 months, have you had a disease which you got through sexual contact?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
617	Sometimes men experience an abnormal discharge from their penis. During the last 12 months, have you had a discharge from your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
618	Sometimes men experience a sore or ulcear on or near their penis. During the last 12 months, have you had a sore or ulcer on or near your penis?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
618A	During the last 12 months, have you had pain or burning sensation during urination?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
619	CHECK 616, 617, 618 AND 618A HAS HAD AN INFECTION (ANY 'YES') ↓ HAS NOT HAD AN INFECTION OR DOES NOT KNOW →		→ 622
620	The last time you had (PROBLEM FROM 616, 617, 618 and 618A), did you seek any kind of advice or treatment?	YES . . . . . 1 NO 2	→ 622
621	Where did you go? Any other place? PROBE TO IDENTIFY EACH TYPE OF SOURCE AND CIRCLE THE APPROPRIATE CODE(S). IF UNABLE TO DETERMINE IF HOSPITAL, HEALTH CENTER VCT CENTER, OR CLINIC IS PUBLIC OR PRIVATE MEDICAL, WRITE THE NAME OF THE PLACE. _____ (NAME OF PLACE(S))	PUBLIC SECTOR MEDICAL COLLEGE HOSPITAL . . . . . A SPECIALIZED GOVT. HOSPITAL _____ B (SPECIFY) DISTRICT HOSPITAL . . . . . C MCWC . . . . . D UHC . . . . . E H&FWC . . . . . F SATELITE CLINIC/EPI OUTREACH SITE . . . . . G COMMUNITY CLINIC . . . . . H FAMILY WELFARE ASST. . . . . I OTHER _____ J (SPECIFY) NGO SECTOR NGO STATIC CLINIC . . . . . K NGO SATELLITE CLINIC . . . . . L NGO DEPO HOLDER . . . . . M NGO FIELD WORKER . . . . . N OTHER _____ O (SPECIFY) PRIVATE MEDICAL SECTOR PRIVATE HOSPITAL/CLINIC/ . . . . . P QUALIFIED DOCTOR . . . . . Q UNQUALIFIED DOCTOR . . . . . R PHARMACY/DRUG STORE . . . . . S PRIVATE MEDICAL COLLEGE HOSPITAL _____ T (SPECIFY) OTHER _____ U (SPECIFY) OTHER SOURCE OTHER _____ X (SPECIFY)	
622	Husbands and wives do not always agree on everything. If a wife knows her husband has a disease that she can get during sexual intercourse, is she justified in refusing to have sex with him?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
623	Is a wife justified in refusing to have sex with her husband when she knows her husband has sex with other women?	YES . . . . . 1 NO . . . . . 2 DON'T KNOW 8	
624	RECORD THE TIME.	HOUR . . . . . ☐☐ MINUTES . . . . . ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ABOUT RESPONDENT:

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF SUPERVISOR: _____ DATE: _____

EDITOR'S OBSERVATIONS

NAME OF EDITOR: _____ DATE: _____

BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY 2011
VERBAL AUTOPSY FORM 1
FOR NEONATAL DEATHS (0-28 DAYS OF AGE)

NIPORT, MOHFW, and
Mitra and Associates

IDENTIFICATION

DIVISION _____

DISTRICT _____

UPAZILA _____

UNION OR WARD _____

VILLAGE OR MOHALLA OR BLOCK _____

CLUSTER NUMBER _____

HOUSEHOLD NUMBER _____

RURAL = 1, CITY CORPORATION = 2, OTHER THAN CC = 3 _____

NAME OF HOUSEHOLD HEAD _____

NAME AND LINE NUMBER OF RESPONDENT _____

NAME AND LINE NUMBER OF DEAD CHILD _____

INTERVIEWER VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR (2011)
INTERVIEWER'S NAME				INT. NUMBER
RESULT*				RESULT
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:

1 COMPLETED
2 NO HOUSEHOLD MEMBER AT HOME
3 MOTHER/KNOWLEDGABLE RESPONDENT NOT PRESENT
4 MOTHER OR KNOWLEDGABLE RESPONDENT POSTPONED
5 MOTHER OR KNOWLEDGABLE RESPONDENT REFUSED
6 DWELLING VACANT/DESTROYED/NOT FOUND
7 OTHER_____ (SPECIFY)

SUPERVISOR	FIELD EDITOR	OFFICE EDITOR	KEYED BY
NAME	NAME		
DATE	DATE		

INFORMED CONSENT

Hello. My name is _____ and I am working with NIPORT, the Ministry of Health and Family Welfare, and Mitra and Associates. We are collecting information on the causes of death in the community. We would very much appreciate your participation in this effort. The questions usually take about 30 to 45 minutes. We learned during our earlier visit that (NAME) has died recently. As part of this survey, we want to ask you about the circumstances leading to the death of the deceased. Whatever information you provide will be kept strictly confidential. No information identifying you or the deceased will ever be released to anyone outside of this information-collection activity.

Participation in this survey is voluntary and if we should come to any question you don't want to answer, just let me know and I will go on to the next question; or you can stop the interview at any time. However, we hope that you will participate in this survey since the results will help the government improve services for Bangladeshi people.

At this time, do you want to ask me anything about the purpose or content of this interview?

May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES TO BE INTERVIEWED . . . 1 ↓ RESPONDENT DOES NOT AGREE TO BE INTERVIEWED . . . 2→ END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 2. BASIC INFORMATION ABOUT RESPONDENT			
201	RECORD THE TIME AT START OF INTERVIEW	HOUR ..... [ ][ ] MINUTES ..... [ ][ ]	
202	NAME OF THE RESPONDENT	_____ (NAME)	
203	What is your relationship to the deceased?	FATHER ..... 1 MOTHER ..... 2 SIBLING ..... 4 OTHER RELATIVE _____ (SPECIFY) 6 NO RELATION 8	
204	Did you live with the deceased in the period leading to her/his death?	YES ..... 1 NO 2	
SECTION 3. INFORMATION ON THE DECEASED AND DATE/PLACE OF DEATH			
301	What was the name of the deceased?	_____ (NAME)	
302	Was the deceased female or male?	FEMALE ..... 1 MALE 2	
303	When was the deceased born? RECORD '98' IF DON'T KNOW DAY OR MONTH. RECORD '9998' IF DON'T KNOW YEAR.	DAY ..... [ ][ ] MONTH ..... [ ][ ] YEAR ..... [ ][ ][ ][ ]	
304	How old was the deceased when s/he died? IF LESS THAN ONE DAY RECORD '00'.	AGE IN DAYS ..... [ ][ ]	
305	When did s/he die? RECORD '98' IF DON'T KNOW DAY OR MONTH. RECORD '9998' IF DON'T KNOW YEAR.	DAY ..... [ ][ ] MONTH ..... [ ][ ] YEAR ..... [ ][ ][ ][ ]	
305A	CHECK 304: AGE AT DEATH 0-28 DAYS ☐↓ AGE AT DEATH 29 DAYS TO 5 YEARS ☐→		USE VA FORM 2
306	Where did s/he die?	HOSPITAL ..... 1 OTHER HEALTH FACILITY ..... 2 HOME ..... 3 OTHER _____ (SPECIFY) 6 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 4. RESPONDENT'S ACCOUNT OF ILLNESS/EVENTS LEADING TO DEATH			
401	Could you tell me about the illness/events that led to her/his death?		
402	CAUSE OF DEATH 1 ACCORDING TO RESPONDENT.		
403	CAUSE OF DEATH 2 ACCORDING TO RESPONDENT.		

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 5. PREGNANCY HISTORY			
501	I would like to ask you some questions concerning the mother and symptoms that (NAME) had/showed at birth and shortly after. Some of these questions may not appear to be directly related to the baby's death. Please bear with me and answer all the questions. They will help us to get a clear picture of all possible symptoms that (NAME) had.		
502	How many births, including stillbirths, did the mother have before this baby?	NUMBER OF BIRTHS/ STILLBIRTHS ..... [ ][ ] DON'T KNOW 98	
503	How many months was the pregnancy when the baby was born?	MONTHS ..... [ ][ ] DON'T KNOW 98	
504	Did the pregnancy end earlier than expected?	YES ..... 1 NO ..... 2 → 506 DON'T KNOW ..... 8 → 506	
505	How many weeks before the expected date of delivery?	WEEKS ..... [ ][ ] DON'T KNOW 98	
506	During the pregnancy did the mother suffer from any of the following known illnesses:	YES NO DK	
	1 High blood pressure?	HIGH BLOOD PRESSURE..... 1 2 8	
	2 Heart disease?	HEART DISEASE..... 1 2 8	
	3 Diabetes?	DIABETES 1 2 8	
	4 Epilepsy/convulsion?	EPILEPSY/CONVULSION 1 2 8	
	5 Did she suffer from any other medically diagnosed illness?	OTHER ..... 1 2 8 _____ (SPECIFY)	
507	During the last 3 months of pregnancy did the mother suffer from any of the following illnesses:	YES NO DK	
	01 Vaginal bleeding?	VAGINAL BLEEDING 1 2 8	
	02 Smelly vaginal discharge?	SMELLY VAGINAL DISCHARGE 1 2 8	
	03 Puffy face?	PUFFY FACE 1 2 8	
	04 Headache?	HEADACHE 1 2 8	
	05 Blurred vision?	BLURRED VISION 1 2 8	
	06 Convulsion?	CONVULSION..... 1 2 8	
	07 Febrile illness?	FEBRILE ILLNESS 1 2 8	
	08 Severe abdominal pain that was not labor pain?	SEVERE ABDOMINAL PAIN (NOT LABOR PAIN)..... 1 2 8	
	09 Pallor and shortness of breath (both present)?	PALLOR/SHORTNESS OF BREATH (BOTH) 1 2 8	
	10 Did she suffer from any other illness?	OTHER ILLNESS..... 1 2 8 _____ (SPECIFY)	
508	Was the child a single or multiple birth?	SINGLETON ..... 1 → 601 TWIN ..... 2 TRIPLET OR MORE ..... 3 DON'T KNOW ..... 8 → 601	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
509	What was the birth order of the child that died?	FIRST ..... 1 SECOND ..... 2 THIRD OR HIGHER ..... 3 DON'T KNOW 8	
SECTION 6. DELIVERY HISTORY			
601	Where was the child born?	HOSPITAL ..... 1 OTHER HEALTH FACILITY ..... 2 HOME ..... 3 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
602	Who assisted with the delivery? Anyone else? PROBE FOR THE TYPE(S) OF PERSON(S) AND RECORD ALL MENTIONED. IF RESPONDENT SAYS NO ONE ASSISTED, PROBE TO DETERMINE WHETHER ANY ADULTS WERE PRESENT DURING THE DELIVERY.	**HEALTH PERSONNEL** QUAL. DOCTOR ..... A NURSE/MIDWIFE/ PARAMEDIC ..... B FAMILY WELFARE VISITOR ..... C COMMUNITY SKILLED BIRTH ATTNDNT D MA/SACMO ..... E HEALTH ASST. ..... F FAMILY WELFARE ASSISTANT ..... G **OTHER PERSON** TRAINED TBA ..... H UNTRAINED TBA ..... I UNQUALIFIED DOCTOR ..... J RELATIVES ..... K NEIGHBOURS/FRIENDS ..... L NGO WORKER ..... M OTHER _____ X (SPECIFY) DON'T KNOW ..... Y NO ONE ASSISTED ..... Z	
603	When did the water break?	BEFORE LABOR STARTED ..... 1 DURING LABOR ..... 2 DON'T KNOW 8	
604	How many hours after the water broke was the baby born?	LESS THAN 24 HOUR ..... 1 24 HOURS OR MORE ..... 2 DON'T KNOW 8	
605	Was the water foul smelling?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
606	Did the baby stop moving in the womb?	YES ..... 1 NO ..... 2 → 608 DON'T KNOW ..... 8 → 608	
607	When did the baby stop moving in the womb?	BEFORE LABOR STARTED ..... 1 DURING LABOR ..... 2 DON'T KNOW 8	
608	Did a birth attendant listen for fetal heart sounds during labor?	YES ..... 1 NO ..... 2 → 610 DON'T KNOW ..... 8 → 610	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
609	Were fetal heart sounds present?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
610	Was there excess bleeding on the day labor started?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
611	Did the mother have a fever on the day labor started?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
612	How long did the labor pains last?	LESS THAN 12 HOUR ..... 1 12-23 HOURS ..... 2 24 HOURS OR MORE ..... 3 DON'T KNOW 8	
613	Was it a normal vaginal delivery?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 615 → 615
614	What type of delivery was it?	FORCEPS/VACUUM ..... 1 CAESAREAN SECTION ..... 2 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	→ 701
615	Which part of the baby came first?	HEAD ..... 1 BOTTOM ..... 2 FEET ..... 3 ARM/HAND ..... 4 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
616	Did the umbilical cord come out before the baby was born?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

SECTION 7. CONDITION OF THE BABY SOON AFTER BIRTH

701	At birth what was the size of the baby?	SMALLER THAN NORMAL ..... 1 NORMAL ..... 2 LARGER THAN NORMAL ..... 3 DON'T KNOW 8	
702	Was the baby premature?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 704 → 704
703	How many months or weeks along was the pregnancy? INDICATE PERIOD OF PREGNANCY.	MONTHS ..... 1 ☐☐ WEEKS ..... 2 ☐☐ DON'T KNOW 998	
704	What was the birth weight of the baby?	KILOGRAMS ..... ☐.☐ DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
705	Was anything applied to the umbilical cord stump after birth?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 707 → 707
706	What was it?	ANTIBIOTICS (POWDER/OINTM) ..... A ANTISEPTIC (DETOL/SAVLON HEXISOL) ..... B SPIRIT/ALCOHOL ..... C MUSTARD OIL WITH GARLIC ..... D CHEWED RICE ..... E TUMERIC JUICE/POWDER ..... F GINGER JUICE ..... G SHIDUR ..... H BORIC POWDER ..... I GENTIAN VIOLET (BLUE INK) ..... J TALCOM POWDER ..... K OTHER _____ X (SPECIFY) DON'T KNOW ..... Z	
707	Were there any signs of injury or broken bones?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 709 → 709
708	Where were marks or signs of injury?	_____ _____ (SPECIFY)	
709	Was there any sign of paralysis?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
710	Did the baby have any malformation?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 712 → 712
711	What kind of malformation did the baby have?	SWELLING/DEFECT ON THE BACK ... A VERY LARGE HEAD ..... B VERY SMALL HEAD ..... C DEFECT OF LIP AND/OR PALATE ..... D OTHER MALFORMATION _____ X (SPECIFY) DON'T KNOW ..... Y	
712	What was the color of the baby at birth?	NORMAL ..... 1 PALE ..... 2 BLUE ..... 3 DON'T KNOW 8	
713	Did the baby breathe after birth, even a little?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
714	Was the baby given assistance to breathe?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
715	Did the baby ever cry after birth, even a little?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
716	Did the baby ever move, even a little?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
717	CHECK 713, 715, AND 716 FOR CODES 'NO': ALL THREE CODES 'NO': THE BABY DIDN'T BREATHE, THE BABY DIDN'T CRY, THE BABY DIDN'T MOVE OTHER		801
718	If the baby did not cry, breathe or move, was it born dead?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 801 → 801
719	Was the baby macerated, that is, showed signs of decay?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→ 1001 → 1001 → 1001
SECTION 8. HISTORY OF INJURIES/ACCIDENTS			
801	Did the baby suffer from any injury or accident that led to her/his death?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 804 → 804
802	What kind of injury or accident did the baby suffer?	ROAD TRAFFIC ACCIDENT ..... 01 FALL ..... 02 DROWNING ..... 03 POISONING ..... 04 BURNS ..... 05 VIOLENCE/ASSAULT ..... 06 OTHER _____ 96 (SPECIFY) DON'T KNOW 98	
803	Was the injury or accident intentionally inflicted by someone else?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
804	Did the baby suffer from any animal/insect bite that led to her/his death?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 901 → 901
805	What type of animal/insect?	DOG ..... 1 SNAKE ..... 2 INSECT ..... 3 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 9. NEONATAL ILLNESS HISTORY			
901	Was the baby ever able to suckle or bottle-feed?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 905 → 905
902	How soon after birth did the baby suckle or bottle-feed?	HOURS ..... 1 DAYS ..... 2 DON'T KNOW 998	
903	Did the baby stop suckling or bottle-feeding?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 905 → 905
904	How many days after birth did the baby stop suckling or bottle-feeding?	DAYS ..... DON'T KNOW 98	
905	Was the breastfeeding exclusive?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
906	Did the baby have convulsions?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 908 → 908
907	How soon after birth did the convulsions start?	DAYS ..... DON'T KNOW 98	
908	Did the baby become stiff and arched backwards?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
909	Did the child have bulging of the fontanelle?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 911 → 911
910	How many days after birth did the baby have the bulging?	DAYS ..... DON'T KNOW 98	
911	Did the baby become unresponsive or unconscious?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 913 → 913
912	How many days after birth did the baby become unresponsive or unconscious?'	DAYS ..... DON'T KNOW 98	
913	Did the baby have a fever?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 915 → 915
914	How many days after birth did the baby have a fever?	DAYS ..... DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
915	Did the baby become cold to the touch?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 917 → 917
916	How many days after birth did the baby become cold to the touch?	DAYS ..... ☐☐ DON'T KNOW 98	
917	Did the baby have a cough?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 919 → 919
918	How many days after birth did the baby start to cough?	DAYS ..... ☐☐ DON'T KNOW 98	
919	Did the baby have fast breathing?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 921 → 921
920	How many days after birth did the baby start breathing fast?	DAYS ..... ☐☐ DON'T KNOW 98	
921	Did the baby have difficulty breathing?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 926 → 926
922	How many days after birth did the baby start having difficulty in breathing?	DAYS ..... ☐☐ DON'T KNOW 98	
923	Did the baby have chest indrawing?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
924	Did the baby have grunting? DEMONSTRATE.	YES ..... 1 NO ..... 2 DON'T KNOW 8	
925	Did the baby have flaring of the nostrils?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
926	Did the baby have diarrhea?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 930 → 930
927	How many days after birth did the baby have diarrhea?	DAYS ..... ☐☐ DON'T KNOW 98	
928	When the diarrhea was most severe, how many times did the baby pass stools in a day?	NUMBER ..... ☐☐ DON'T KNOW 98	
929	Was there blood in the stools?	YES ..... 1 NO ..... 2 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
930	Did the baby have vomiting?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 933 → 933
931	How many days after birth did vomiting start?	DAYS ..... ☐☐ DON'T KNOW 98	
932	When the vomiting was most severe, how many times did the baby vomit in a day?	NUMBER OF TIMES A DAY ..... ☐☐ DON'T KNOW 98	
933	Did the baby have abdominal distension?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 935 → 935
934	How many days after birth did the baby have abdominal distension?	DAYS ..... ☐☐ DON'T KNOW 98	
935	Did the baby have redness or discharge from the umbilical cord stump?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
936	Did the baby have a pustular skin rash?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
937	Did the baby have yellow palms or soles?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 1001 → 1001
938	How many days after birth did the yellow palms or soles begin?	DAYS ..... ☐☐ DON'T KNOW 98	
939	For how many days did the baby have yellow palms or soles?	DAYS ..... ☐☐ DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 10. MOTHER'S HEALTH AND CONTEXTUAL FACTORS			
1001	What was the age of the mother at the time the baby died?	YEARS ..... ☐☐ DON'T KNOW 98	
1002	Did the mother receive antenatal care?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
1003	Did the mother receive tetanus toxoid (TT) vaccine?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 1005 → 1005
1004	How many doses?	NUMBER OF DOSES ..... ☐☐ DON'T KNOW 98	
1005	How is the mother's health now?	HEALTHY ..... 1 ILL ..... 2 NOT ALIVE ..... 3 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 11 TREATMENT AND HEALTH SERVICE USE FOR THE FINAL ILLNESS			
1101	Did the baby receive any treatment for the illness that led to death?	YES ..... 1 NO ..... 2 →1201 DON'T KNOW ..... 8 →1201	
1102	Can you please list the treatments the baby was given for the illness that led to death? COPY FROM PRESCRIPTION/DISCHARGE NOTES IF AVAILABLE	_____ _____ _____	
1103	Please tell me at which of the following places or facilities the baby received treatment during the illness that led to death: Anywhere else?	**HOME** YOUR HOME ..... A **PUBLIC SECTOR** HOSP./MEDICAL COLLEGE ..... B SPE. MEDICAL COLLEGE _____ C (SPECIFY) DISTRICT HOSPITAL ..... D MCWC ..... E UPAZILLA HEALTH COMPLEX ..... F H & FAMILY WELFARE CENTRE ..... G SAT. CLINIC/EPI OUTREACH ..... H COMM. CLINIC ..... I OTHER _____ J (SPECIFY) **NGO SECTOR** NGO STATIC CLINIC ..... K NGO SAT CLINIC ..... L OTHER _____ M (SPECIFY) **PRIVATE MED. SECTOR** PVT. HOSPITAL/CLINIC ..... N QUALIFIED DOC. CHAMBER ..... O UNQUALIFIED DOC. CHAMBER ..... P PHARMACY ..... Q PVT. MED COLL. HOSPITAL ..... R OTHER _____ X (SPECIFY)	
1103A	CHECK Q.1103: CODE B TO O,R CIRCLED ☐↓ OTHER CODE CIRCLED ☐ → 1201		
1104	In the month before death, how many contacts with formalhealth services did the baby have?	NUMBER OF CONTACTS ..... ☐☐ DON'T KNOW 98	
1105	Did a health care worker tell you the cause of death?	YES ..... 1 NO ..... 2 →1201 DON'T KNOW ..... 8 →1201	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
1106	What did the health care worker say?	_____ _____ _____	

SECTION 12 DATA ABSTRACTED FROM DEATH CERTIFICATE

1201	Do you have a death certifcate for the baby?	YES ..... 1 NO ..... 2 →1301 DON'T KNOW ..... 8 →1301	
1202	Can I see the death certificate? COPY DAY, MONTH AND YEAR OF DEATH FROM THE DEATH CERTIFICATE.	**DAY** **MONTH** **YEAR** ☐☐ ☐☐ ☐☐☐☐	
1203	COPY DAY, MONTH AND YEAR OF ISSUE OF DEATH CERTIFICATE.	**DAY** **MONTH** **YEAR** ☐☐ ☐☐ ☐☐☐☐	
1204	RECORD THE CAUSE OF DEATH FROM THE FIRST (TOP) LINE OF THE DEATH CERTIFICATE: _____		
1205	RECORD THE CAUSE OF DEATH FROM THE SECOND LINE OF THE DEATH CERTIFICATE (IF ANY): _____		
1206	RECORD THE CAUSE OF DEATH FROM THE THIRD LINE OF THE DEATH CERTIFICATE (IF ANY): _____		
1207	RECORD THE CAUSE OF DEATH FROM THE FOURTH LINE OF THE DEATH CERTIFICATE (IF ANY): _____		

SECTION 13. DATA ABSTRACTED FROM OTHER HEALTH RECORDS			
1301	OTHER HEALTH RECORDS AVAILABLE	YES ..... 1 NO 2	→ 1311
1302	FOR EACH TYPE OF HEALTH RECORD SUMMARIZE DETAILS FOR LAST 2 VISITS (IF MORE THAN 2) AND RECORD DATE OF ISSUE. (RECORD INFORMATION ABOUT MOTHER AND STILLBORN DECEASED CHILD)		
1303	BURIAL PERMIT (CAUSE OF DEATH) _____		
1304	POST MORTEM RESULTS (CAUSE OF DEATH) _____		
1305	VACCINATION/MCH/ANC CARD (RELEVANT INFORMATION) _____		
1306	HOSPITAL PRESCRIPTION (RELEVANT INFORMATION) _____		
1307	TREATMENT CARDS (RELEVANT INFORMATION) _____		
1308	HOSPITAL DISCHARGE (RELEVANT INFORMATION) _____		
1309	LABORATORY RESULTS (RELEVANT INFORMATION) _____		
1310	OTHER HOSPITAL DOCUMENTS SPECIFY: _____		
1311	RECORD THE TIME AT THE END OF INTERVIEW	HOURS ..... ☐☐ MINUTES ..... ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR: _____ DATE: _____

BANGLADESH DEMOGRAPHIC AND HEALTH SURVEY 2011
VERBAL AUTOPSY FORM 2
DEATH OF CHILD AGED 4 WEEKS TO 5 YEARS

NIPORT, MOHFW, and
Mitra and Associates

IDENTIFICATION

DIVISION _____
DISTRICT _____
UPAZILA _____
UNION OR WARD _____
VILLAGE OR MOHALLA OR BLOCK _____
CLUSTER NUMBER _____
HOUSEHOLD NUMBER _____
RURAL = 1, CITY CORPORATION = 2, OTHER URBAN = 3 _____
NAME OF HOUSEHOLD HEAD _____
NAME AND LINE NUMBER OF MOTHER _____
NAME AND LINE NUMBER OF DEAD CHILD _____

INTERVIEWING VISITS

	1	2	3	FINAL VISIT
DATE				DAY / MONTH / YEAR (2011)
FIELD EDITOR'S NAME				F.EDITOR
RESULT*				RESULT
NEXT VISIT: DATE				TOTAL NUMBER OF VISITS
TIME				

*RESULT CODES:
1 COMPLETED 2 NOT AT HOME 3 POSTPONED 4 REFUSED
5 PARTLY COMPLETED 6 NO APPROPRIATE RESPONDENT FOUND 7 OTHER _____ (SPECIFY)

LANGUAGE OF QUESTIONNAIRE: 1 LANGUAGE OF INTERVIEW: _____ LANGUAGE OF RESPONDENT _____

LANGUAGE CODES:

TRANSLATOR USED: (YES = 1, NO = 2) _____

SUPERVISOR: NAME _____ DATE _____ _____

OFFICE EDITOR _____

KEYED BY _____

RECORD THE NAME AND LINE NUMBER OF THE HOUSEHOLD MEMBER WHO IS IDENTIFIED AS MOST KNOWLEDGEABLE ABOUT THE CIRCUMSTANCES OF THE DEATH OF THE CHILD.

NAME OF RESPONDENT _____ LINE NUMBER FROM HOUSEHOLD SCHEDULE . . . . | | |

Hello. My name is _____ and I am working with Mitra and Associates under the authority of NIPORT of the Ministry of Health and Social Welfare.
We are collecting information on the causes of death of children in the community. We would very much appreciate your participation in this effort.
We learned during our earlier visit that [NAME OF CHILD] had died recently. We want to ask you about the circumstances leading to this death.
Whatever information you provide will be kept strictly confidential and will not be shared with anyone other than members of our survey team.
Participation in this survey is voluntary; some of the questions may be painful and you can choose not to answer any individual question or all of the questions. You may also stop the interview completely at any time without any consequences at all. However, we hope that you will participate in this survey since the results will help the government improve services for people.

At this time, do you want to ask me anything about the purpose or content of this interview?

May I begin the interview now?

Signature of interviewer: _____ Date: _____

RESPONDENT AGREES . . . . . 1 ↓ RESPONDENT DOES NOT AGREE . . . . . 2 → END

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 2. BASIC INFORMATION ABOUT RESPONDENT			
201	RECORD THE TIME AT THE START OF THE INTERVIEW.	HOUR ..... ☐☐ MINUTES ..... ☐☐	
202	NAME OF THE RESPONDENT	_____ (NAME)	
203	What is your relationship to the deceased?	FATHER ..... 1 MOTHER ..... 2 SIBLING ..... 4 OTHER RELATIVE _____ (SPECIFY) 6 NO RELATION 8	
204	Did you live with the deceased in the period leading to her/his death?	YES ..... 1 NO 2	
SECTION 3. INFORMATION ON THE DECEASED AND DATE/PLACE OF DEATH			
301	What was the name of the deceased?	_____ (NAME)	
302	Was the deceased female or male?	FEMALE ..... 1 MALE 2	
303	When was the deceased born? RECORD '98' IF DON'T KNOW DAY OR MONTH. RECORD '9998' IF DON'T KNOW YEAR.	DAY ..... ☐☐ MONTH ..... ☐☐ YEAR ..... ☐☐☐☐	
304	How old was the deceased when s/he died? RECORD IN `DAYS' IF AGE AT DEATH IS LESS THAN ONE MONTH. OTHERWISE RECORD IN MONTHS.	AGE IN DAYS ..... 1 ☐☐ AGE IN MONTHS ..... 2 ☐☐	
305	When did s/he die? RECORD '98' IF DON'T KNOW DAY OR MONTH. RECORD '9998' IF DON'T KNOW YEAR.	DAY ..... ☐☐ MONTH ..... ☐☐ YEAR ..... ☐☐☐☐	
306	CHECK 304: AGE AT DEATH 29 DAYS TO 5 YEARS ☐ ↓ AGE AT DEATH 28 DAYS OR LESS ☐ →		USE VA FORM 1
307	Where did s/he die?	HOSPITAL ..... 1 OTHER HEALTH FACILITY ..... 2 HOME ..... 3 OTHER _____ (SPECIFY) 6 DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 4. RESPONDENT'S ACCOUNT OF ILLNESS/EVENTS LEADING TO DEATH			
401	Could you tell me about the illness/events that led to her his/death?		
402	CAUSE OF DEATH 1 ACCORDING TO RESPONDENT		
403	CAUSE OF DEATH 2 ACCORDING TO RESPONDENT		
SECTION 5. HISTORY OF PREVIOUSLY KNOWN MEDICAL CONDITIONS			
501	I would like to ask you some questions concerning previously known medical conditions the deceased had; injuries and accidents that the deceased suffered; and signs and symptoms that (NAME) had/showed when s/he was ill. Some of these questions may not appear to be directly related to his/her death. Please bear with me and answer all the questions. They will help us to get a clear picture of all possible symptoms that the deceased had. Please tell me if the deceased suffer from any of the following illnesses:		
502	Heart disease?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
503	Diabetes?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
504	Asthma?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
505	Epilepsy?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
506	Malnutrition?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
507	Cancer?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 509 → 509

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
508	Can you specify the type or site of cancer?	TYPE/SITE _____	
509	Tuberculosis?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
510	HIV/AIDS?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
511	Did s/he suffer from any other medically diagnosed illness?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 → 601 → 601
512	Can you specify the illness?	ILLNESS _____	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 6 HISTORY OF INJURIES/ACCIDENTS			
601	Did s/he suffer from any injury or accident that led to her/his death?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →606 →606
602	What kind of injury or accident did the deceased suffer?	ROAD TRAFFIC ACCIDENT ..... 01 FALL ..... 02 DROWNING ..... 03 POISONING ..... 04 BURNS ..... 05 VIOLENCE/ASSAULT ..... 06 OTHER _____ 96 (SPECIFY)	
603	Was the injury or accident intentionally inflicted by someone else?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
606	Did s/he suffer from any animal/insect bite that led to her/his death?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →608 →608
607	What type of animal/insect?	DOG ..... 1 SNAKE ..... 2 INSECT ..... 3 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	
608	CHECK QUESTION 304 FOR AGE AT DEATH: UNDER ONE YEAR ☐ ↓ ONE YEAR OR OLDER ☐		→801
SECTION 7. SYMPTOMS AND SIGNS NOTED DURING THE FINAL ILLNESS OF INFANTS			
701	Was the child small at birth?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
702	Was the child born prematurely?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →704 →704
703	How many months or weeks premature? INDICATE PERIOD OF PREGNANCY	WEEKS ..... 1 ☐☐ MONTHS ..... 2 ☐☐ DON'T KNOW 998	
704	Was the child growing normally?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
705	Did the child have bulging of the fontanelle?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →801 →801
706	For how many days before death did s/he have the bulging?	DAYS ..... ☐☐ DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 8. STATUS OF MOTHER AND SYMPTOMS NOTED DURING THE FINAL ILLNESS FOR ALL CHILDREN			
801	How is the mother's health now?	HEALTHY ..... 1 ILL ..... 2 NOT ALIVE ..... 3 DON'T KNOW 8	
802	For how long was the child ill before s/he died?	DAYS ..... 1 MONTHS ..... 2 DON'T KNOW 998	
803	Did s/he have a fever?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→808 →808
804	For how long did s/he have a fever?	DAYS ..... 1 MONTHS ..... 2 DON'T KNOW 998	
805	Was the fever severe?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
806	Was the fever continuous or on and off?	CONTINUOUS ..... 1 ON AND OFF ..... 2 DON'T KNOW 8	
807	Did s/he have chills/rigor?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
808	Did s/he have a cough?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→812 →812
809	For how long did s/he have a cough?	DAYS ..... 1 MONTHS ..... 2 DON'T KNOW 998	
810	Was the cough severe?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
811	Did the child vomit after he/she coughed?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
812	Did s/he have fast breathing?	YES ..... 1 NO ..... 2 DON'T KNOW 8	→818 →818
813	For how long did s/he have fast breathing?	DAYS ..... DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
814	Did s/he have difficulty in breathing?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →820 →820
815	For how long did s/he have difficulty in breathing?	DAYS ..... [ ][ ] DON'T KNOW 98	
816	Did s/he have chest indrawing?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →818 →818
817	For how long did s/he have chest indrawing?	DAYS ..... [ ][ ] DON'T KNOW 98	
818	Did s/he have noisy breathing (grunting or wheezing)? DEMONSTRATE	YES ..... 1 NO ..... 2 DON'T KNOW 8	
819	Did s/he have flaring of the nostrils?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
820	Did s/he have diarrhoea?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →824 →824
821	For how long did s/he have diarrhoea?	DAYS ..... [ ][ ] DON'T KNOW 98	
822	When the diarrhoea was most severe, how many times did s/he pass stool in a day?	NUMBER ..... [ ][ ] DON'T KNOW 98	
823	At any time during the final illness was there blood in the stool?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
824	Did s/he vomit?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →827 →827
825	For how long did s/he vomit?	DAYS ..... [ ][ ] DON'T KNOW 98	
826	When the vomiting was most severe, how many times did s/he vomit in a day?	DAYS ..... [ ][ ] DON'T KNOW 98	
827	Did s/he have abdominal pain?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →830 →830

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
828	For how long did s/he have abdominal pain?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
829	Was the abdominal pain severe?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
830	Did s/he have abdominal distension?	YES ..... 1 NO ..... 2 →834 DON'T KNOW ..... 8 →834	
831	For how long did s/he have abdominal distension?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
832	Did the distension develop rapidly within days or gradually over months?	RAPIDLY WITHIN DAYS ..... 1 GRADUALLY OVER MONTHS ..... 2 DON'T KNOW 8	
833	Was there a period of a day or longer during which s/he did not pass any stool?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
834	Did s/he have any mass in the abdomen?	YES ..... 1 NO ..... 2 →836 DON'T KNOW ..... 8 →836	
835	For how long did s/he have the mass in the abdomen?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
836	Did s/he have headache?	YES ..... 1 NO ..... 2 →839 DON'T KNOW ..... 8 →839	
837	For how long did s/he have headache?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
838	Was the headache severe?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
839	Did s/he have a stiff or painful neck?	YES ..... 1 NO ..... 2 →841 DON'T KNOW ..... 8 →841	
840	For how long did s/he have a stiff or painful neck?	DAYS ..... [ ][ ] DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
841	Did s/he become unconscious?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →844 →844
842	For how long was s/he unconscious?	DAYS ..... [ ][ ] DON'T KNOW 98	
843	Did the unconsciousness start suddenly, quickly within a single day, or slowly over many days?	SUDDENLY ..... 1 FAST (IN A DAY) ..... 2 SLOWLY (MANY DAYS) ..... 3 DON'T KNOW 8	
844	Did s/he have convulsions?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →846 →846
845	For how long did s/he have convulsions?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
846	Did s/he have paralysis of the lower limbs?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →849 →849
847	How long did s/he have paralysis of the lower limbs?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
848	Did the paralysis of the lower limbs start suddenly, quickly within a single day, or slowly over many days?	SUDDENLY ..... 1 FAST (IN A DAY) ..... 2 SLOWLY (MANY DAYS) ..... 3 DON'T KNOW 8	
849	Was there any change in the amount of urine s/he passed daily?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →852 →852
850	For how long did s/he have the change in the amount of urine s/he passed daily?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
851	How much urine did s/he pass?	TOO MUCH ..... 1 TOO LITTLE ..... 2 NO URINE AT ALL ..... 3 DON'T KNOW 8	
852	During the illness that led to death, did s/he have any skin rash?	YES ..... 1 NO ..... 2 DON'T KNOW 8	 →856 →856

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
853	For how long did s/he have the skin rash?	DAYS ..... [ ][ ] DON'T KNOW 98	
854	Was the rash located on: 1 The face? 2 The trunk? 3 On the arms and legs? 4 Any other place?	YES NO DK FACE ..... 1 2 8 TRUNK ..... 1 2 8 ARMS AND LEGS ..... 1 2 8 OTHER PLACE _____ (SPECIFY) 1 2 8	
855	What did the rash look like?	MEASLES RASH ..... 1 RASH WITH CLEAR FLUID ..... 2 RASH WITH PUS ..... 3 DON'T KNOW 8	
856	Did s/he have red eyes?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
857	Did s/he have bleeding from the nose, mouth, or anus?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
858	Did s/he have weight loss?	YES ..... 1 NO ..... 2 →861 DON'T KNOW ..... 8 →861	
859	For how long before death did s/he have the weight loss?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
860	Did s/he look very thin and wasted?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
861	Did s/he have mouth sores or white patches in the mouth or on the tongue?	YES ..... 1 NO ..... 2 →863 DON'T KNOW ..... 8 →863	
862	For how long did s/he have mouth sores or white patches in the mouth or on the tongue?	DAYS ..... [ ][ ] DON'T KNOW 98	
863	Did s/he have any swelling?	YES ..... 1 NO ..... 2 →866 DON'T KNOW ..... 8 →866	
864	For how long did s/he have the swelling?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
865	Was the swelling on: 1 The face? 2 The joints? 3 The ankles? 4 The whole body? 5 Any other place?	YES NO DK FACE ..... 1 2 8 JOINTS ..... 1 2 8 ANKLES ..... 1 2 8 WHOLE BODY ..... 1 2 8 OTHER PLACE ..... 1 2 8 SPECIFY:	
866	Did s/he have any lumps?	YES ..... 1 NO ..... 2 →869 DON'T KNOW ..... 8 →869	
867	For how long did s/he have the lumps?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
868	Were the lumps on: 1 The neck? 2 The armpit? 3 The groin? 4 Any other place?	YES NO DK NECK ..... 1 2 8 ARMPIT ..... 1 2 8 GROIN ..... 1 2 8 OTHER PLACE ..... 1 2 8 SPECIFY	
869	Did s/he have yellow discoloration of the eyes?	YES ..... 1 NO ..... 2 →871 DON'T KNOW ..... 8 →871	
870	For how long did s/he have the yellow discoloration of the eyes?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
871	Did her/his hair color change to reddish or yellowish?	YES ..... 1 NO ..... 2 →873 DON'T KNOW ..... 8 →873	
872	For how long did s/he have reddish/yellowish hair?	DAYS ..... 1 [ ][ ] MONTHS ..... 2 [ ][ ] DON'T KNOW 998	
873	Did s/he look pale (thinning/lack of blood) or have pale palms, eyes or nail beds?	YES ..... 1 NO ..... 2 →875 DON'T KNOW ..... 8 →875	
874	For how long did s/he look pale (thinning/lack of blood) or have pale palms, eyes, or nail beds?	DAYS ..... [ ][ ] DON'T KNOW 98	
875	Did s/he have sunken eyes?	YES ..... 1 NO ..... 2 →901 DON'T KNOW ..... 8 →901	
876	For how long did s/he have sunken eyes?	DAYS ..... [ ][ ] DON'T KNOW 98	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 9. TREATMENT AND HEALTH SERVICE USE FOR THE FINAL ILLNESS			
901	Was s/he vaccinated for measles?	YES ..... 1 NO ..... 2 DON'T KNOW 8	
902	Did s/he receive any treatment for the illness that led to death?	YES ..... 1 NO ..... 2 → 909 DON'T KNOW ..... 8 → 909	
903	Can you please list the drugs s/he was given for the ilness that led to death? COPY FROM PRESCRIPTION/DISCHARGE NOTES IF AVAILABLE.	_____ _____ _____	
904	What type of treatment did s/he receive: 1 Oral rehydration salts and/or intravenous fluids (drip) treatment? 2 Blood transfusion? 3 Treatment/food through a tube passed through the nose? 4 Any other treatment?	YES NO DK ORS/DRIP TREATMENT ..... 1 2 8 BLOOD TRANSFUSION ..... 1 2 8 THROUGH THE NOSE ..... 1 2 8 OTHER 1 2 8 (SPECIFY)	
905	Please tell me at which of the following places or facilities the baby received treatment during the illness that led to death: Anywhere else?	**HOME** YOUR HOME ..... A **PUBLIC SECTOR** HOSP./MEDICAL COLLEGE ..... B SPE. MEDICAL COLLEGE _____ C (SPECIFY) DISTRICT HOSPITAL ..... D MCWC ..... E UPAZILLA HEALTH COMPLEX ..... F H & FAMILY WELFARE CENTRE ..... G SAT. CLINIC/EPI OUTREACH ..... H COMM. CLINIC ..... I OTHER _____ J (SPECIFY) **NGO SECTOR** NGO STATIC CLINIC ..... K NGO SAT CLINIC ..... L OTHER _____ M (SPECIFY) **PRIVATE MED. SECTOR** PVT. HOSPITAL/CLINIC ..... N QUALIFIED DOC. CHAMBER ..... O UNQUALIFIED DOC. CHAMBER ..... P PHARMACY ..... Q PVT. MED COLL. HOSPITAL ..... R OTHER _____ X (SPECIFY)	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
905A	CHECK Q.905: CODE B TO O,R CIRCLED ↓ OTHER CODE CIRCLED ☐ →		909
906	In the month before death, how many contacts with formal health services did s/he have?	NUMBER OF CONTACTS ..... ☐☐ DON'T KNOW 98	
907	Did a health care worker tell you the cause of death?	YES ..... 1 NO ..... 2 → 909 DON'T KNOW ..... 8 → 909	
908	What did the health care worker say?	_____ _____ _____	
909	Did s/he have any operation for the illness?	YES ..... 1 NO ..... 2 → 1001 DON'T KNOW ..... 8 → 1001	
910	How long before death did s/he have the operation?	DAYS ..... ☐☐ DON'T KNOW 98	
911	On what part of the body was the operation?	ABDOMEN ..... 1 CHEST ..... 2 HEAD ..... 3 OTHER _____ 6 (SPECIFY) DON'T KNOW 8	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
SECTION 10. DATA ABSTRACTED FROM DEATH CERTIFICATE			
1001	Do you have a death certifcate for the deceased?	YES ..... 1 NO ..... 2 → 1101 DON'T KNOW ..... 8 → 1101	
1002	Can I see the death certificate? COPY DAY, MONTH AND YEAR OF DEATH FROM THE DEATH CERTIFICATE.	**DAY** **MONTH** **YEAR** ☐☐ ☐☐ ☐☐☐☐	
1003	COPY DAY, MONTH AND YEAR OF ISSUE OF DEATH CERTIFICATE.	**DAY** **MONTH** **YEAR** ☐☐ ☐☐ ☐☐☐☐	
1004	RECORD THE CAUSE OF DEATH FROM THE FIRST (TOP) LINE OF THE DEATH CERTIFICATE: _____		
1005	RECORD THE CAUSE OF DEATH FROM THE SECOND LINE OF THE DEATH CERTIFICATE (IF ANY): _____		
1006	RECORD THE CAUSE OF DEATH FROM THE THIRD LINE OF THE DEATH CERTIFICATE (IF ANY): _____		
1007	RECORD THE CAUSE OF DEATH FROM THE FOURTH LINE OF THE DEATH CERTIFICATE (IF ANY): _____		

SECTION 11. DATA ABSTRACTED FROM OTHER HEALTH RECORDS			
1101	OTHER HEALTH RECORDS AVAILABLE	YES ..... 1 NO 2	→ 1111
1102	FOR EACH TYPE OF HEALTH RECORD SUMMARIZE DETAILS FOR LAST 2 VISITS (IF MORE THAN 2) AND RECORD DATE OF ISSUE		
1103	BURIAL PERMIT (CAUSE OF DEATH) _____		
1104	POST MORTEM RESULTS (CAUSE OF DEATH) _____		
1105	MCH/ANC CARD (RELEVANT INFORMATION) _____		
1106	HOSPITAL PRESCRIPTION (RELEVANT INFORMATION) _____		
1107	TREATMENT CARDS (RELEVANT INFORMATION) _____		
1108	HOSPITAL DISCHARGE (RELEVANT INFORMATION) _____		
1109	LABORATORY RESULTS (RELEVANT INFORMATION) _____		
1110	OTHER HOSPITAL DOCUMENTS SPECIFY: _____		
1111	RECORD THE TIME AT THE END OF INTERVIEW	HOURS ..... ☐☐ MINUTES ..... ☐☐	

INTERVIEWER'S OBSERVATIONS

TO BE FILLED IN AFTER COMPLETING INTERVIEW

COMMENTS ON SPECIFIC QUESTIONS:

ANY OTHER COMMENTS:

SUPERVISOR'S OBSERVATIONS

NAME OF THE SUPERVISOR: _____ DATE: _____

Bangladesh Demographic and Health Survey 2011
COMMUNITY QUESTIONNAIRE

NIPORT, MOHFW, and
Mitra and Associates

IDENTIFICATION

DIVISION _____
(BARISAL=1; CHITTAGONG=2; DHAKA=3; KHULNA=4; RAJSHAHI=5; RANGPUR=6 ; SYLHET=7)

DISTRICT _____

THANA _____

UNION/WARD _____

VILLAGE/MOHALLA/BLOCK _____

CLUSTER NUMBER .....

TYPE OF AREA: 1 = RURAL AREA; 2 = CITY CORPORATION
3 = OTHER THAN CITY CORPORATION

GPS READING:

		Degrees	Minutes	Thousandths
LATITUDE.....	N			
LONGITUDE	E			

ALTITUDE/ELEVATION……

WAYPOINT.....

DATE OF VISIT _____

DAY .....
MONTH .....
YEAR.....
RESULT .....
INTERVIEWER CODE.....

RESULTS OF THE INTERVIEW:
[COMPLETED =1, INCOMPLETE = 2,
OTHER (SPECIFY) = 6]

NAME OF INTERVIEWER _____

NAME OF PERSONS INTERVIEWED

1 _____
2 _____
3 _____
4 _____
5 _____
6 _____

	POSITION	SEX
ELECTED OFFICIAL.....	01	MALE..... 1
RELIGIOUS LEADER.....	02	FEMALE 2
TEACHER/EDUCATOR	03	
DOCTOR/HEALTH OFFICIAL	04	
SERVICE HOLDER.....	05	
BUSINESS PERSON	06	
OTHER_____ (SPECIFY)	96	

BEGINNING TIME:

HOUR .....
MINUTES.....

1. Community information

INFORMED CONSENT
AFTER ASSEMBLING THE INFORMANTS, READ THE FOLLOWING GREETING:
Hello. I am representing the NIPORT of the Ministry of Health and Family Welfare. We are carrying out a survey of communities to get a picture of services available to the communities and to understand when and why people use health services. I would like to ask you some questions about your community and about sources of health care in it and around it as a way of better understanding how to serve the population. Please be assured that this discussion is strictly confidential and you may choose to stop the interview at any time. May I continue?

No.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
100	PERMISSION RECEIVED TO CONTINUE?	YES..... 1 NO..... 2	☐Stop
100A	CHECK RURAL AREA ☐	URBAN AREA ☐ →	→ 107
102	Which is the most common type of transportation, i.e, most of the people use to go to the Thana Headquarters?	CAR/BUS/TEMPO..... 01 MOTORCYCLE ..... 02 MOTOR LAUNCH ..... 03 BICYCLE..... 04 ANIMAL CART ..... 05 BOAT ..... 06 PATH ..... 07 RICKSHAW/RICKSHAW VAN..... 08 TRAIN ..... 09 BABY TAXI..... 10 OTHER_____ 96 (SPECIFY)	
103	How long does it take to go to the Thana Headquarters using the transportation (MENTIONED IN Q 102)?	MINUTES ..... ☐☐☐ DON'T KNOW 998	
103a	What was the transportation cost to go to the thana headquarters using the transportation (MENTIONED IN Q102)? ONE WAY TRIP	TK. ..... ☐☐☐☐	
105	Which is the most common type of transportation, i.e, most of the people use to go to the District Headquarters?	CAR/BUS/TEMPO.....01 MOTORCYCLE .....02 MOTOR LAUNCH .....03 BICYCLE.....04 ANIMAL CART .....05 BOAT .....06 PATH .....07 RICKSHAW/RICKSHAW VAN.....08 TRAIN .....09 BABY TAXI.....10 OTHER _____ 96 (SPECIFY)	
106	How long does it take to go to the District Headquarters using the transportation (MENTIONED IN Q 105)?	MINUTES ..... ☐☐☐ DON'T KNOW 998	
106a	What was the transportation cost for one way trip to go to the District headquarters using the transportation (MENTIONED IN Q105)?	TK. ..... ☐☐☐☐	
107	What is the main access route to this village/mohalla ?	ALL WEATHER ROAD/ PACCA ROAD/MOTORABLE.....1 SEASONAL ROAD/EARTHEN.....2 WATERWAY .....3 PATH .....4 OTHER_____.....6 (SPECIFY)	

No.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
108	What are the main economic activities in this area/village? (CIRCLE ALL MENTIONED)	AGRICULTURE ..... A LIVESTOCK ..... B FISHING..... C COMMERCE ..... D MANUFACTURING..... E DAY LABOR..... F SERVICE ..... G OTHER_____..... X (SPECIFY)	
109A	CHECK RURAL AREA ☐	URBAN AREA ☐	→ 111A
110	How far is the nearest weekly market from this village? IF LESS THAN ONE MILE/KILOMETER, RECORD "00". RECORD "97" IF DISTANCE IS MORE THAN 97 MILES/KILOMETERS. RECORD "98" IF DON'T KNOW.	MILE.....1 KILOMETER….2 ☐☐	
111A	Is telephone service always accessible in this village?	YES.....1 NO 2	
112	Is electricity available here?	YES..... 1 NO 2	
113	What is the primary source of water for the majority of people in this village?	PIPED ..... 01 PUBLIC TAP ..... 02 WELL ..... 03 TUBE WELL..... 04 RIVER/STREAM/LAKE..... 05 RAINWATER..... 06 OTHER_____96	
114	In this village/mohalla, are there any of the following :	YES NO	
	MOTHER'S CLUB OR LADIES ASSOCIATIONS?	MOTHERS CLUB.....1 2	
	GRAMEEN BANK MEMBER ?	GRAMEEN BANK 1 2	
	VOLUNTARY ORGANIZATION MEMBER ?	V0 MEMBER 1 2	
	BRAC INCOME GENERATING ACTVITIES	BRAC 1 2	
	PROSHIKA	PROSHIKA.....1 2	
	ASHA	ASHA 1 2	
	COTTAGE INDUSTRIES OF BSIC	BSIC.....1 2	
	COOPERATIVE SOCIETY	COOPERATIVE SOCIETY ..1 2	
	OTHER NGO INCOME GENERATING ACTIVITIES	NGOS.....1 2	
115	Please tell me if the following things are in this village/mohalla. IF YES, WRITE '00'. IF NO, ASK: How far is it? IF DO NOT KNOW, PUT '98'.		
	A. How far is the madrasha from this village/mohalla?	MILE.....1 KILOMETER.....2 ☐☐	
	B. How far is the primary school?	MILE.....1 KILOMETER.....2 ☐☐	
	C. How far is the boy's high school from this viilage/mohalla?	MILE.....1 KILOMETER.....2 ☐☐	
	D. How far is the girl's high school from this village/mohalla?	MILE.....1 KILOMETER.....2 ☐☐	
	E. How far is the high school (co-education)?	MILE.....1 KILOMETER.....2 ☐☐	
	F. How far is the post office from this village/mohalla?	MILE.....1 KILOMETER.....2 ☐☐	
	G. How far is the cinema hall from this village/mohalla?	MILE.....1 KILOMETER.....2 ☐☐	
117	Is there any shop or any person in this village/mohalla, that sells family planning methods?	YES..... 1 NO ..... 2 DON'T KNOW 8	

2. Identification of Health Facilities

Now we would like to ask you some questions about health facilities from which people in this village/mohalla can obtain services if they want. We would like for you to tell us about all of the facilities known by the general population of this village/mohalla that are of specific types. Please start with the ones that are closest to this village/mohalla.

201. HEALTH FACILITY	202. Where is the (HEALTH FACILITY) located?	203. What is the (HEALTH FACILITY)'s operating authority?	204. How far in miles/kilometers is the (HEALTH FACILITY) located from the center of the village? IF LOCATED IN THE VILLAGE/MOHALLA, RECORD '00'.	205. How many minutes does it take to go to the (HEALTH FACILITY) using the most common type of transportation?	206. When did the (HEALTH FACILITY) first open?	207. Is the (HEALTH FACILITY) located in this thana/ union?
01A. HOSPITAL (Nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01 NGO.....02 PRIVATE.....03 RELIGIOUS.....04 OTHER.....96 DK.....98	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW 9998	YES .... 1→ 02A NO ..... 2→ 01B
01B. HOSPITAL (in this thana) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01 NGO.....02 PRIVATE.....03 RELIGIOUS.....04 OTHER.....96 DK.....98	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW 9998	
02A. THANA HEALTH CENTER (THC) (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW 9998	YES .... 1→ 03A NO ..... 2→ 02B
02B. THANA HEALTH CENTER (THC) (in this thana) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW 9998	

201. HEALTH FACILITY	202. Where is the (HEALTH FACILITY) located?	203. What is the (HEALTH FACILITY)'s operating authority?	204. How far in miles/kilometers is the (HEALTH FACILITY) located from the center of the village? IF LOCATED IN THE VILLAGE/MOHALLA, RECORD '00'.	205. How many minutes does it take to go to the (HEALTH FACILITY) using the most common type of transportation?	206. When did the (HEALTH FACILITY) first open?	207. Is the (HEALTH FACILITY) located in this thana/ union?
03A. FAMILY WELFARE CENTER (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	YES ....1→ 04A NO .....2→ 03B
03B. FAMILY WELFARE CENTER (in this union) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	
04A. MATERNAL AND CHILD WELFARE CENTER (MCWC) (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	YES ....1→ 06A NO .....2→ 04B
04B. MATERNAL AND CHILD WELFARE CENTER (MCWC) (DISTRICT) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	

List all of the PRIVATE CLINICS that are available for people in this village/mohalla to use.

201. HEALTH FACILITY	202. Where is the (HEALTH FACILITY) located?	203. What is the (HEALTH FACILITY)'s operating authority?	204. How far in miles/kilometers is the (HEALTH FACILITY) located from the center of the village? IF LOCATED IN THE VILLAGE/MOHALLA, RECORD '00'.	205. How many minutes does it take to go to the (HEALTH FACILITY) using the most common type of transportation?	206. When did the (HEALTH FACILITY) first open?	207. Is the (HEALTH FACILITY) located in this thana?
06. A. PRIVATE CLINIC (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	PRIVATE.....03 RELIGIOUS.....04 OTHER.....96 DK.....98	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES....1→ 06B NO.....2→ 07A
06. B. PRIVATE CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	PRIVATE.....03 RELIGIOUS.....04 OTHER.....96 DK.....98	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES....1→ 06C NO.....2→ 07A
06. C. PRIVATE CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	PRIVATE.....03 RELIGIOUS.....04 OTHER.....96 DK.....98	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES....1→ 06D NO.....2→ 07A
06. D. PRIVATE CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	PRIVATE.....03 RELIGIOUS.....04 OTHER.....96 DK.....98	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	

List all of the OTHER NGO CLINICS (NON-RSDHP OR NON-UFHP) that are available for people in this village/mohalla to use.

201. HEALTH FACILITY	202. Where is the (HEALTH FACILITY) located?	203. What is the (HEALTH FACILITY)'s operating authority?	204. How far in miles/kilometers is the (HEALTH FACILITY) located from the center of the village? IF LOCATED IN THE VILLAGE/MOHALLA, RECORD '00'.	205. How many minutes does it take to go to the (HEALTH FACILITY) using the most common type of transportation?	206. When did the (HEALTH FACILITY) first open?	207. Is the (HEALTH FACILITY) located in this thana?
07. A. NGO CLINIC (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	NGO..... 02	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES.... 1→ 07B NO..... 2→ 08A
07. B. NGO CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	NGO..... 02	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES.... 1→ 07C NO..... 2→ 08A
07. C. NGO CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	NGO..... 02	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES.... 1→ 07D NO..... 2→ 08A
07. C. NGO CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	NGO..... 02	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	

List all of the COMMUNITY CLINICS that are available for people in this village/mohalla to use.

201. HEALTH FACILITY	202. Where is the (HEALTH FACILITY) located?	203. What is the (HEALTH FACILITY)'s operating authority?	204. How far in miles/kilometers is the (HEALTH FACILITY) located from the center of the village? IF LOCATED IN THE VILLAGE/MOHALLA, RECORD '00'.	205. How many minutes does it take to go to the (HEALTH FACILITY) using the most common type of transportation?	206. When did the (HEALTH FACILITY) first open?	207. Is the (HEALTH FACILITY) located in this thana ?
08. A. COMMUNITY CLINIC (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	YES ....1→ 08B NO .....2→ 09A
08. B. COMMUNITY CLINIC (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	YES ....1→ 08C NO .....2→ 09A
08. C. COMMUNITY CLINIC (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	YES ....1→ 08C NO .....2→ 09A
08. D. COMMUNITY CLINIC (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01	MILES .....1 ☐☐ KILOMETERS ...2 DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR ..... ☐☐☐☐ DON'T KNOW..... 9998	

List all of the RURAL DISPENSARIES that are available for people in this village/mohalla to use.

201. HEALTH FACILITY	202. Where is the (HEALTH FACILITY) located?	203. What is the (HEALTH FACILITY)'s operating authority?	204. How far in miles/kilometers is the (HEALTH FACILITY) located from the center of the village? IF LOCATED IN THE VILLAGE/MOHALLA, RECORD '00'.	205. How many minutes does it take to go to the (HEALTH FACILITY) using the most common type of transportation?	206. When did the (HEALTH FACILITY) first open?	207. Is the (HEALTH FACILITY) located in this thana ?
09. A. RURAL DISPENSARY (nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW..... 9998	YES ....1→ 09B NO .....2→ 10A
09. B. RURAL DISPENSARY NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW..... 9998	YES ... 1→ 09C NO .....2→ 10A
09. C. RURAL DISPENSARY NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW..... 9998	YES ... 1→ 09D NO .....2→ 10A
09. D. RURAL DISPENSARY NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT.....01	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES ... ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW..... 9998	

List all of the SATELLITE CLINICS that provide services to individuals in this village/mohalla.

201. HEALTH FACILITY	202. Where is the (HEALTH FACILITY) located?	203. What is the (HEALTH FACILITY)'s operating authority?	204. How far in miles/kilometers is the (HEALTH FACILITY) located from the center of the village? IF LOCATED IN THE VILLAGE/MOHALLA, RECORD '00'.	205. How many minutes does it take to go to the (HEALTH FACILITY) using the most common type of transportation?	206. When did (HEALTH FACILITY) first open?	207. Is the (HEALTH FACILITY) located in this village?
10A. SATELLITE CLINIC (Nearest) NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... 04 OTHER..... 96 DK..... 98	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES .. ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES.....1 NO.....2
10B. SATELLITE CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... 04 OTHER..... 96 DK..... 98	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES .. ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES.....1 NO.....2
10C. SATELLITE CLINIC NAME:_____ DON'T KNOW NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... 04 OTHER..... 96 DK..... 98	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES .. ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	YES.....1 NO.....2
10D. SATELLITE CLINIC NAME:_____ NONE	DISTRICT: _____ THANA: _____ LOCATION: _____	GOVERNMENT..... 01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... 04 OTHER..... 96 DK..... 98	MILES .....1 KILOMETERS ...2 ☐☐ DON'T KNOW 98	MINUTES .. ☐☐☐ DON'T KNOW 998	YEAR..... ☐☐☐☐ DON'T KNOW.....9998	

3: List of the Health and Family Planning Workers. Please provide us the name of all health and family planning fieldworkers working in this cluster/village/mohalla

Name of the fieldworker	301. What is the title/position of (NAME)?	302. Under what authority does (NAME) work ?	303: Does he/she live in this locality?	304. Where does he/she live?	305. What services does he/she provide?
01. NAME: _____ NONE	FWV .....1 SACMO/MA .....2 FWA .....3 FWA with CSBA.....4 HEALTH ASSISTANT.....5 HA with CSBA .....6 COMMUNITY MOBILIZER.....7 OTHER_____8 DON'T KNOW 9	GOVERNMENT..... .01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... .04 OTHER _____ 96 DON'T KNOW 98	YES.....1 (GO TO 305) NO.....2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH ..... 1 2 3 FAMILY PLANNING .... 1 2 3 BOTH ..... 1 2 3 ORS ..... 1 2 3 DON'T KNOW 1 2 3
02. NAME: _____ NONE	FWV .....1 SACMO/MA .....2 FWA .....3 FWA with CSBA.....4 HEALTH ASSISTANT.....5 HA with CSBA .....6 COMMUNITY MOBILIZER.....7 OTHER_____8 DON'T KNOW 9	GOVERNMENT..... .01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... .04 OTHER _____ 96 DON'T KNOW 98	YES.....1 (GO TO 305) NO.....2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH ..... 1 2 3 FAMILY PLANNING .... 1 2 3 BOTH ..... 1 2 3 ORS ..... 1 2 3 DON'T KNOW 1 2 3
03. NAME: _____ NONE	FWV .....1 SACMO/MA .....2 FWA .....3 FWA with CSBA.....4 HEALTH ASSISTANT.....5 HA with CSBA .....6 COMMUNITY MOBILIZER.....7 OTHER_____8 DON'T KNOW 9	GOVERNMENT..... .01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... .04 OTHER _____ 96 DON'T KNOW 98	YES.....1 (GO TO 305) NO.....2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH ..... 1 2 3 FAMILY PLANNING .... 1 2 3 BOTH ..... 1 2 3 ORS ..... 1 2 3 DON'T KNOW 1 2 3
04. NAME: _____ NONE	FWV .....1 SACMO/MA .....2 FWA .....3 FWA with CSBA.....4 HEALTH ASSISTANT.....5 HA with CSBA .....6 COMMUNITY MOBILIZER.....7 OTHER_____8 DON'T KNOW 9	GOVERNMENT..... .01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... .04 OTHER _____ 96 DON'T KNOW 98	YES.....1 (GO TO 305) NO.....2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH ..... 1 2 3 FAMILY PLANNING .... 1 2 3 BOTH ..... 1 2 3 ORS ..... 1 2 3 DON'T KNOW 1 2 3

Name of the fieldworker	301. What is the title/position of (NAME)?	302. Under what authority does (NAME) work ?	303: Does he/she live in this locality?	304. Where does he/she live?	305. What services does he/she provide?
05. NAME: _____ NONE	FWV .....1 SACMO/MA.....2 FWA .....3 FWA with CSBA.....4 HEALTH ASSISTANT.....5 HA with CSBA .....6 COMMUNITY MOBILIZER.....7 OTHER_____8 DON'T KNOW 9	GOVERNMENT..... .01 NGO..... 02 PRIVATE..... 03 RELIGIOUS..... .04 OTHER _____ 96 DON'T KNOW 98	YES.....1 (GO TO 305) ← NO.....2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH .....1 2 3 FAMILY PLANNING ....1 2 3 BOTH .....1 2 3 ORS .....1 2 3 DON'T KNOW 1 2 3

4: List Depotholders.

Please tell us about any depotholders who may work in this village, that is, a person who sells family planning or ORS from his or her house.

400. Name of the depotholder	401. Under what authority does (NAME) work ?	402: Does he/she live in this locality?	403. Where does he/she live?	404. What services does he/she provide?
01. NAME: _____ NONE	GOVERNMENT .....01 NGO.....02 PRIVATE.....03 RELIGIOUS .....04 OTHER _____ 96 DON'T KNOW 98	YES ..... 1 (GO TO 404) ◄ NO..... 2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH .....1 2 3 FAMILY PLANNING.....1 2 3 BOTH.....1 2 3 ORS.....1 2 3 DON'T KNOW.....1 2 3
02. NAME: _____ NONE	GOVERNMENT .....01 NGO.....02 PRIVATE.....03 RELIGIOUS .....04 OTHER _____ 96 DON'T KNOW 98	YES ..... 1 (GO TO 404) ◄ NO..... 2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH .....1 2 3 FAMILY PLANNING.....1 2 3 BOTH.....1 2 3 ORS.....1 2 3 DON'T KNOW.....1 2 3
03. NAME: _____ NONE	GOVERNMENT .....01 NGO.....02 PRIVATE.....03 RELIGIOUS .....04 OTHER _____ 96 DON'T KNOW 98	YES ..... 1 (GO TO 404) ◄ NO..... 2	DISTRICT: THANA: UNION: VILLAGE:	UNPROMPTED PROMPTED NO HEALTH .....1 2 3 FAMILY PLANNING.....1 2 3 BOTH.....1 2 3 ORS.....1 2 3 DON'T KNOW.....1 2 3

5: Availability of Doctors (allopathic, homeopathic) and Pharmacies

Please tell us about the doctors and pharmacies working in this village/mohalla.

No.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
501	Are there any allopathic/MBBS doctors in this village/mohalla?	YES .....1 NO .....2 →	503
502	How many allopathic/MBBS doctors are in this village/mohalla?	ONE.....1 2-5 .....2 MORE THAN 5 .....3 DON'T KNOW.....8	
503	How far away is the nearest allopathic/MBBS doctor? CIRCLE '00 » IF IN VILLAGE /MOHALLA.	MILE .....1 KILOMETER .....2 ☐☐ DK..... 98 IN THIS VILLAGE/ MOHALLA.....00	
504	Are there any homeopathic doctors in this village/mohalla?	YES .....1 NO .....2 →	506
505	How many homeopathic doctors are in this village/mohalla?	ONE.....1 2-5 .....2 MORE THAN 5 .....3 DON'T KNOW.....8	
506	How far away is the nearest homeopathic doctor? CIRCLE '00 » IF IN VILLAGE /MOHALLA.	MILE .....1 KILOMETER .....2 ☐☐ DK.....98 IN THIS VILLAGE/ MOHALLA.....00	
507	Are there any ayurvedic/unani doctors in this village/mohalla?	YES .....1 NO .....2 →	509
508	How many ayurvedic/unani doctors are in this village/mohalla?	ONE.....1 2-5 .....2 MORE THAN 5 .....3 DON'T KNOW.....8	
509	How far away is the nearest ayurvedic/unani doctor? CIRCLE '00 » IF IN VILLAGE /MOHALLA.	MILE .....1 KILOMETER .....2 ☐☐ DK.....98 IN THIS VILLAGE/ MOHALLA.....00	
510	Are there any pharmacies in this village/mohalla?	YES .....1 NO .....2 →	512
511	How many pharmacies are in this village/mohalla?	ONE.....1 2-5 .....2 MORE THAN 5 .....3 DON'T KNOW.....8	
512	How far away is the nearest pharmacy? CIRCLE '00 » IF IN VILLAGE /MOHALLA.	MILE .....1 KILOMETER .....2 ☐☐ DK.....98 IN THIS VILLAGE/ MOHALLA.....00	

6: List of doctors

601. Please provide us the name of all doctors working in this village/mohalla.

A. NAME OF DOCTOR (known as)	B. TYPE OF DOCTOR	C. Is the (NAME) qualified doctor?
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
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NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
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NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3
NAME ______________	ALLOPATHIC .... 1 HOMEOPATHIC .... 2 AYURVEDIC/UNANI 3	HAVE A CERTIFICATE .... 1 HAVE A CERTIFICATE (PALLI DOCTOR) 2 NO CERTIFICATE 3

No.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP TO
701a	Is there any SBA working in this village/moholla ?	YES .....1 NO 2	
701b	How far away is the nearest SBA ?	MILE .....1 KILOMETER .....2 DK.....98 IN THIS VILLAGE/ MOHALLA.....00	
701c	Please provide us the name and address of all SBA working in this village?	NAME & ADDRESS :_____ NAME & ADDRESS :_____ NAME & ADDRESS :_____	
	ENDING TIME	HOUR ..... MINUTES.....	

SUMMARY INDICATORS

Appendix G

Bangladesh Demographic and Health Survey						
Indicator	1993-1994	1996-1997	1999-2000	2004	2007	2011
Fertility						
Total fertility rate (TFR) 15-49	3.4	3.3	3.3	3.0	2.7	2.3
Percentage of women age 20-24 who were first married by age 18	73.3	68.5	65.3	68.4	66.2	64.9
Percentage of women age 15-19 who have begun childbearing	33.0	35.6	34.7	32.7	32.7	30.2
Contraceptive Prevalence Rate (CPR)						
Any method	44.6	49.2	53.8	58.1	55.8[c]	61.2[c]
Any modern method	36.2	41.6	43.4	47.3	47.5[c]	52.1[c]
Pill	17.4	20.8	23.0	26.2	28.5[c]	27.2[c]
IUD	2.2	1.8	1.2	0.6	0.9[c]	0.7[c]
Injectables	4.5	6.2	7.2	9.7	7.0[c]	11.2[c]
Condom	3.0	3.9	4.3	4.2	4.5[c]	5.5[c]
Female sterilization	8.1	7.6	6.7	5.2	5.0[c]	5.0[c]
Male sterilization	1.1	1.1	0.5	0.6	0.7[c]	1.2[c]
Implants	na	0.1	0.5	0.8	0.7[c]	1.1[c]
Any traditional method	8.4	7.7	10.3	10.8	8.3[c]	9.2[c]
Contraceptive Prevalence Rate (modern methods) among married adolescents						
Age 10-14	10.5	9.1	16.1	21.9	na	na
Age 15-19	19.6	27.8	31.2	34.1	37.6	42.4
Contraceptive Prevalence Rate (modern methods) in low performing areas						
Sylhet division	na	16.0	25.0	22.0	24.7[c]	35.2[c]
Chittagong division	23.4	30.8	34.9	37.4	38.2[c]	44.5[c]
Unmet need for Family Planning						
Percentage of currently married women with unmet need for family planning	21.6	19.7	18.2	15.0	16.8[c]	13.5[c]
Antenatal coverage						
Percentage of last live births in the three years preceding the survey for which women received at least one ANC from a medically trained provider	-	-	-	50.5	53.4	54.6
Percentage of last live births in the five years preceding the survey for which women received at least one ANC from a medically trained provider	na	29.0	33.3	48.7	51.7	51.8
Antenatal care visit 4+						
Percentage of last live births in the three years preceding the survey for which women received four or more ANC from any provider	-	-	-	16.7	22.0	25.5
Percentage of last live births in the five years preceding the survey for which women received four or more ANC from any provider	na	5.8	10.5	15.9	20.6	23.8
Skilled assistance at delivery						
Percentage of live births in the three years preceding the survey attended by medically trained provider	9.5	-	-	15.6	20.9	31.7
Percentage of live births in the five years preceding the survey attended by medically trained provider	na	8.0	12.1	13.4	18.0	27.7
Percentage of births in the three years preceding the survey delivered in health facilities by wealth quintile						
Lowest	-	-	-	2.5	6.3	9.9
Highest	-	-	-	37.6	48.5	59.8
Postnatal care (within 2 days of delivery)						
Percentage of last live births in the three years preceding the survey where mother/child received PNC from a medically trained provider within 2 days of delivery						
Mother	na	na	na	15.8	20.1	27.1
Child	na	na	na	13.0	20.1	29.6
Percentage of last live births in the five years preceding the survey where mother/child received PNC from a medically trained provider within 2 days of delivery						
Mother	na	na	na	14.5	18.5	24.9
Child	na	na	na	12.1	18.5	27.2

Indicator	1993-1994	1996-1997	1999-2000	2004	2007	2011
Childhood mortality						
Neonatal Mortality Rate	52	48	42	41	37	32
Postnatal Mortality Rates	35	34	24	24	15	10
Infant Mortality Rate	87	82	66	65	52	43
Child Mortality Rate	50	37	30	24	14	11
Under 5 Mortality Rate	133	116	94	88	65	53
Percentage of children who received specific vaccines by 12 months of age						
BCG	79.4	84.2	90.0	93.3	96.8	97.8
DPT3	59.0	66.5	70.2	80.3	90.0	93.2[f]
Polio3	59.7	60.1	69.1	81.6	89.7	93.2
Measles	55.0	61.2	62.1	70.3	77.2	84.0
All vaccines	46.2	46.9	52.8	68.4	76.0	82.5
Vitamin A Supplementation						
Percentage of children age 6-59 months receiving vitamin-A supplementation in the 6 months preceding the survey	na	na	na	na	83.5	59.5
Percentage of children age 9-59 months receiving vitamin-A supplementation in the 6 months preceding the survey	na	na	80.4	81.8	88.3	61.6
Treatment for Diarrhea						
Percentage of children under five years of age with diarrhea treated with						
ORT (ORS or homemade solution)	58.3[b]	61.0	73.6	74.6	81.2	80.6
ORT and Zinc	na	na	na	na	20.4	34.1
Use of Antibiotics for Treatment of ARI						
Percentage of children under five years of age with symptoms of ARI/pneumonia receiving antibiotics	na	na	na	na	na	71.4
Exclusive Breastfeeding						
Percent of children under 6 months who are exclusively breastfed (based on 24 hour recall)	45.9	45.1	46.1	42.2	42.9	63.5
Infant and Young Child Feeding (IYCF)						
Percentage of children 6-23 months fed with appropriate infant and young child feeding practices	na	na	na	na	na	20.9
Nutritional Status of Children						
Percentage of children under five years of age clarified as malnourished according to three anthropometric indices of nutritional status[a]						
Height-for-age (stunting)						
Severe	na	na	na	22.1	16.1	15.3
Moderate or severe	na	na	na	50.6	43.2	41.3
Weight for-height (wasting)						
Severe	na	na	na	3.4	2.9	4.0
Moderate or severe	na	na	na	14.5	17.4	15.6
Weight-for-age (underweight)						
Severe	na	na	na	13.6	11.8	10.4
Moderate or severe	na	na	na	42.5	41.0	36.4
Percentage of respondents who have heard of HIV/AIDS						
Ever-married women	na	18.7	30.8	60.0	67.4[d]	69.1[d]
Currently married men	na	33.1	50.2	78.0	84.8[e]	87.6[e]
Never married men	na	na	na	89.3	na	na
Non-communicable Diseases						
Prevalence of diabetes[g] among adult age 35 and older						
Women	na	na	na	na	na	11.2
Men	na	na	na	na	na	10.7
Prevalence of hypertension[h] among adults age 35 and older						
Women	na	na	na	na	na	31.9
Men	na	na	na	na	na	19.4

na = Not applicable
[a] Based on WHO Child Growth Standards adopted in 2006
[b] Rate refers to children under three years of age
[c] Refers to currently married women age 15-49
[d] Refers to ever-married women age 15-49
[e] Refers to ever-married men age 15-54
[f] Refers to Pentavelon 3
[g] An individual is classified as having diabetes if s/he reports taking medication for diabetes or has fasting blood glucose ≥7.0 mmol/L.
[h] An individual is classified as having an elevated blood pressure if s/he has blood pressure levels >=140 mmHg SBP or ≥90 mmHg DBP, or s/he is currently taking antihypertensive medication to lower their blood pressure.

Indicator	1993-1994	1996-1997	1999-2000	2004	2007	2011
Non-communicable Diseases						
Prevalence of diabetes[g] among adult age 35 and older						
Women	na	na	na	na	na	11.2
Men	na	na	na	na	na	10.7
Prevalence of hypertension[h] among adults age 35 and older						
Women	na	na	na	na	na	31.9
Men	na	na	na	na	na	19.4

na = Not applicable
[a] Based on WHO Child Growth Standards adopted in 2006
[b] Rate refers to children under three years of age
[c] Refers to currently married women age 15-49
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