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Bangladesh Demographic and Health Survey 2017–18

Key Indicators

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Ministry of Health and Family Welfare
Dhaka, Bangladesh

The DHS Program
ICF
Rockville, Maryland, U.S.A.

November 2019

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FROM THE AMERICAN PEOPLE

NIPORT

Cover: Rickshaw Art of Bangladesh by Nusrat Jahan Lucky

The 2017-18 Bangladesh Demographic and Health Survey (2017-18 BDHS) was implemented under the authority of the National Institute of Population Research and Training (NIPORT), Medical Education and Family Welfare Division, Ministry of Health and Family Welfare. Mitra and Associates, a private research agency was engaged to collect data from October 2017 to March 2018. Funding for the 2017-18 BDHS was provided by the United States Agency for International Development (USAID)/Bangladesh. ICF provided technical assistance as well as funding through The DHS Program, a USAID-funded project. The opinions expressed in this report are those of the authors and do not necessarily reflect the views of USAID.

Information about the BDHS may be obtained from the National Institute of Population Research and Training (NIPORT), Azimpur, Dhaka, Bangladesh (Telephone: 880-2-58611206; Fax: 880-2-8613362; Internet: http://www.niport.gov.bd; emails: directorresearch.niport @gmail.com and alam.niport@gmail.com).

Information about The DHS Program may be obtained from ICF, 530 Gaither Road, Suite 500, Rockville, MD 20850, USA; Telephone: 301-407-6500; Fax: 301-407-6501; E-mail: info@DHSprogram.com; Internet: http://www.DHSprogram.com.

Suggested citation:

National Institute of Population Research and Training (NIPORT), and ICF. 2019. *Bangladesh Demographic and Health Survey 2017-18: Key Indicators.* Dhaka, Bangladesh, and Rockville, Maryland, USA: NIPORT, and ICF.

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

FOREWORD

The 2017-18 Bangladesh Demographic and Health Survey (BDHS) is the eighth survey of its kind conducted in Bangladesh. Started in 1993, the BDHS is the longest running series of health care surveys in Bangladesh. The 2017–18 BDHS was implemented through a collaborative effort of the National Institute of Population Research and Training (NIPORT); and ICF, USA. The financial support for the survey was provided by the United States Agency for International Development (USAID), Bangladesh.

The demographic and health data that the 2017-18 BDHS provides is essential and instrumental in monitoring and evaluating the performance of the Fourth Health, Population and Nutrition Sector Program (HPNSP). This report presents the key indicators of the survey results. It provides estimates for 14 indicators of the Results Framework of the 4th HPNSP and is a major source of information for program monitoring. A number of indicators showed steady improvement in coverage of ante natal care, skilled delivery services, and child nutrition status over the past years. A more comprehensive and detailed report is scheduled to be published in mid-2020.

Childhood mortality rates from the 2017-18 BDHS represent the estimates for the year of 2015, but the estimates varies with the estimation of other available surveys. A technical committee formed by Medical Education and Family Welfare Division of Ministry of Health and Family Welfare (MOHFW) to review the childhood mortality estimates from all available sources for the year 2015. The review observed that the Sample Vital Registration System (SVRS) estimates of neonatal mortality rate (NMR) and under five mortality rate (U5MR) were notably lower than all other available estimates of NMRs and U5MR in the country. The review took some time to complete resulting delay in publishing the KIR. Nevertheless we are delighted to publish the report. I would like to thank the committee members for the valuable recommendations.

The 2017–18 BDHS was guided by the members of the Stakeholder Advisory Committee (SAC) consisting of experts from government, non-government and international organizations as well as researchers and professionals working in the health, nutrition and population sector in Bangladesh. A Technical Working Group (TWG) was formed with representatives from NIPORT; PMMU-MOHFW; MEASURE Evaluation; University of Dhaka; icddr,b; USAID/Bangladesh; Save the Children; and ICF to assist for designing the survey instruments and implementing the survey. I would like to put on record my sincere appreciation to the SAC and TWG members for their effort in all stages of the survey. In addition, I extend sincere thanks to the Bangladesh Bureau of Statistics (BBS) for their support in selecting sample clusters and providing enumeration area maps for the survey.

I would like to congratulate the professionals of the Research Unit of NIPORT for the successful completion of the survey. On this day I especially remember our colleague Subrata Kumar Bhadra, Senior Research Associate, NIPORT, who is no more with us, we remember his outstanding effort and pray to almighty for his eternal soul. Mitra and Associate, a private research agency was engaged to collect data, my sincere thanks to them. I also extend my thanks to ICF for completing the task in a professional manner. Finally, USAID/Bangladesh deserves special thanks for providing technical and financial support for the survey.

Susanta Kumar Saha

A TRIBUTE TO OUR DEAR COLLEAGUE, SUBRATA

NIPORT could not imagine a Bangladesh Demographic and Health Survey (BDHS) without our dear colleague Subrata Kumar Bhadra. That is why, while preparing the 2017–18 BDHS report, we missed him at every step.

Subrata started his journey towards the unknown world on 27 March 2018. No death is an expected one, but Subrata's demise was so untimely that we still cannot believe that he is no longer with us.

Subrata's journey in the National Institute of Population Research and Training (NIPORT) started a little over 28 years ago, on 1 March 1990. He witnessed the development of NIPORT that has provided the country with quality health and demography data. He has been involved with the DHS in Bangladesh since the first BDHS in 1993–1994. Since then, each table, each graph, each figure, analysis in all DHS reports, except this one, had Subrata's touch.

On behalf of the whole DHS team, we would like to say that Subrata was a larger-than-life character, a person with subtle yet powerful presence with his works. Ever eager, positive, and always smiling, Subrata was one of a kind. He was a great colleague and researcher, and a dear friend.

Lastly, we quote the great poet Jalauddin Rumi to describe what we feel about Subrata.

> *Why cling to one life till it is soiled and ragged?*
>
> *The sun dies and dies squandering a hundred lived every instant*
>
> *God has decreed life for you and He will give another and another and another.*

Subrata remains with us through his laughter and works!

1 INTRODUCTION

The 2017-18 Bangladesh Demographic and Health Survey (2017-18 BDHS) is the eighth national survey to report on the demographic and health status of Bangladeshi women and their families. The main objective of the 2017-18 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, including breastfeeding practices, nutrition levels, and newborn care; and community-level data on availability and accessibility of health and family planning services. This information is intended to assist policymakers and program managers in monitoring and evaluation of the Fourth Health, Population and Nutrition Sector Program (HPNSP) 2017–2022 of the MOHFW and to provide estimates for 14 major indicators of the Results Framework of the HPNSP 2017-2022.

This report presents key findings from data collected in the 2017-18 BDHS using the Household Questionnaire and the Woman's Questionnaire. A more comprehensive and detailed report is scheduled for release in early 2019. Although the data in the final report are not expected to differ substantially from the findings presented here, the results should be regarded as provisional and subject to modification. To identify trends, the findings from the 2017-18 BDHS survey have been compared with those from past BDHS surveys.

The 2017-18 BDHS was conducted under the authority of the National Institute of Population Research and Training (NIPORT) of the Ministry of Health and Family Welfare (MOHFW). Mitra and Associates, a Bangladeshi research firm located in Dhaka, implemented the survey. icddr,b provided technical assistance on verbal autopsy to determine causes of under-5 deaths. ICF of Rockville, Maryland, USA, provided technical assistance as part of its international Demographic and Health Surveys (DHS) Program. The survey received financial support from the United States Agency for International Development (USAID).

1.1 SURVEY IMPLEMENTATION

1.1.1 Sample Design

The sample for the 2017-18 BDHS is nationally representative and covers the entire population residing in non-institutional dwelling units in the country. The survey used a list of enumeration areas (EAs) of the 2011 Population and Housing Census of the People's Republic of Bangladesh, provided by the Bangladesh Bureau of Statistics (BBS), as a sampling frame (BBS 2011). The primary sampling unit (PSU) of the survey is an EA with an average of about 120 households.

Bangladesh consists of eight administrative divisions: Barishal, Chattogram, Dhaka, Mymensingh, Khulna, Rajshahi, Rangpur, and Sylhet. Each division is divided into zilas, and each zila into upazilas. Each urban area in an upazila is divided into wards, which are further subdivided into mohallas. A rural area in an upazila is divided into union parishads (UPs) and, within UPs, into mouzas. These divisions allow the country as a whole to be separated into rural and urban areas.

The survey is based on a two-stage stratified sample of households. In the first stage, 675 EAs were selected with probability proportional to EA size, with 250 EAs in urban areas and 425 in rural areas. In the first stage, the sample was drawn by BBS, following the specifications provided by the DHS team. A complete household listing operation was then carried out in all 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 per EA was selected 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 eight divisions. In accord with this design, 20,250 residential households were selected. Completed interviews were expected from about 20,100 ever-married women age 15–49. In addition, in a subsample of one-fourth of the households (about 7–8 households per EA), all ever-married women age 50 and older, never-married women

age 18 and older, and all men age 18 and older were weighed and their height measured. In the same households, blood pressure and blood glucose testing were conducted for all adult men and women age 18 and older.

A total of 62 field staff were recruited and trained for the listing/mapping operation. Training for the household listers/mappers took place from 17–21 September 2017. The household listing operation was carried out in all selected EAs from 27 September to 5 December 2017, in three phases, each about 4 weeks in duration. Twenty-six teams of two persons each carried out the listing of households and administered the Community Questionnaire. In addition, six supervisors checked and verified the work of the listing teams. The number of teams declined with each subsequent phase, starting with 26 teams in the first phase and ending with 24 teams in the final phase.

1.1.2 Questionnaires

The 2017-18 BDHS used five types of questionnaires: (1) the Household Questionnaire; (2) the Woman's Questionnaire (ever-married women age 15–49); (3) the Biomarker Questionnaire; (4) two verbal autopsy questionnaires to collect data on causes of death among children under age 5, and (5) the Community Questionnaire. The first three questionnaires were based on the model questionnaires developed for the international DHS-7 Program, adapted to the situation and needs in Bangladesh and taking into account the content of the instruments employed in prior DHS surveys in Bangladesh. The verbal autopsy module is replicated from the questionnaires used in the 2011 BDHS for the same objective. The Community Questionnaire is patterned after that used in the 2014 BDHS. These questionnaires were adapted for use in Bangladesh during a series of meetings with a Technical Working Group (TWG) (see Appendix A for a list of members). Draft questionnaires were then circulated to other interested groups and were reviewed by the BDHS Stakeholder Advisory Committee (SAC) (see Appendix A). The questionnaires were developed in English and then translated into and printed in Bangla.

The Household Questionnaire listed 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, current work status, birth registration, and individual possession of a mobile phone. The main purpose of the Household Questionnaire was to identify women who were eligible for the individual interview and for the biomarker component assessment. Information was collected about the dwelling unit, such as the source of water, type of toilet facilities, materials used to construct the floor and walls, ownership of various consumer goods, and availability of hand washing facilities.

The Woman's Questionnaire collected information from ever-married women age 15–49. Women answered questions on the following topics:

- Background characteristics (for example, age, education, religion, and media exposure)
- Reproductive history
- Use and source of family planning methods
- Antenatal, delivery, postnatal, and newborn care, and breastfeeding
- Child immunizations
- Infant feeding practices, and illness
- Marriage and sexual activities
- Fertility preferences
- Husband's background and respondent's work

Biomarker Testing Questionnaire: In addition to the data collected through interviews, data was collected for a biomarker component in the 2017-18 BDHS. The biomarkers collected included anthropometric measures (height and weight), blood pressure (BP), and blood glucose. ICF, along with local experts, assisted with the development of the biomarker testing protocol and arranged for the required approval by the ICF Institutional Review Board.

Verbal Autopsy Questionnaires. Two questionnaires collected information related to the causes of death among young children, one to detect neonatal deaths (deaths 0–28 days) and one to find other under-5 deaths. Mothers who reported the death of a child under age 5 in the 5-year period prior to the 2017-18 BDHS answered questions in the questionnaires.

In each selected cluster, during a household listing operation, the **Community Questionnaire** asked questions 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 at the center of each cluster were recorded using *Garmin eTrex Legend H* units. A list of health facilities and health service providers in each selected EA was provided to the interviewing teams to verify information gathered in the Woman's Questionnaire on the types of facilities accessed and health services personnel seen. The Community Questionnaire was administered to a group of four to six key individuals who were knowledgeable about socioeconomic conditions and the availability of health and family planning services/facilities in the cluster. The key individuals included such persons as community leaders, teachers, government officials, social workers, religious leaders, traditional healers, and health care providers.

1.1.3 Training and Field Work

The Household, Woman's, Biomarker, and Verbal Autopsy Questionnaires were pretested from 26–28 August 2017. Four supervisors and 16 interviewers, including 3 biomarker staff, were trained for the pretest. The pretest training and field work took place from 16 to 30 August 2017. The questionnaires were pre-tested on 100 households, 100 women, and 6 verbal autopsies in two rural clusters in Manikgonj District and two urban clusters in Dhaka city. Based on observations in the field and suggestions made by the pretest teams, revisions were made in the wording and translations of the questionnaires.

Two training programs were organized, one on the Household Questionnaire and the Woman's Questionnaire for interviewers/team supervisors/quality control officers, and another one on biomarker components for health technicians. Training for the fieldworkers was conducted from 24 September to 22 October 2017. The trainees split into four groups, each with about 50–55 trainees. A total of 210 field staff were recruited based on their educational level, prior survey experience, maturity, and willingness to spend 4 months on the project. Training included lectures on how to complete the questionnaires, mock interviews between participants, and field practice. Representatives of ICF and NIPORT attended the training as resource persons. In addition, an official of DGHS, MOHFW, gave a talk about the Expanded Program on Immunization (EPI) and on infant/childhood immunization vaccines. Training on the Verbal Autopsy questionnaires was provided by the staff of icddr,b.

Fieldwork for the 2017-18 BDHS was carried out by interviewing teams, each consisting of one male supervisor, one female field editor, five female interviewers, two health technicians, and one logistics staff person. Data collection occurred in five phases, each about 4 weeks in duration. Data collection started on 24 October 2017 and finished on 15 March 2018. The number of teams declined with each subsequent phase, starting with 20 teams in the first phase and ending with 17 teams at the end of data collection.

Several activities used data quality measures. There were four quality control teams from Mitra and Associates, each comprised of one male and one female staff person. They travelled to the field to visit the interviewing teams throughout the data collection period. In addition, NIPORT monitored fieldwork by using extra quality control teams. The teams went to the field in tours of about 3 weeks each. They oversaw use of the household listings and maps, observed one household and one individual interview of each interviewer, and spot checked the completed questionnaires. The teams also revisited half of the households of one completed cluster for each survey team and checked whether selected households were visited and eligible respondents properly identified and interviewed. A debriefing session ended each phase by addressing problems encountered in the field, clarifications, and administrative matters.

Field check tables, generated concurrently with data processing, allowed the quality control teams to advise field teams of problems detected during data entry. Field work was also monitored through visits by representatives from ICF, NIPORT, and other Technical Review Committee members.

1.1.4 Data Processing

Completed BDHS questionnaires were periodically returned to Dhaka for data processing at Mitra and Associates offices. The data processing began shortly after fieldwork commenced. It consisted of office editing, coding of open-ended questions, data entry, and editing of inconsistencies found by the computer program. Eight data entry operators and two data entry supervisors performed the work, which commenced on 17 November 2017 and ended on 27 March 2018. The task used the Census and Survey Processing System (CSPro), a software jointly developed by the United States Census Bureau, ICF, and Serpro S.A.

1.1.5 Coverage of the Sample

Table 1.1 shows the results of the household and individual women's interviews. Among 20,160 households selected, 19,584 were occupied. Interviews were successfully completed in 19,457, or 99% of households. Among 20,376 ever-married women age 15-49, 20,127 were interviewed, also for a response rate of 99%. Response rates for households and for eligible women are similar to those in the 2014 BDHS. The principal reason for no response among women was their absence from home despite repeated visits. Response rates do not vary notably by urban-rural residence.

Table 1.1 Results of the household and individual interviews

Number of households, number of interviews, and response rates, according to residence (unweighted), Bangladesh DHS 2017-18

	Residence		
Result	Urban	Rural	Total
Household interviews			
Households selected	7,470	12,690	20,160
Households occupied	7,198	12,386	19,584
Households interviewed	7,103	12,354	19,457
Household response rate[1]	98.7	99.7	99.4
Interviews with women age 15-49			
Number of eligible women	7,494	12,882	20,376
Number of eligible women interviewed	7,374	12,753	20,127
Eligible women response rate[2]	98.4	99.0	98.8

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

2 BACKGROUND CHARACTERISTICS

SUMMARY

- A number of indicators reflecting household economic status indicate that economic conditions continue to improve in Bangladesh.
- Access to electricity has expanded, mainly in rural areas, with coverage reaching 91% of households in 2017.
- The proportion of households using improved house building materials has continued to increase over the last decade. Households with exterior walls made of tin, cement, or bricks increased from 59% in 2007 to 85% in 2017, and those with floors of cement or ceramic tiles increased from 19% to 37% in the last 10 years.
- Almost all (94%) households have a mobile phone. Three out of five currently married women age 15-49 own a mobile phone. Unmarried adolescent boys age 15-19 are twice as likely to own a mobile phone compared with unmarried girls age15-19 (64% versus 33%).
- Possession of mobile phones and electronic appliances has continued to climb since 2014. Phone ownership increased from 89% to 94%; electric fans from 59% to 80%; televisions from 44% to 47%; and refrigerators from 20% to 29%.
- Forty-seven percent of households where a place for washing hands was observed had water and a cleansing agent. In 2014, this proportion was 37%, and in 2011 it was 31%.
- Women's education level continues to increase. Between 2014 and 2017, the proportion of ever-married women age 15-49 who completed secondary education increased from 14% to 17%.

2.1 HOUSEHOLD CHARACTERISTICS

- Access to electricity has increased substantially in the last 3 years, from 73% in 2014 to 91% in 2017 (**Table 2.1**). This expansion took place mostly among rural households (65% in 2014 to 89% in 2017) rather than urban ones (93% in 2014 to 96% in 2017) (NIPORT et al. 2015).
- The increase in access to electricity between 2014 and 2017 was primarily due to the increase in household coverage on the national grid, from 62% to 82%. During this period, solar power use increased from 11% to 15% of households.
- The proportion of households in Bangladesh that have earth and sand flooring has gradually declined, from 81% in 2007 to the current rate of 63%. On the other hand, the proportion of households with cement or ceramic tiles as flooring has grown, from 19% in 2007 to 37% in 2017 (NIPORT et al. 2013; 2015).

- Eighty-five percent of Bangladeshi households use tin as roofing materials, while 14% use cement. Between 2014 and 2017, the proportion of households with tin roofs remained the same. The proportion of households with cement roofs increased from 12% to 14%) (NIPORT et al. 2015).

Table 2.1 Household characteristics

Percent distribution of households by access to electricity and housing characteristics by residence, Bangladesh 2017-18

	Residence		
Housing characteristic	Urban	Rural	Total
Electricity			
National grid	94.2	76.4	81.5
Solar	4.8	19.2	15.1
National grid or solar	96.5	88.7	90.9
Flooring material			
Earth/sand/dung	27.2	76.7	62.7
Wood planks/ palm/ bamboo	0.3	0.8	0.7
Ceramic tiles	9.1	0.6	3.0
Cement	63.3	21.8	33.5
Other	0.1	0.1	0.1
Roof materials			
Thatch/palm leaf/ sod/ mat	0.3	1.0	0.8
Palm/bamboo	0.0	0.0	0.0
Wood planks/ card board	0.0	0.0	0.0
Tin	68.7	90.9	84.6
Wood	0.1	0.1	0.1
Ceramic tiles	0.1	0.0	0.0
Cement	30.5	6.8	13.5
Roofing shingles	0.2	0.9	0.7
Other	0.0	0.3	0.2
Wall materials			
Jute stick/ palm trunk	0.2	1.3	1.0
Mud/dirt	2.8	11.4	9.0
Bamboo with mud/stone with mud	2.5	4.4	3.9
Tin	30.9	55.5	48.6
Cement/ cement block	58.9	18.7	30.1
Stone with lime/cement	0.0	0.0	0.0
Bricks	4.2	7.5	6.6
Wood planks/ reused wood	0.3	0.9	0.8
Other	0.1	0.2	0.2
Sanitation facility			
Improved, not shared facility[1]	41.8	43.4	43.0
Number	5,505	13,952	19,457

[1] Improved sanitation facility includes flush/pour flush to piped sewer system/septic tank/pit latrine, ventilated improved pit (VIP) latrine, or pit latrine with slab

- Wall materials consist of tin (49%), cement (30%), or bricks (7%) for 85% of households. In comparison, in 2014, 75% of households had dwelling walls of tin, cement, or bricks.

- Households without proper sanitation facilities have a greater risk of diseases, such as diarrhea, dysentery, and typhoid, than households with improved sanitation facilities. Forty-three percent of households have an improved (not shared) toilet facility, a slight decrease from 45% in 2014.

2.2 HOUSEHOLD POSSESSIONS

- Mobile phones, the most popular household possession (Table 2.2), were owned by 94% of households in 2017. Ownership in rural areas has outpaced urban areas (7% vs. 4% growth from 2014 to 2017).

- With improved access to electricity, ownership of electric appliances (television, refrigerator, electric fan, and water pump) also increased between 2014 and 2017. However, possession of a DVD/VCD player and IPS/generator decreased during this period.

Table 2.2 Household possessions

Percentage of households possessing various household effects, means of transportation, agricultural land, and livestock/farm animals, by residence, Bangladesh 2017-18

Possession	Residence		Total
	Urban	Rural	
Household effects			
Radio	0.9	1.1	1.0
Television	69.9	38.4	47.3
Mobile telephone	96.6	93.6	94.4
Non-mobile telephone	1.2	0.2	0.5
Refrigerator	48.2	21.5	29.1
Almirah/wardrobe	55.5	30.2	37.3
Electric fan	91.9	75.6	80.2
DVD/VCD player	4.8	1.8	2.6
Water pump	15.7	10.5	12.0
IPS/generator	4.8	0.9	2.0
Air conditioning	1.9	0.1	0.6
Computer/laptop	12.3	3.0	5.7
Ownership of transport			
Car/truck/microbus	1.8	0.5	0.8
Autobike/tempo/CNG	1.5	2.2	2.0
Rickshaw/van	5.6	5.7	5.7
Bicycle	17.9	31.5	27.6
Motorcycle/motor scooter	8.5	7.2	7.6
Boat with motor	0.1	0.6	0.4
Canoe/boat without motor	0.3	1.3	1.0
Ownership of agriculture land	38.8	49.8	46.7
Ownership of farm animals			
Buffaloes	0.1	0.4	0.3
Cows	10.7	39.4	31.3
Goats/sheep	6.7	23.5	18.8
Chicken/ducks	26.1	68.4	56.4
Other farm animals	4.7	8.3	7.3
Number	5,505	13,952	19,457

- There has been little change in possession of means of transport since 2014. A bicycle is the most commonly owned means of transport in Bangladesh, with 28% of the households owning one.

- Reflecting the growing use of mobile technology in developing countries, the 2017-18 BDHS collected information on ownership of mobile telephones among household members.

- One-in-three (33%) unmarried women age 15–19 own a mobile phone (**Table 2.3**), as do 64% of unmarried men age 15–19 and 60% of currently married women age 15–49.

- Ownership of a mobile phone among unmarried women is highest in Dhaka division (40%), whereas nearly 70% of unmarried adolescent men own a mobile phone in Rajshahi and Khulna. Young women and men in Sylhet are the least likely to own a mobile phone. Ownership of a mobile phone among currently married women of reproductive age is highest in Chattogram division (71%).

Table 2.3 Ownership of mobile phone

Percentage of de facto unmarried women age 15-19, unmarried men age 15-19, and married women age 15-49 who own a mobile phone by residence and division, BDHS 2017-18

Background characteristic	Unmarried women age 15-19		Unmarried men age 15-19		Currently married women age 15-49	
	Percent	Number	Percent	Number	Percent	Number
Residence						
Urban	39.1	1,300	65.0	1,130	69.6	5,375
Rural	30.1	3,402	63.6	2,824	55.6	13,553
Division						
Barishal	31.9	269	64.9	238	64.0	1,061
Chattogram	31.8	944	58.4	745	70.8	3,333
Dhaka	40.0	1,181	66.3	991	67.8	4,865
Khulna	34.8	501	69.4	427	54.2	2,210
Mymensingh	28.6	367	63.0	328	53.1	1,470
Rajshahi	30.7	564	70.2	494	49.7	2,663
Rangpur	32.0	491	65.7	422	46.4	2,250
Sylhet	16.6	382	51.4	305	55.2	1,073
Total	32.6	4,703	64.0	3,954	59.6	18,928

2.3 HAND WASHING

- Hand washing is an important step in improving hygiene and preventing the spread of disease. Interviewers observed a place for washing hands in 97% of households (**Table 2.4**). They observed the presence of water and either soap or a cleansing agent among almost half of the households.

- Fifty-one percent of these hand washing locations had water only, and 2% had no soap, water, or any other cleansing agent.

- Between 2014 and 2017 the availability of a hand washing station that had water and a cleansing agent (including soap) increased from 37% to 47%.

Table 2.4 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 2017-18

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	98.9	5,505	56.3	3.7	38.5	0.1	0.0	1.3	0.1	100.0	5,443
Rural	96.6	13,952	31.6	10.4	55.5	0.1	0.0	2.3	0.1	100.0	13,473
Division											
Barishal	92.6	1,090	18.4	7.8	72.0	0.1	0.0	1.7	0.0	100.0	1,009
Chattogram	96.6	3,301	41.6	6.9	49.3	0.1	0.0	2.1	0.0	100.0	3,189
Dhaka	98.9	4,942	47.9	6.0	44.1	0.2	0.0	1.6	0.1	100.0	4,886
Khulna	98.4	2,253	33.3	8.2	56.4	0.2	0.0	1.9	0.0	100.0	2,218
Mymensingh	98.3	1,597	26.1	7.5	63.8	0.0	0.0	2.5	0.1	100.0	1,569
Rajshahi	97.2	2,786	39.7	11.1	46.6	0.1	0.1	2.2	0.1	100.0	2,709
Rangpur	99.4	2,376	38.9	15.1	43.9	0.0	0.0	2.0	0.0	100.0	2,361
Sylhet	87.6	1,112	33.3	5.4	58.1	0.1	0.0	3.1	0.0	100.0	974
Education											
No education	96.8	2,957	31.6	8.3	57.0	0.3	0.1	2.7	0.1	100.0	2,864
Primary incomplete	96.8	4,125	33.5	9.8	54.0	0.1	0.0	2.5	0.0	100.0	3,992
Primary complete[4]	96.1	1,944	35.7	8.5	53.6	0.2	0.0	2.0	0.0	100.0	1,869
Secondary incomplete	97.5	7,156	39.6	8.5	49.8	0.1	0.0	1.8	0.1	100.0	6,979
Secondary complete or higher[5]	98.1	3,274	51.2	7.0	40.6	0.0	0.0	1.1	0.1	100.0	3,212
Wealth quintile											
Lowest	93.6	4,050	10.7	11.0	73.9	0.1	0.0	4.4	0.0	100.0	3,789
Second	96.0	3,960	18.8	13.0	64.5	0.2	0.0	3.3	0.1	100.0	3,801
Middle	98.0	3,803	33.0	10.8	54.3	0.1	0.1	1.5	0.1	100.0	3,725
Fourth	99.1	3,880	47.2	6.1	45.8	0.1	0.0	0.8	0.0	100.0	3,844
Highest	99.8	3,764	83.9	1.4	14.3	0.2	0.0	0.1	0.1	100.0	3,756
Total	97.2	19,457	38.7	8.5	50.6	0.1	0.0	2.0	0.1	100.0	18,916

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

2.4 BACKGROUND CHARACTERISTICS OF RESPONDENTS

- Respondent's background characteristics such as marital status, age structure, and residence (urban or rural) remained very similar between 2014 and 2017 (**Table 2.5**).

Table 2.5 Background characteristics of respondents

Percent distribution of women age 15–49 by selected background characteristics, Bangladesh 2017-18

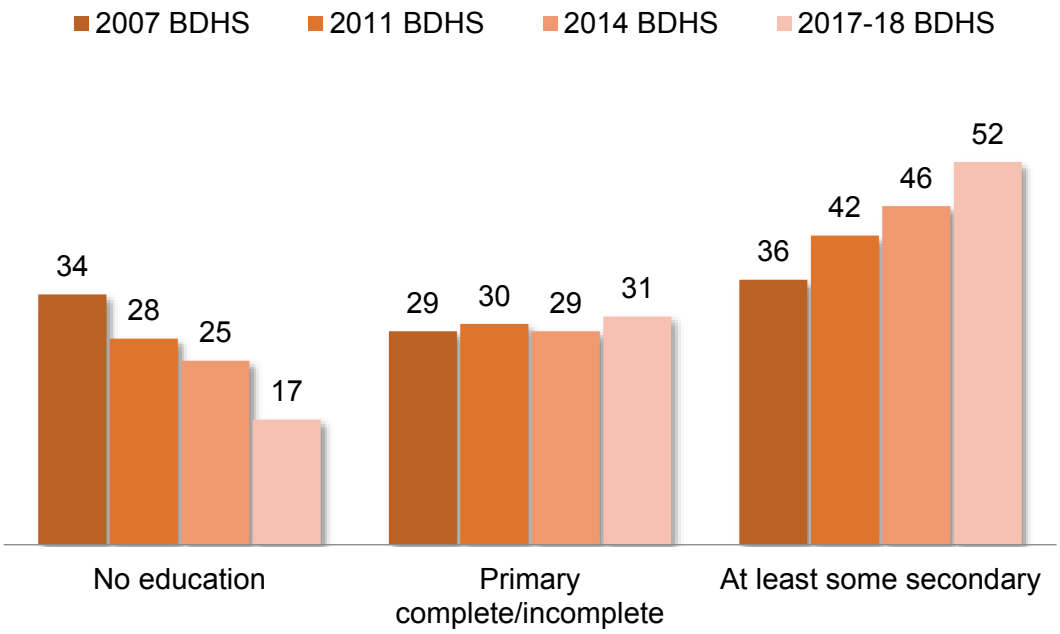
Background characteristic	Women		
	Weighted percent	Weighted number	Unweighted number
Age			
15-19	10.2	2,063	1,951
20-24	17.7	3,556	3,514
25-29	17.8	3,579	3,572
30-34	17.2	3,470	3,462
35-39	14.3	2,879	2,953
40-44	11.4	2,296	2,329
45-49	11.4	2,285	2,346
Marital status			
Married	94.3	18,984	18,895
Divorced/separated	2.6	528	569
Widowed	3.1	614	663
Residence			
Urban	28.5	5,729	7,374
Rural	71.5	14,398	12,753
Division			
Barishal	5.6	1,125	2,154
Chattogram	18.0	3,622	2,905
Dhaka	25.5	5,123	2,974
Khulna	11.6	2,336	2,630
Mymensingh	7.7	1,546	2,167
Rajshahi	13.9	2,802	2,576
Rangpur	11.8	2,380	2,492
Sylhet	5.9	1,192	2,229
Education			
No education	16.6	3,333	3,202
Primary incomplete	21.1	4,250	4,224
Primary complete[1]	10.1	2,040	2,116
Secondary incomplete	35.5	7,135	6,914
Secondary complete or higher[2]	16.7	3,369	3,671
Wealth quintile			
Lowest	18.6	3,743	3,826
Second	19.7	3,957	3,833
Middle	20.2	4,059	3,883
Fourth	20.8	4,184	4,088
Highest	20.8	4,184	4,497
Total 15-49	100.0	20,127	20,127

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

- Educational attainment among ever-married women age 15–49 continued to improve between 2014 and 2017. The proportion of women who had never attended school declined 8 percentage points, and the proportion of women who had some secondary education (that is, secondary incomplete or higher) increased by 6 percentage points (**Figure 2.1**).

Figure 2.1 **Education of survey respondents**

Trend in education of ever-married women, 2007–2017



3 MARRIAGE, FERTILITY, AND FAMILY PLANNING

SUMMARY

- Age at first marriage has continued to rise slowly. The median age at first marriage among women age 20–49 increased from 15.3 years in 2007 to 16.3 years in 2017.
- Fifty-nine percent of women age 20–24 marry before age 18. Between 2011 and 2014, the percentage declined to 59% from 65% and has remained stable over the last 3 years.
- The total fertility rate (TFR) for 2015–2017 is 2.3 births per woman. The 4th HPNSP's objective is to attain a TFR of 2.0 by 2022.
- Twenty-eight percent of teenagers have initiated child bearing. Teenage childbearing declined slightly between 2014 and 2017 from 31% to 28%. The 4th HPNSP aims to reduce teenage childbearing further, to 25% by 2022.
- Sixty percent of women want no more children or are sterilized. One-third of women want a child soon or later in life. The desire to have a child soon or later in life has increased slightly from 30% to 33% in the last 3 years.
- Sixty-two percent of currently married Bangladeshi women age 15–49 are using a contraceptive method. The contraceptive prevalence rate (CPR) remains unchanged since 2014. The 4th HPNSP aims to reach a CPR of 75% by 2022.
- Fifty-two percent of women use modern methods of contraception. Modern method use declined 2 percentage points between 2014 and 2017. Use is highest in Rangpur (59%) and lowest in Chattogram and Sylhet (45%). The 4th HPNSP aims to improve modern method use in Chattogram and Sylhet to 60% by 2022.
- Almost 4 in 10 contraceptive users discontinue a method within the first year of use. The discontinuation rate increased from 30% in 2014 to 37% in 2017.
- The private sector is now the dominant source of contraceptive supply for 49% of modern method users. In the private sector, the pharmacy or drug store is supplies 45% of users. The public sector provides contraceptives to 44% of users, and NGOs provide to 5% of users. The public sector supplies users of specific methods such as injectables, sterilization, intra-uterine devices, and implants.
- Overall, 12% of currently married women in Bangladesh had an unmet need for family planning services in 2017. The level is similar to the 2014 level of need.

3.1 AGE AT FIRST MARRIAGE

- Because never-married women were not interviewed in the BDHS, information on age at first marriage was generated using expansion factors. The expansion factors assume 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 women and that there were no errors in the reporting of marital status, especially of young women.

- **Table 3.1** shows, by current ages, the percentages of women 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, 71% married by age 18, and 85% married by age 20. Nearly one-third (31%) of women age 20–49 reported that they had married at age 15.

Table 3.1 Age at first marriage

Percentage of women age 15-49 who were first married, by specific exact ages and median age at first marriage, according to current age, Bangladesh 2017-18

	Percentage first married by exact age:							
Current age	15	18	20	22	25	Percentage never married	Number of respondents	Median age at first marriage
15-19	12.4	38.8	43.1	na	na	56.9	4,782	a
20-24	19.3	58.9	76.2	83.1	85.6	14.4	4,155	17.3
25-29	25.9	66.4	82.9	90.4	94.9	3.4	3,704	16.7
30-34	33.6	73.1	87.1	93.0	96.1	1.0	3,507	16.0
35-39	34.8	76.1	89.9	94.9	97.4	0.2	2,885	16.0
40-44	40.0	78.0	90.5	95.0	97.4	0.6	2,310	15.7
45-49	43.3	80.2	92.4	96.3	97.8	0.6	2,299	15.5
20-49	31.1	70.6	85.4	na	na	4.2	18,860	16.3
25-49	34.4	73.9	88.0	93.5	96.5	1.3	14,705	16.0

na = Not applicable due to censoring
a = Omitted because less than 50 percent of the women began living with their spouse or partner for the first time before reaching the beginning of the age group.

- Successive rounds of the BDHS show a slow but steady increase over the decade in age at first marriage, from a median age of 15.3 in 2007 up to 16.3 in 2017.

- The legal age of marriage for women in Bangladesh is 18, but a large proportion of marriages still take place before the woman reaches her legal age. The 2017-18 BDHS found that 59% of women age 20–24 were married before age 18 (**Table 3.2**).

Table 3.2 Marriage before age 18

Percentage of women age 20-24 who married before age 18, according to background characteristics, Bangladesh 2017-18

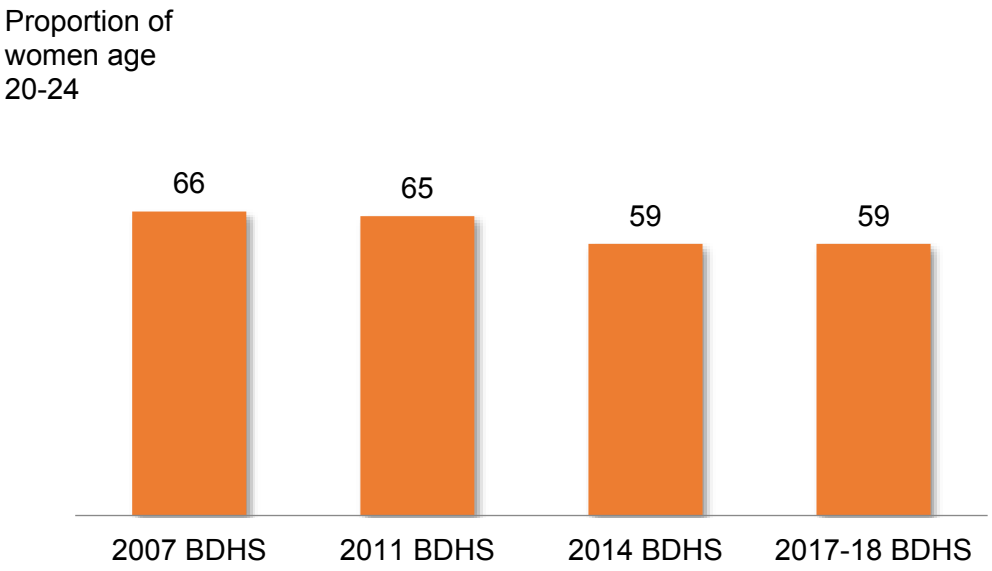
Background characteristic	Among women age 20-24: Percentage who got married before age 18	Number of women
Residence		
Urban	54.6	1,275
Rural	60.7	2,881
Division		
Barishal	64.6	209
Chattogram	54.1	814
Dhaka	57.6	1,139
Khulna	61.6	391
Mymensingh	64.4	306
Rajshahi	70.1	520
Rangpur	67.0	433
Sylhet	35.4	344
Education		
No education	75.0	145
Primary incomplete	75.1	555
Primary complete[1]	70.5	354
Secondary incomplete	73.5	1,671
Secondary complete or higher[2]	30.8	1,436
Wealth quintile		
Lowest	74.2	678
Second	63.9	769
Middle	60.4	821
Fourth	55.7	938
Highest	45.4	952
Total	58.9	4,155

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

- The proportion of women age 20–24 who married before age 18 declined from 66% in 2007 to 65% in 2011, and finally to 59% in 2014. Since 2014 there has been no further decline in early marriage (**Figure 3.1**).

Figure 3.1 Proportion married

Trend in proportion of women age 20–24 who were married before age 18, 2007–2017



3.2 CURRENT FERTILITY

- Age-specific and total fertility rates calculated directly from birth history data appear alongside general fertility rates and crude birth rates in Table 3.3.[1] The total fertility rate (TFR) for the 3-year period before the survey (covering principally the calendar years 2015–2017) was 2.3 births per woman (**Table 3.3**). The total fertility rate in the rural areas is higher than in the urban areas (2.3 compared with 2.0 births per woman).

Table 3.3 Current fertility

Age-specific and total fertility rates, general fertility rate, and crude birth rate for the 3 years preceding the survey, according to residence, Bangladesh 2017-18

	Residence		
Age group	Urban	Rural	Total
10-14	3	5	5
15-19	93	114	108
20-24	125	151	143
25-29	100	120	114
30-34	59	62	61
35-39	20	18	18
40-44	7	4	5
45-49	3	0	1
TFR (15-49)	2.0	2.3	2.3
GFR	78	89	86
CBR	21.1	22.3	21.9

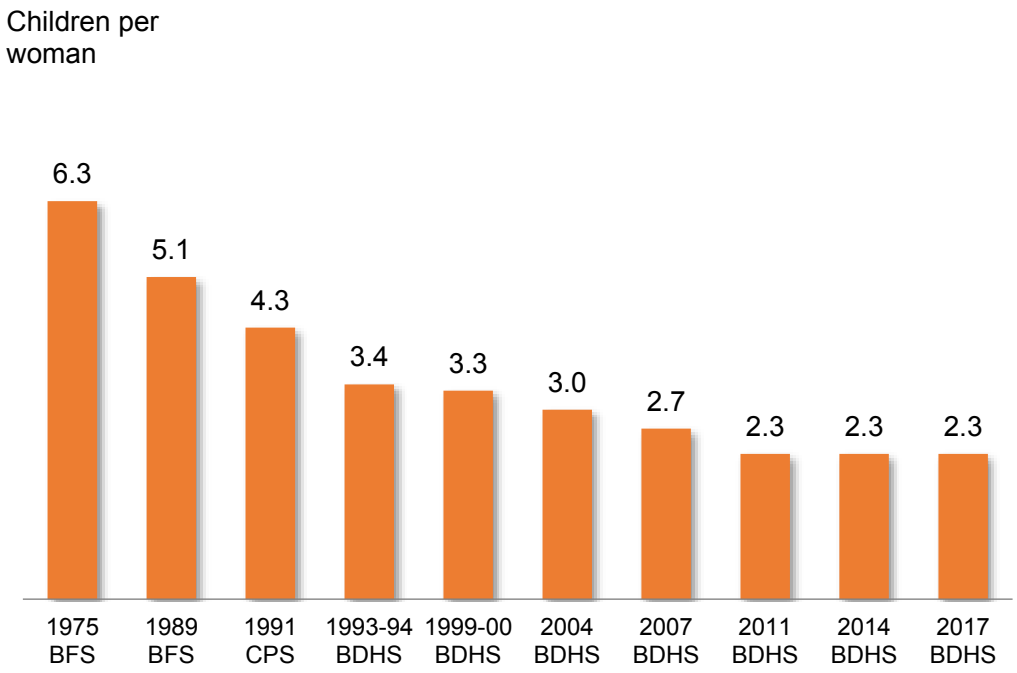
Notes: Age-specific fertility rates are per 1,000 women. Rates for age group 45-49 may be slightly biased due to truncation. Rates are for the period 1-36 months prior to interview.
TFR: Total fertility rate, expressed per woman
GFR: General fertility rate, expressed per 1,000 women age 15-44
CBR: Crude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

- The trend in the TFR from the BDHS and other comparable sample surveys since 1975 reflects an overall decline in fertility that began in the 1970s. The TFR declined sharply from 6.3 births per woman in 1975 to 5.1 births in 1989 and to 3.3 births in 1996. After a decade-long stall in fertility during the 1990s, at around 3.3 births per woman, the TFR further declined by one child to 2.3 births in 2011 and has remained stable (**Figure 3.2**). The objective of the 4th HPNSP is to reach a TFR of 2.0 children per woman by 2022.

[1] Fertility measures are calculated directly from the birth history data. Although information on fertility was obtained from ever-married women, estimates are presented for all women regardless of marital status. Data on the age structure of the population of never-married women from the Household Questionnaire are used to calculate all-women rates. This procedure assumes that women who have never married have had no children.

Figure 3.2 Total fertility rate

Trend in total fertility rate, 1975–2017



- Based on updated age-specific fertility rates from the 2017 BDHS and population estimates from the United Nation's World Population Prospect 2017 Revision (UN 2017), the replacement-level fertility for Bangladesh is estimated at 2.145 children per woman.

- The TFR in three of eight divisions of Bangladesh—Khulna, Rajshahi, and Rangpur—is at or lower than replacement-level fertility (that is, the TFR indicates 2.1 or fewer children) (**Table 3.4**). Among divisions with higher fertility levels, Sylhet has the highest (2.6 children per woman) followed by Mymensingh and Chattogram divisions (2.5 children per woman).

Table 3.4 Current fertility by division

Age-specific and total fertility rates, the general fertility rate, and the crude birth rate for the 3 years preceding the survey, by division, Bangladesh 2017-18

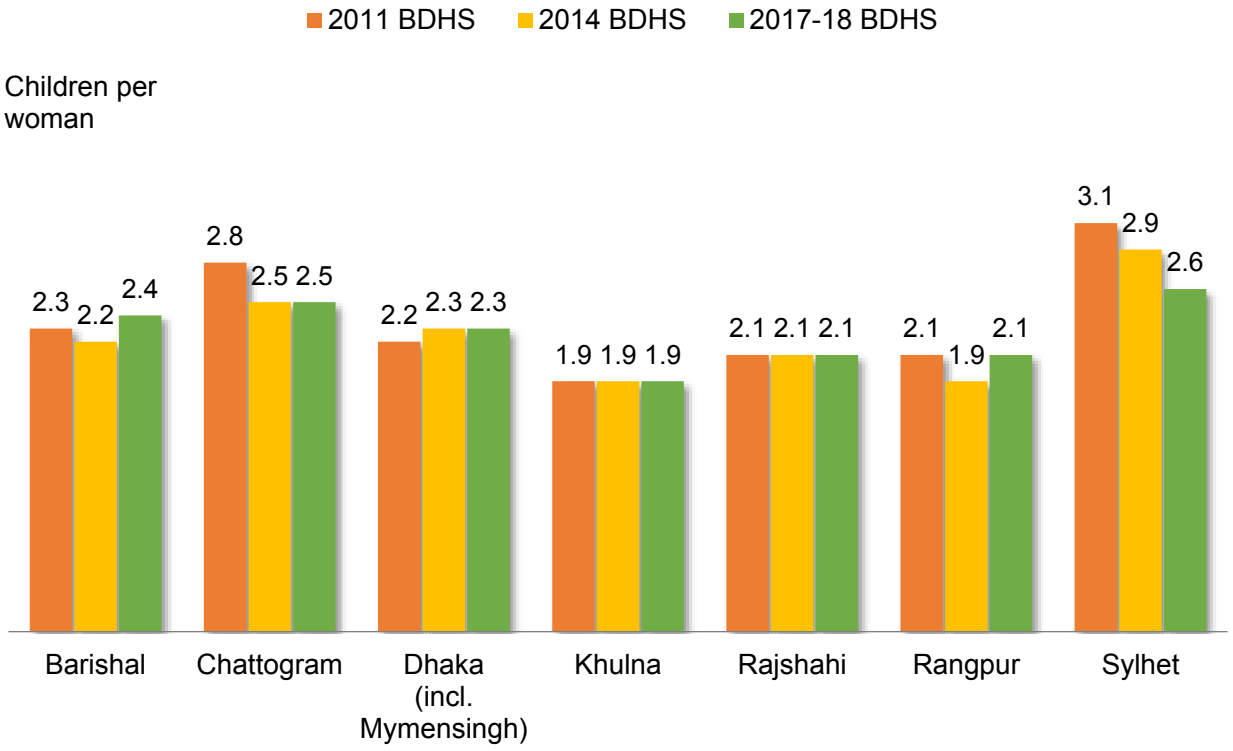
	Division								
Age group	Barishal	Chattogram	Dhaka	Khulna	Mymensingh	Rajshahi	Rangpur	Sylhet	Total
15-19	111	111	99	108	121	130	110	83	108
20-24	176	164	131	130	168	115	127	174	143
25-29	122	128	115	85	130	96	106	137	114
30-34	53	75	63	40	70	54	54	83	61
35-39	18	19	22	16	13	14	14	37	18
40-44	2	6	7	2	5	3	4	8	5
45-49	0	0	3	0	1	0	0	0	1
TFR (15-49)	2.4	2.5	2.2	1.9	2.5	2.1	2.1	2.6	2.3
GFR	89.0	98.0	85.0	69.0	97.0	76.0	78.0	101.0	86.0
CBR	22.3	25.3	22.6	17.8	23.1	19.1	19.2	25.7	21.9

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

- Between the 2014 and 2017 surveys, the TFR in Sylhet decreased and, in Rangpur and Barishal, it increased (**Figure 3.3**). Changes in fertility over time should be interpreted with caution unless accompanied by information on sampling errors.

Figure 3.3 **Total fertility rate by division**

Trend in total fertility rate by division, 2011–2017



Note: In 2011 and 2014 Mymensingh Division was part of Dhaka Division.

- **Table 3.5** shows that 28% of Bangladeshi women age 15–19 have begun childbearing. This percentage is lower than in the 2014 BDHS (31%). Twenty-two percent of the teenagers had given birth and another 6% were pregnant with their first child. One of the objectives of the 4th HPNSP is to reduce to 25% the proportion of teenagers who have begun childbearing by 2022.

- The proportion of women age 15–19 who have begun childbearing rises rapidly with age, from 6% among women age 15 to 56% among women age 19. Early childbearing among teenagers is more common in rural than urban areas (29% versus 23%) and in Rajshahi and Rangpur (33% and 32%, respectively) compared with other divisions. Childbearing begins later in Sylhet than in other divisions.

- Teenagers who have not completed primary school are twice as likely to begin childbearing compared with those who completed secondary or higher education.

- Childbearing begins earliest among women in the lowest wealth quintile with 37% of adolescents giving birth compared with 18% of adolescents in the highest quintile.

Table 3.5 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, according to background characteristics, Bangladesh 2017-18

Background characteristic	Percentage of women age 15-19 who: Have had a live birth	Are pregnant with first child	Percentage who have begun childbearing	Number of women
Age				
15	3.4	2.3	5.7	926
16	9.1	3.9	13.0	891
17	13.9	7.9	21.8	845
18	29.9	8.2	38.2	1,206
19	48.8	6.8	55.6	914
Residence				
Urban	19.0	4.4	23.4	1,332
Rural	22.8	6.5	29.3	3,450
Division				
Barishal	23.6	6.2	29.8	266
Chattogram	20.8	6.0	26.7	1,011
Dhaka	19.9	6.0	25.9	1,207
Khulna	23.9	6.6	30.4	506
Mymensingh	23.2	7.4	30.6	369
Rajshahi	26.3	6.3	32.7	551
Rangpur	27.0	5.0	32.0	492
Sylhet	10.1	3.9	14.1	393
Education				
No education	(31.3)	(6.9)	(38.2)	82
Primary incomplete	40.2	7.7	47.8	424
Primary complete[1]	39.4	7.4	46.7	314
Secondary incomplete	20.5	5.6	26.0	2,761
Secondary complete or higher[2]	12.7	5.8	18.5	1,201
Wealth quintile				
Lowest	29.8	6.7	36.5	806
Second	23.9	6.5	30.3	965
Middle	21.9	6.4	28.3	1,071
Fourth	20.9	5.8	26.7	983
Highest	13.2	4.4	17.7	962
Total	21.7	6.0	27.7	4,782

Note: Figures in parentheses are based on 25-49 unweighted cases.
[1] Primary complete is defined as completing grade 5.
[2] Secondary complete is defined as completing grade 10.

3.3 FERTILITY PREFERENCES

- Twelve percent of currently married women age 15–49 (**Table 3.6**) want to have another child soon, 21% want another later in life, and 60% want to limit childbearing (want no more children or are sterilized). The proportion of women who want to limit childbearing has declined slightly since 2014 (**Figure 3.4**).

Table 3.6 Fertility preferences according to number of living children

Percent distribution of currently married women age 15-49 by desire for children, according to number of living children, Bangladesh 2017-18

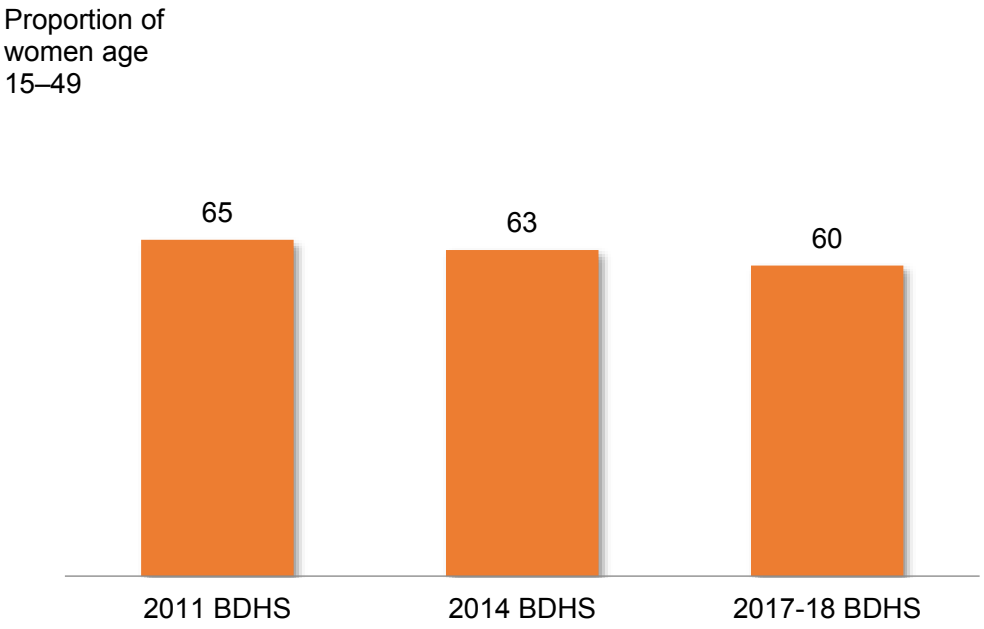
Desire for children	Number of living children[1] 0	1	2	3	4	5	6+	Total
Have another soon[2]	65.4	19.8	5.2	2.0	0.4	0.3	0.0	11.9
Have another later[3]	28.1	61.4	11.6	2.6	0.7	0.2	0.4	20.7
Have another, undecided when	1.7	2.1	0.5	0.2	0.1	0.1	0.0	0.8
Undecided	1.1	3.1	3.6	1.0	0.4	0.3	0.1	2.2
Want no more	0.7	11.2	71.6	77.0	77.8	75.5	73.1	54.0
Sterilized[4]	0.5	1.0	4.2	11.7	11.9	12.2	9.3	5.9
Declared infecund	2.5	1.4	3.3	5.6	8.7	11.4	17.1	4.5
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	1,500	4,369	6,121	3,978	1,799	767	451	18,984

[1] Number of living children includes the current pregnancy
[2] Wants next birth within 2 years
[3] Wants to delay next birth 2 or more years
[4] Includes both female and male sterilization

- Fertility preferences change notably with the number of living children the woman has already had; 65% of women with no child want to have a child soon, whereas 82% of women with six or more children want to limit childbirth.

Figure 3.4 **Desire to limit childbearing**

Trend in currently married women who want no more children, 2011–2017



3.4 CONTRACEPTIVE USE

- In BDHS surveys, current use of contraception is defined as the proportion of currently married women who report using a family planning method at the time of the survey. In the 2017-18 BDHS, 62% of currently married women age 15–49 reported using a contraceptive method. The majority of currently married women, 52%, use modern methods (**Table 3.7**).

- The pill is by far the most widely used method (25%), followed by injectables (11%). Nine percent of currently married women use a long-acting or permanent method such as female or male sterilization, implant, or IUD. Traditional methods are used by 10% of women, and the majority (7%) use the rhythm method (periodic abstinence).

- Modern method use varies by age, reaching a peak of 63% among women age 30–34, followed closely by women age 35–39 (61%). The oral pill is the most widely used method among all age groups except those age 45–49, who are more likely to use periodic abstinence. As expected, women in older groups (age 30–49) are more likely to be sterilized than younger women.

- Modern method use is highest in Rangpur division (59%) and lowest in Chattogram and Sylhet divisions (45%).

Table 3.7 Current use of contraception according to background characteristics

Percent distribution of currently married women age 15-49, by contraceptive method currently used, according to background characteristics, Bangladesh 2017-18

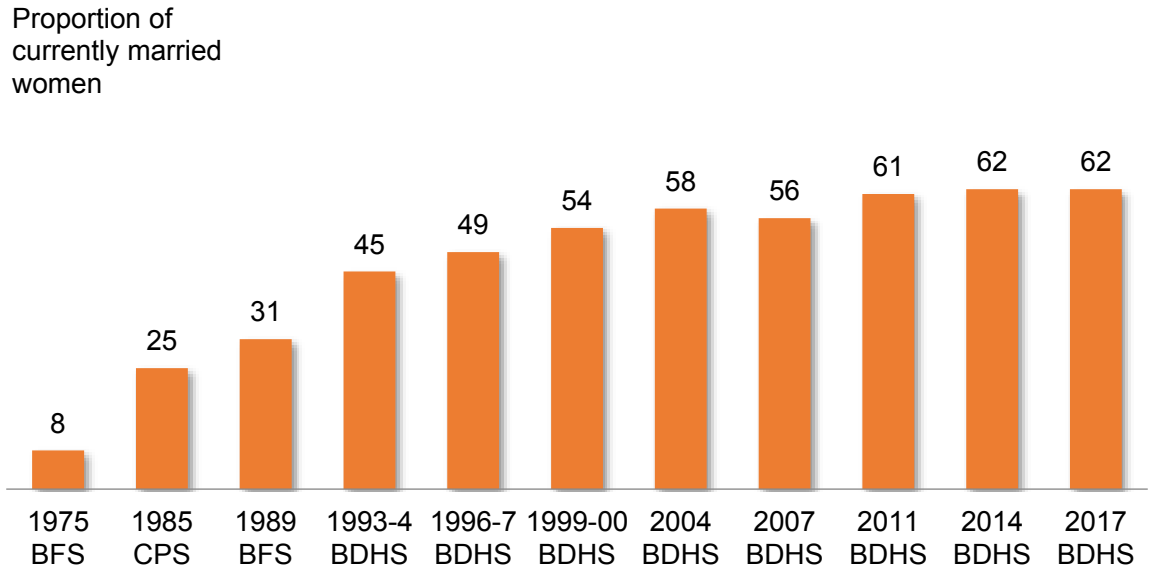
Background characteristic	Any method	Any modern method	Modern method									Any traditional method	Traditional method			Not currently using	Total	Number of women
			Pill	Injectables	Male condom	Female sterilization	Male sterilization	IUD	Implants	LAM	Emergency contraception		Rhythm	Withdrawal	Other			
Number of living children																		
0	24.9	20.8	12.7	0.3	7.3	0.2	0.2	0.0	0.0	0.0	0.1	4.1	1.5	2.5	0.0	75.1	100.0	1,978
1-2	64.6	56.0	29.6	11.5	9.1	2.3	0.7	0.5	2.3	0.0	0.0	8.6	5.4	3.0	0.1	35.4	100.0	10,196
3-4	69.7	56.7	24.0	12.9	4.5	10.2	1.9	0.8	2.4	0.0	0.0	13.0	10.1	2.5	0.5	30.3	100.0	5,609
5+	62.5	45.3	16.4	11.3	3.1	9.3	2.0	0.4	2.8	0.0	0.0	17.2	14.4	2.4	0.4	37.5	100.0	1,201
Age																		
15-19	48.9	43.7	27.3	6.3	8.1	0.1	0.1	0.0	1.8	0.0	0.1	5.2	2.1	3.0	0.1	51.1	100.0	2,006
20-24	55.6	50.9	28.2	11.5	7.9	0.4	0.1	0.3	2.3	0.1	0.0	4.7	2.2	2.5	0.0	44.4	100.0	3,435
25-29	63.5	56.8	29.2	12.6	8.5	2.6	0.7	0.6	2.6	0.0	0.0	6.7	3.7	2.8	0.1	36.5	100.0	3,445
30-34	71.0	62.7	30.4	13.8	7.7	6.0	1.4	0.7	2.6	0.0	0.0	8.3	5.4	2.6	0.3	29.0	100.0	3,308
35-39	75.4	61.4	26.4	13.0	7.7	8.9	2.1	0.6	2.7	0.0	0.0	13.9	11.3	2.4	0.2	24.6	100.0	2,699
40-44	66.2	45.9	18.9	8.3	5.1	9.2	1.9	1.1	1.4	0.0	0.0	20.3	15.7	3.8	0.7	33.8	100.0	2,109
45-49	44.6	28.7	8.7	5.2	3.2	9.0	1.6	0.5	0.6	0.0	0.0	15.9	13.0	2.5	0.4	55.4	100.0	1,983
Residence																		
Urban	65.4	54.9	24.9	10.0	12.4	4.5	0.8	0.7	1.5	0.0	0.0	10.5	6.8	3.5	0.2	34.6	100.0	5,378
Rural	60.4	50.7	25.5	11.0	5.1	5.0	1.1	0.5	2.4	0.0	0.0	9.7	7.0	2.5	0.3	39.6	100.0	13,607
Division																		
Barishal	61.6	50.9	25.6	13.9	5.4	1.7	1.4	0.4	2.3	0.1	0.2	10.8	8.4	2.2	0.2	38.4	100.0	1,056
Chattogram	53.7	44.8	22.5	10.8	5.3	3.8	0.5	0.6	1.3	0.0	0.0	9.0	6.6	2.4	0.0	46.3	100.0	3,414
Dhaka	62.2	52.6	25.0	9.0	10.2	5.1	0.8	0.8	1.7	0.0	0.0	9.5	6.3	3.0	0.3	37.8	100.0	4,864
Khulna	64.6	52.2	23.4	11.9	8.0	5.2	1.0	0.7	2.0	0.0	0.0	12.5	8.6	3.4	0.5	35.4	100.0	2,205
Mymensingh	63.4	55.1	32.4	10.3	5.0	3.3	1.4	0.4	2.3	0.0	0.0	8.2	5.6	2.4	0.2	36.6	100.0	1,468
Rajshahi	64.7	55.0	25.5	11.4	7.8	6.3	0.8	0.5	2.7	0.0	0.0	9.6	6.0	3.4	0.2	35.3	100.0	2,645
Rangpur	69.8	59.0	28.0	13.9	4.3	6.0	2.6	0.1	4.1	0.0	0.0	10.8	8.2	2.2	0.3	30.2	100.0	2,248
Sylhet	55.4	44.8	24.6	5.5	7.0	5.3	0.5	0.4	1.4	0.0	0.0	10.6	7.6	2.6	0.4	44.6	100.0	1,085
Education																		
No education	62.5	48.7	18.3	12.9	1.9	9.4	2.7	0.8	2.6	0.0	0.0	13.8	11.2	1.8	0.9	37.5	100.0	2,947
Primary incomplete	64.4	53.1	24.0	13.9	3.3	6.7	1.8	0.6	2.8	0.0	0.0	11.3	8.4	2.6	0.3	35.6	100.0	3,949
Primary complete[1]	65.1	54.7	27.4	13.6	5.0	5.0	0.9	0.4	2.3	0.0	0.0	10.4	8.0	2.2	0.2	34.9	100.0	1,955
Secondary incomplete	60.4	52.9	29.3	10.2	7.3	2.9	0.4	0.5	2.1	0.0	0.0	7.5	4.8	2.7	0.1	39.6	100.0	6,864
Secondary complete or higher[2]	59.2	49.5	23.8	4.3	17.6	2.4	0.1	0.5	0.7	0.0	0.0	9.7	5.2	4.4	0.1	40.8	100.0	3,269
Wealth quintile																		
Lowest	66.3	57.2	26.6	16.4	2.4	5.4	1.9	0.5	4.0	0.0	0.0	9.1	6.7	1.9	0.4	33.7	100.0	3,473
Second	63.5	52.6	25.6	13.2	3.9	5.0	1.6	0.4	2.9	0.1	0.0	10.9	7.9	2.7	0.4	36.5	100.0	3,730
Middle	59.2	50.2	26.1	10.2	5.1	5.0	0.9	0.7	2.1	0.0	0.0	9.0	6.6	2.2	0.1	40.8	100.0	3,846
Fourth	61.1	51.3	27.4	9.1	7.5	4.8	0.7	0.6	1.3	0.0	0.0	9.8	6.5	3.1	0.2	38.9	100.0	3,985
Highest	59.8	48.8	21.3	5.8	16.2	4.1	0.4	0.6	0.5	0.0	0.0	11.0	7.0	3.8	0.1	40.2	100.0	3,951
Total	61.9	51.9	25.4	10.7	7.2	4.8	1.1	0.6	2.1	0.0	0.0	10.0	7.0	2.8	0.2	38.1	100.0	18,984

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

- Between 1975 and 2014, contraceptive prevalence increased from 8% to 62%, and remained at that level thereafter (**Figure 3.5**). The 4th HPNSP aims to reach a CPR of 75% by 2022. Note that modern method use declined from 54% to 52% between 2014 and 2017, mainly due to the decline in use of the oral pill and injectables. The current sector-wide program aims to reach 50% use in Sylhet and Chattogram by 2022. Between the 2014 BDHS and the 2017-18 BDHS, the use of modern methods in Sylhet increased from 41% to 45%, but has slightly declined in Chattogram from 47% to 45%.

Figure 3.5 Trends in contraceptive use

Percentage of currently married women using any contraceptive method, 1975–2017



- In the 2017-18 BDHS women were asked whether a fieldworker had visited them in the 6 months prior to the survey. **Table 3.8** shows that 20% of currently married women reported a visit by a fieldworker in the 6 months before the survey. This proportion is similar to that recorded in the 2014 BDHS.

Table 3.8 Contact with family planning fieldworkers

Percentage of currently married women age 15-49 who reported being visited by a fieldworker in the past 6 months, by background characteristics, Bangladesh 2017-18

Background characteristic	Percentage of women who reported being visited by fieldworker in the past 6 months	Number of women
Age		
15-19	14.8	2,006
20-24	20.5	3,435
25-29	22.4	3,445
30-34	23.9	3,308
35-39	22.1	2,699
40-44	18.2	2,109
45-49	13.0	1,983
Residence		
Urban	14.3	5,378
Rural	22.3	13,607
Division		
Barishal	17.8	1,056
Chattogram	18.6	3,414
Dhaka	14.9	4,864
Khulna	24.3	2,205
Mymensingh	28.6	1,468
Rajshahi	21.4	2,645
Rangpur	24.5	2,248
Sylhet	16.7	1,085
Education		
No education	16.8	2,947
Primary incomplete	20.7	3,949
Primary complete[1]	21.9	1,955
Secondary incomplete	21.9	6,864
Secondary complete or higher[2]	17.1	3,269
Wealth quintile		
Lowest	24.9	3,473
Second	22.7	3,730
Middle	21.8	3,846
Fourth	18.3	3,985
Highest	13.2	3,951
Total	20.0	18,984

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

- Thirty-seven percent of users of a contraceptive method stop using the method within 12 months of starting (**Table 3.9**). As expected, discontinuation rates are much higher for temporary methods like condoms (45%), pills (42%), and injectables (34%) than for long-term methods like implants (11%).

Table 3.9 Twelve-month contraceptive discontinuation rates

Among women age 15-49 who started an episode of contraceptive use within the 5 years preceding the survey, the percentage of episodes discontinued within 12 months, by reason for discontinuation and specific method, Bangladesh 2017-18

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 reasons	Any reason[4]	Switched to another method[5]	Number of episodes of use[6]
Female sterilization	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	318
Injectables	1.1	4.0	5.4	20.1	1.2	1.6	0.7	34.1	19.1	2,988
Implants	0.0	0.1	0.3	10.8	0.0	0.0	0.0	11.2	8.3	540
Pill	4.5	10.5	11.8	10.8	2.3	1.0	0.7	41.6	13.0	8,256
Male condom	5.8	10.7	5.6	6.0	4.5	10.3	2.0	44.7	21.1	2,369
Rhythm	4.7	4.8	3.5	1.0	9.0	2.9	1.8	27.7	14.3	1,274
Withdrawal	6.4	5.7	6.1	1.7	5.1	2.1	3.7	30.9	12.3	597
All methods[1]	3.9	8.1	8.2	10.5	3.0	2.6	1.0	37.1	15.0	16,566

Note: Figures are based on life table calculations using information on episodes of use that began 3-62 months prior to the survey.
[1] Includes male sterilization, IUD, lactational amenorrhea method, and other methods
[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 2 months of discontinuation.
[6] Number of episodes of use includes both episodes of use discontinued during the period of observation and episodes of use not discontinued during the period of observation.

- Family Planning 2020, the global partnership that supports the right of women to decide on childbearing, has set as a target reducing the discontinuation rate to 20% by 2021 (Family Planning 2020). However, the all-method discontinuation rate increased from 30% in 2014 to 37% in 2017.

- **Table 3.10** provides information on the source of the most recent contraceptive method received. Close to half (49%) of modern contraceptive users obtained the method from the private sector (private medical sector or shops), with a large proportion receiving the method from a pharmacy/drug store (45%). Forty-four percent of modern contraceptive users get their supplies from the public sector, with government field workers (family welfare assistants, or FWAs) being the most important source, serving 16% of users. Nongovernmental organizations (NGOs) supply contraceptives to 5% of users of modern methods.

Table 3.10 Source of supply of specific modern methods.

Percent distribution of current users of modern contraceptive methods among women age 15-49 by most recent source of method, according to specific method, Bangladesh 2017-18

	Modern method							
Source	Pill	Injectables	Condoms	Female sterilization	Male sterilization	IUD	Implants	Total
Public sector	39.4	51.2	17.8	63.1	87.5	78.8	87.8	44.4
Medical college hospital	0.0	0.0	0.1	6.0	4.6	1.5	0.3	0.7
Specialized government hospital	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0
District hospital	0.1	0.2	0.1	8.8	16.1	10.8	0.5	1.4
Maternal and child welfare center	0.3	0.9	0.3	9.2	9.3	8.8	12.6	2.0
Upazila health complex	1.3	3.0	1.2	35.9	54.1	29.0	52.4	8.3
Union health and family welfare center	2.9	7.1	1.4	2.5	1.1	24.2	19.6	4.4
Community clinic	7.8	11.5	3.4	0.0	0.0	3.7	0.8	6.8
Satellite clinic/EPI outreach	4.5	10.5	0.8	0.0	0.0	0.0	0.0	4.5
Government field worker (FWA)	22.4	18.0	9.7	0.0	0.0	0.0	0.2	16.0
Other public sector	0.0	0.1	0.8	0.5	2.3	0.8	1.4	0.3
Private medical sector	55.5	39.4	78.2	32.1	3.5	6.5	1.3	49.3
Private medical college hospital	0.0	0.1	0.0	0.6	0.0	0.8	0.0	0.1
Private hospital	0.1	0.1	0.0	6.7	2.2	1.2	0.0	0.7
Private clinic	0.0	0.4	0.2	24.7	1.3	4.4	1.1	2.5
Qualified doctor's chamber	0.1	1.7	0.2	0.0	0.0	0.0	0.3	0.4
Non-qualified doctor's chamber	0.4	3.7	0.1	0.0	0.0	0.0	0.0	1.0
Pharmacy/drug store	54.9	33.4	77.7	0.0	0.0	0.0	0.0	44.5
NGO sector	3.1	8.9	1.8	3.9	2.4	14.7	10.6	4.6
Static clinic	0.7	3.6	0.8	3.9	2.4	14.7	10.5	2.2
Satellite clinic	0.4	2.3	0.2	0.0	0.0	0.0	0.0	0.7
Depo holder	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0
Fieldworker	1.9	3.1	0.7	0.0	0.0	0.0	0.0	1.7
Other	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0
Other private source	1.9	0.1	1.9	0.0	0.0	0.0	0.0	1.2
Shop	0.3	0.0	1.5	0.0	0.0	0.0	0.0	0.3
Friend/relatives	1.6	0.1	0.4	0.0	0.0	0.0	0.0	0.9
Other	0.1	0.2	0.3	0.0	0.0	0.0	0.3	0.2
Don't know	0.0	0.0	0.0	0.5	5.8	0.0	0.0	0.2
Missing	0.1	0.1	0.0	0.4	0.8	0.0	0.0	0.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Number of women	4,814	2,041	1,363	916	201	105	405	9,843

- The share of the private sector as a source of contraceptive supply has increased from 44% in 2007 to 47% in 2014 and 49% in 2017, surpassing the public sector as the dominant source of contraceptive supply.

- The source of modern contraceptive methods varies greatly by the specific method. Long-acting or permanent methods such as sterilization, implants, and IUDs are usually obtained from a public-sector facility, especially upazila health complexes and union health and family welfare centers. However, the proportion of female sterilization in a private medical sector has been slowly increasing, from 21% in the 2011 BDHS, to 29% in the 2014 BDHS, and to 32% in the 2017-18 BDHS.

3.5 Need and Demand for Family Planning

- 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).

- Overall, 12% of currently married women in Bangladesh have an unmet need for family planning services (**Table 3.11**).

Table 3.11 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, percentage with met need for family planning who are using modern methods, percentage with demand for family planning, percentage of the demand for family planning that is satisfied, and percentage of the demand for family planning that is satisfied with modern methods, according to background characteristics, Bangladesh 2017-18

Background characteristic	Unmet need for family planning	Met need for family planning (currently using)		Total demand for family planning[3]	Number of women	Percentage of demand satisfied[1]	
		All methods	Modern methods[2]			All methods	Modern methods[2]
Age							
15-19	15.5	48.9	43.7	64.4	2,006	75.9	67.9
20-24	15.7	55.6	50.9	71.3	3,435	78.0	71.3
25-29	13.3	63.5	56.8	76.8	3,445	82.7	74.0
30-34	12.9	71.0	62.7	83.9	3,308	84.6	74.7
35-39	10.3	75.4	61.4	85.7	2,699	88.0	71.7
40-44	7.9	66.2	46.0	74.1	2,109	89.4	62.1
45-49	4.8	44.6	28.7	49.4	1,983	90.3	58.2
Residence							
Urban	9.2	65.4	54.9	74.6	5,378	87.7	73.6
Rural	13.1	60.4	50.7	73.5	13,607	82.2	69.0
Division							
Barishal	13.9	61.6	50.9	75.6	1,056	81.6	67.4
Chattogram	18.0	53.7	44.8	71.8	3,414	74.9	62.4
Dhaka	12.3	62.2	52.6	74.5	4,864	83.5	70.7
Khulna	8.5	64.6	52.2	73.2	2,205	88.3	71.3
Mymensingh	9.5	63.4	55.1	72.9	1,468	86.9	75.6
Rajshahi	9.6	64.7	55.0	74.2	2,645	87.1	74.1
Rangpur	8.1	69.8	59.0	77.9	2,248	89.6	75.7
Sylhet	13.8	55.4	44.8	69.1	1,085	80.1	64.8
Education							
No education	7.1	62.5	48.7	69.5	2,947	89.8	70.0
Primary incomplete	11.1	64.4	53.2	75.6	3,949	85.3	70.4
Primary complete[4]	12.0	65.1	54.7	77.1	1,955	84.4	70.9
Secondary incomplete	14.3	60.4	52.9	74.7	6,864	80.9	70.8
Secondary complete or higher[5]	12.6	59.2	49.5	71.8	3,269	82.5	68.9
Wealth quintile							
Lowest	9.9	66.3	57.2	76.2	3,473	87.0	75.1
Second	11.5	63.5	52.6	75.0	3,730	84.6	70.1
Middle	12.8	59.2	50.2	72.0	3,846	82.2	69.8
Fourth	13.3	61.1	51.3	74.4	3,985	82.1	69.0
Highest	12.1	59.8	48.8	71.9	3,951	83.2	67.9
Total	12.0	61.9	51.9	73.8	18,984	83.8	70.3

Note: Numbers in this table correspond to the revised definition of unmet need described in Bradley et al. 2012.
[1] Percentage of demand satisfied is met need divided by total demand.
[2] Modern methods include female sterilization, male sterilization, pill, IUD, injectables, implants, male condom, emergency contraception, lactational amenorrhea method (LAM), and other modern methods.
[3] Total demand is the sum of unmet need and met need.
[4] Primary complete is defined as completing grade 5.
[5] Secondary complete is defined as completing grade 10.

- The total demand for family planning in Bangladesh is 74%, of which 70% has been satisfied by the use of modern methods.

- Unmet need for family planning decreases with increasing age, from 16% among women age 15–19 to 5% among women age 45–49. Women in rural areas have a higher unmet need than urban women (13% versus 9%). Across divisions, unmet need is highest in Chattogram (18%), followed by Sylhet and Barishal (14%), and lowest in Khulna and Rangpur (9% and 8%, respectively).

- Unmet need for family planning in Bangladesh has decreased from 14% in 2011 to 12% in 2014, and remains at that level in 2017.

4 MATERNAL AND NEWBORN HEALTH

SUMMARY

- The percentage of women receiving at least one antenatal care visit from a medical provider increased sharply, from 64% to 82%, between 2014 and 2017. During this period, those receiving four or more visits during pregnancy also increased, from 31% to 47%. The goal is to increase coverage to 50% by 2022.

- Less than 18% of pregnant women receive quality care. Quality care is defined as four or more antenatal visits, with at least one visit from a medical provider, measurement of weight and blood pressure, testing of blood and urine, and receipt of information on potential danger signs during pregnancy.

- Medical personnel attended 53% of deliveries in the 3 years before the survey. This proportion has increased rapidly since 2007, primarily because of more facility deliveries. By 2022, the 4th HPNSP objective is for 65% of deliveries to be attended by skilled birth attendants.

- Half of deliveries took place in health care facilities, mostly private (32%). Public health facilities accounted for 14% and NGOs for 4% of the deliveries.

- Between the 2014 BDHS and the 2017-18 BDHS, facility deliveries increased by 13 percentage points, from 37% to 50%. Delivery in private facilities increased from 22% to 32%, in public facilities from 13% to 14%, and in nongovernmental facilities from 2% to 4%.

- Inequity in facility use by women in the highest and lowest wealth quintiles is still high, but gradually diminishing. Rich women are now three times more likely to deliver in health facilities than poor women. In 2011 this ratio was 6, and in 2014 it was around 5. The 4th HPNSP target is to reduce the inequity ratio in the use of facility delivery between women in the richest and poorest wealth quintiles to 3.5 by 2022. This target has already been achieved,

- One-third of deliveries are by cesarean section. The percentage increased from 23% to 33% between the 2014 BDHS and the 2017-18 BDHS.

- Half of the mothers and children born in the 3 years before the survey received postnatal care from a medically trained provider within 2 days after delivery. For deliveries outside of institutions, only 7% of mothers and children received care within 2 days.

- At delivery, only 7% of newborns delivered outside institutions receive all five recommended essential newborn care practices. The proportion was 6% in 2014.

4.1 ANTENATAL CARE

- Antenatal care (ANC) from a medically trained provider is important to monitor the status of a pregnancy, identify complications, and prevent adverse outcomes.

- **Table 4.1** shows that 82% of women with a birth in the 3 years preceding the survey received antenatal care at least once from a medically-trained provider, that is, a qualified doctor, nurse, midwife, or paramedic; family welfare visitor (FWV); community skilled birth attendant (CSBA); medical assistant (MA), or sub-assistant community medical officer (SACMO).

- Seeking antenatal care from a medically trained provider has increased noticeably over the last decade, from about 50% in 2007 to more than 80% in 2017 (**Figure 4.1**). This increase is due mostly to an increase in ANC from qualified doctors. In 2017, 76% reported receiving ANC from a qualified doctor.

Table 4.1 Antenatal care

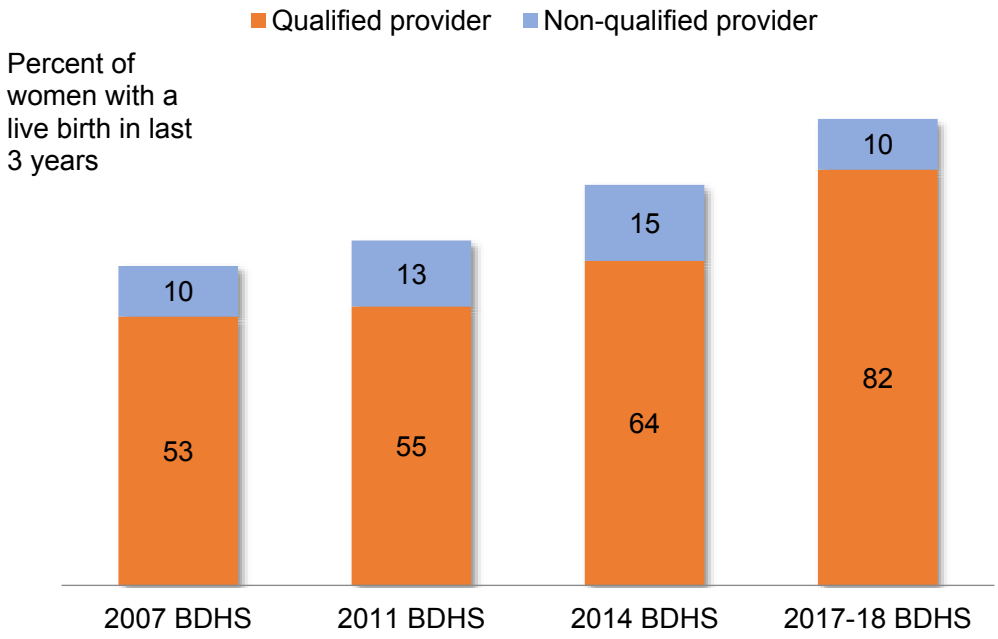
Percent distribution of women who had a live birth in the 3 years preceding the survey by antenatal care (ANC) provider during pregnancy for the most recent birth, according to background characteristics, Bangladesh 2017-18

Background characteristic	Antenatal care provider														Total	Percentage receiving antenatal care from a skilled provider[1]	Number of women
	Received any ANC	Qualified doctor	Nurse/ midwife/ para-medic	FWV	CSBA	MA/ SACMO	CHCP	HA/ FWA	NGO worker	Trained birth attendant	Untrained birth attendant	Unquali-fied provider	Other	No one			
Mother's age at birth																	
<20	94.1	77.6	3.4	2.9	0.3	0.1	1.9	2.5	4.7	0.2	0.1	0.5	0.0	5.9	100.0	84.3	1,466
20-34	91.4	75.6	2.5	2.5	0.3	0.2	1.5	2.0	5.8	0.0	0.1	0.7	0.2	8.6	100.0	81.1	3,407
35-49	85.3	70.8	2.6	3.1	0.4	0.0	1.1	1.8	4.2	0.0	0.6	0.7	0.0	14.7	100.0	76.9	179
Birth order																	
1	96.1	83.0	3.2	2.3	0.2	0.2	1.4	1.8	3.4	0.1	0.1	0.4	0.0	3.9	100.0	88.9	1,931
2-3	91.5	75.4	2.3	2.6	0.4	0.2	1.5	1.9	6.5	0.1	0.1	0.5	0.1	8.5	100.0	80.8	2,503
4-5	83.7	59.5	4.3	4.6	0.0	0.0	2.9	4.0	5.8	0.0	0.2	1.5	0.8	16.3	100.0	68.4	517
6+	69.5	43.1	1.4	0.7	0.0	0.0	2.8	4.2	14.2	0.0	0.0	3.2	0.0	30.5	100.0	45.1	101
Residence																	
Urban	94.8	85.6	3.3	0.9	0.0	0.0	0.2	1.1	2.9	0.1	0.1	0.3	0.1	5.2	100.0	89.8	1,356
Rural	91.0	72.5	2.6	3.3	0.4	0.2	2.1	2.5	6.3	0.1	0.1	0.7	0.1	9.0	100.0	79.0	3,695
Division																	
Barishal	85.0	70.8	3.7	2.0	0.0	0.0	1.3	1.5	4.2	0.2	0.3	1.0	0.0	15.0	100.0	76.5	288
Chattogram	91.0	77.4	2.7	2.5	0.3	0.4	1.1	2.0	3.6	0.2	0.4	0.5	0.0	9.0	100.0	83.2	1,071
Dhaka	93.1	83.0	2.2	1.7	0.0	0.2	0.3	0.9	4.4	0.0	0.0	0.4	0.1	6.9	100.0	87.0	1,293
Khulna	96.0	84.1	3.0	2.8	0.6	0.2	0.8	2.0	2.2	0.0	0.0	0.3	0.0	4.0	100.0	90.7	464
Mymensingh	89.9	68.0	1.6	2.4	0.2	0.0	1.9	4.9	9.7	0.0	0.0	0.9	0.3	10.1	100.0	72.2	431
Rajshahi	94.8	81.0	2.0	1.5	0.0	0.0	2.5	1.9	5.2	0.0	0.0	0.5	0.2	5.2	100.0	84.5	587
Rangpur	94.9	62.4	5.0	6.1	1.2	0.0	5.0	3.0	11.2	0.0	0.1	0.7	0.3	5.1	100.0	74.6	534
Sylhet	85.5	63.5	3.6	3.6	0.2	0.5	2.5	3.2	6.2	0.2	0.2	1.4	0.4	14.5	100.0	71.4	383
Education																	
No education	73.4	50.5	5.5	3.9	0.4	0.0	1.6	3.9	6.8	0.0	0.0	0.8	0.0	26.6	100.0	60.3	318
Primary incomplete	86.7	62.7	3.4	4.1	0.4	0.1	1.8	3.4	9.1	0.2	0.2	1.0	0.3	13.3	100.0	70.7	879
Primary complete[2]	88.5	66.3	3.2	3.9	0.5	0.0	1.7	2.6	8.1	0.0	0.3	1.8	0.1	11.5	100.0	73.9	516
Secondary incomplete	94.2	78.6	2.6	2.4	0.2	0.4	2.2	2.0	5.1	0.0	0.1	0.4	0.2	5.8	100.0	84.2	2,209
Secondary complete or higher[3]	98.6	93.0	1.8	1.0	0.1	0.0	0.3	0.6	1.5	0.1	0.0	0.1	0.0	1.4	100.0	96.0	1,129
Wealth quintile																	
Lowest	82.4	53.2	4.7	4.9	0.7	0.1	3.3	3.4	10.2	0.1	0.3	1.1	0.3	17.6	100.0	63.6	1,042
Second	89.7	66.1	3.0	4.5	0.2	0.5	2.0	3.6	8.2	0.1	0.3	0.9	0.2	10.3	100.0	74.3	1,036
Middle	93.6	78.8	3.0	2.0	0.1	0.2	1.9	2.1	4.9	0.0	0.0	0.5	0.1	6.4	100.0	84.1	969
Fourth	95.9	88.6	1.6	0.9	0.2	0.1	0.4	1.2	2.5	0.1	0.0	0.1	0.2	4.1	100.0	91.5	1,018
Highest	98.9	94.8	1.7	0.6	0.1	0.0	0.3	0.1	1.0	0.0	0.0	0.3	0.0	1.1	100.0	97.2	986
Total	92.0	76.0	2.8	2.6	0.3	0.2	1.6	2.1	5.4	0.1	0.1	0.6	0.1	8.0	100.0	81.9	5,051

Note: If more than one source of antenatal care was mentioned, only the provider with the highest qualifications was considered.
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, CHCP = community health care provider
[1] Medically-trained providers include 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 4.1* Trends in antenatal care coverage**

Percentage of women age 15-49 who had a live birth in the 3 years before the survey (for the most recent birth), 2007–2017



- **Table 4.2** shows that 47% of women with a live birth in the 3 years before the survey made four or more ANC visits during their pregnancy.

Table 4.2 Number of antenatal care visits

Percent distribution of women who had a live birth in the 3 years preceding the survey by number of antenatal care (ANC) visits for the most recent birth, according to residence, Bangladesh 2017-18

	Residence		
Number of ANC visits	Urban	Rural	Total
None	5.2	9.0	8.0
1	9.6	14.4	13.1
2	12.7	17.8	16.4
3	13.7	16.1	15.5
4 or more	58.7	42.7	47.0
Median visits	4.9	3.8	4.1
Total	100.0	100.0	100.0
Number of women	1,356	3,695	5,051

- Urban women are more likely than rural women to have made four or more antenatal visits (59% compared with 43%).
- Between 2014 and 2017, the proportion of women who made four or more ANC visits during pregnancy increased from 31% to 47%. The 4th HPNSP aims to reach 50% coverage by 2022.
- The content of ANC is an essential component of service quality. The proportions of pregnant women who sought antenatal care and who had their weight and blood pressure measured were high—88% and 93%, respectively. Overall, 72% of women reported giving urine samples for testing, and 66% reported providing blood samples. Remarkably, 80% of women underwent an ultrasonogram. Forty percent of mothers who received ANC reported that caregivers informed them of signs of possible pregnancy complications during the visit. Only 13% of pregnant women were told of postpartum family planning options, however (**Table 4.3**).

Table 4.3 Components of antenatal care

Percentage of women age 15-49 with a live birth in the 3 years preceding the survey, for which the mother received specific antenatal care services for the most recent birth, according to background characteristics, Bangladesh 2017-18

Background characteristic	Among women who received antenatal care for their most recent birth in the past 3 years, the percentage with selected services							
	Weight measured	Blood pressure measured	Urine sample taken	Blood sample taken	Ultra-sonogram	Informed of signs of pregnancy complications	Informed about postpartum family planning	Number of women with ANC for their most recent birth
Residence								
Urban	92.1	95.6	81.0	75.8	88.8	45.1	15.2	1,285
Rural	86.6	92.3	68.7	61.8	77.0	37.6	11.5	3,362
Division								
Barishal	88.2	94.6	74.6	71.2	79.4	39.1	12.7	245
Chattogram	87.8	92.5	76.1	68.4	77.3	35.9	9.7	974
Dhaka	87.5	92.6	75.8	72.9	90.2	42.5	13.4	1,204
Khulna	92.6	94.5	74.6	69.3	86.9	41.2	12.8	446
Mymensingh	82.3	93.7	61.8	55.6	71.0	39.1	10.2	388
Rajshahi	87.1	90.7	65.7	58.5	85.9	38.1	12.3	556
Rangpur	91.5	95.6	64.4	53.7	65.1	44.4	18.8	507
Sylhet	89.0	95.0	76.9	64.4	68.8	35.3	11.0	327
Education								
No education	79.5	85.9	58.3	47.1	63.6	31.3	7.4	234
Primary incomplete	82.8	90.9	61.2	50.3	69.1	32.0	9.1	762
Primary complete[1]	81.3	89.9	65.3	56.3	69.4	36.2	11.8	457
Secondary incomplete	88.4	92.9	71.3	65.9	81.3	38.8	11.1	2,081
Secondary complete or higher[2]	96.0	98.4	87.0	83.4	93.9	49.7	19.0	1,113
Wealth quintile								
Lowest	82.8	90.7	58.6	47.1	59.3	34.5	10.2	858
Second	82.1	90.9	60.5	54.1	71.3	33.6	10.3	929
Middle	87.5	91.1	70.2	62.3	81.4	37.0	11.6	908
Fourth	91.5	94.1	77.7	73.0	90.2	42.4	12.7	977
Highest	95.9	98.9	91.3	88.7	96.1	49.8	17.6	975
Total	88.1	93.2	72.1	65.7	80.2	39.7	12.6	4,647

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

- Coverage of antenatal care components has improved since 2014. Between 2014 and 2017, the percentages giving urine and blood samples and having an ultrasonogram increased by 7, 11, and 9 percentage points, respectively. However, the percentage of pregnant women who were informed of complications during pregnancy decreased by 17 percentage points.

- The 2017-18 BDHS defines quality ANC to be when a woman receives four or more ANC visits, of which at least one is from a medically trained provider, and all the basic components of ANC are present, including weight and blood pressure measurements, urine and blood tests, and information on signs of possible complications.

- According to the preceding definition, the proportion of pregnant women who received quality ANC is only 18% (**Table 4.4**).

- The quality of antenatal care relates closely to the mother's education and wealth. For example, only 7% of pregnant women from the lowest wealth quintile received quality ANC compared with 37% of women from the highest wealth quintile.

Table 4.4 Quality of antenatal care

Percentage of women age 15-49 with a live birth in the 3 years preceding the survey, for which mother received 4+ antenatal care services of which at least one was from a medically trained provider, and received all basic ANC components for the most recent birth, according to background characteristics, Bangladesh 2017-18

Background characteristic	Percentage with 4+ ANC visits with at least 1 from a skilled provider	Percentage receiving all components of ANC[1]	Percentage with 4+ ANC with at least 1 from skilled provider and all components of ANC	Number of women
Residence				
Urban	56.6	34.6	26.8	1,356
Rural	39.0	21.5	14.3	3,695
Division				
Barishal	35.8	22.6	15.7	288
Chattogram	36.3	23.9	14.9	1,071
Dhaka	49.6	29.6	22.6	1,293
Khulna	54.8	28.7	20.5	464
Mymensingh	38.1	20.1	15.6	431
Rajshahi	45.0	22.6	15.4	587
Rangpur	50.7	24.8	19.1	534
Sylhet	31.8	19.7	10.8	383
Education				
No education	15.8	11.4	5.5	318
Primary incomplete	28.1	14.1	7.4	879
Primary complete[2]	31.0	18.4	11.3	516
Secondary incomplete	45.8	24.2	17.1	2,209
Secondary complete or higher[3]	65.4	42.0	33.2	1,129
Wealth quintile				
Lowest	25.1	12.2	6.5	1,042
Second	31.6	16.2	9.0	1,036
Middle	41.9	23.7	15.3	969
Fourth	50.5	29.9	21.6	1,018
Highest	70.9	44.1	36.7	986
Total	43.7	25.0	17.7	5,051

[1] All components of ANC include measurement of weight and blood pressure, urine and blood testing, and being informed of signs of possible complications.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

4.2 ASSISTANCE AT DELIVERY

- Obstetric care from a trained provider during delivery is critical for the reduction of maternal and neonatal mortality. Slightly more than half of the deliveries (53%) in the 3 years preceding the survey were attended by medically trained personnel, that is, a qualified doctor, nurse or midwife, family welfare visitor (FWV), or community skilled birth attendant (CSBA) (**Table 4.5**). Another 35% of the births were assisted by dais, or untrained traditional birth attendants, 10% by trained traditional birth attendants, and 1% by relatives and friends. The 4th HPNSP aim is to attain 65% of deliveries by trained birth attendants by 2022.

- First order births are more likely to be assisted by a medically-trained provider. Births in urban areas and in Khulna division are more likely to be assisted by medically trained personnel than births in other areas. Delivery by medically trained personnel is more common among births to mothers with secondary or higher education, as well as among births to mothers in the highest wealth quintiles.

Table 4.5 Assistance during delivery

Percent distribution of live births in the 3 years preceding the survey by person providing assistance during delivery, according to background characteristics, Bangladesh 2017-18

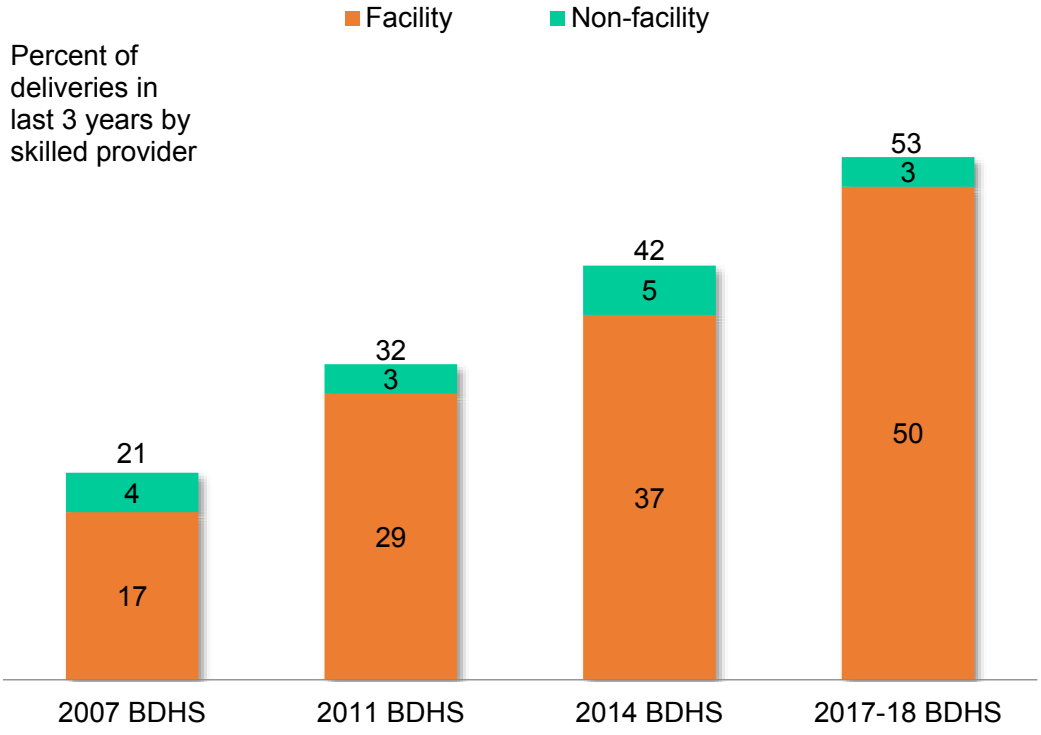
Background characteristic	Assistance during delivery													Total	Percentage delivered by a medically trained provider[1]	Number of births
	Qualified doctor	Nurse/ midwife/ paramedic	FWV	CSBA	MA/ SACMO	CHCP	NGO Worker	HA/FWA	Trained traditional birth attendant	Untrained traditional birth attendant	Unqualified doctor	Relatives/ friends/ others	No one			
Mother's age at birth																
<20	36.7	15.3	0.9	0.6	0.1	0.1	0.0	0.2	9.6	35.4	0.0	1.1	0.0	100.0	53.6	1,573
20-34	39.4	11.9	0.7	0.5	0.0	0.0	0.1	0.3	10.1	35.2	0.1	1.5	0.2	100.0	52.5	3,582
35-49	33.4	15.6	0.0	0.0	0.0	0.0	0.0	0.0	8.4	38.3	0.0	3.3	1.0	100.0	49.0	183
Birth order																
1	47.3	15.2	0.7	0.7	0.1	0.1	0.0	0.2	8.2	26.6	0.0	1.0	0.0	100.0	63.9	2,081
2-3	36.5	11.7	0.9	0.4	0.0	0.0	0.1	0.3	10.9	37.6	0.1	1.3	0.1	100.0	49.5	2,603
4-5	19.0	11.9	0.3	0.3	0.0	0.0	0.0	0.5	11.2	53.1	0.0	2.9	0.9	100.0	31.4	551
6+	9.9	11.0	0.0	0.0	0.0	0.0	0.0	0.0	11.4	61.3	0.6	4.0	1.7	100.0	21.0	104
Residence																
Urban	51.9	14.5	0.7	0.5	0.0	0.0	0.3	0.0	8.6	22.3	0.1	0.8	0.2	100.0	67.8	1,427
Rural	33.4	12.5	0.7	0.5	0.0	0.0	0.0	0.3	10.4	40.1	0.1	1.6	0.2	100.0	47.2	3,911
Division																
Barishal	30.0	16.0	0.7	0.5	0.0	0.0	0.0	0.6	10.1	41.3	0.0	0.9	0.0	100.0	47.1	303
Chattogram	34.8	14.3	0.6	0.5	0.0	0.1	0.0	0.3	8.1	40.3	0.1	0.8	0.1	100.0	50.2	1,141
Dhaka	48.2	11.0	0.7	0.5	0.1	0.0	0.3	0.0	8.9	28.7	0.0	1.4	0.2	100.0	60.5	1,359
Khulna	46.8	15.2	1.1	0.6	0.0	0.0	0.0	0.5	8.3	25.8	0.1	1.4	0.3	100.0	63.6	481
Mymensingh	28.3	12.5	0.6	0.3	0.0	0.0	0.0	0.0	14.1	40.1	0.0	3.5	0.5	100.0	41.8	451
Rajshahi	39.6	14.7	0.2	0.1	0.0	0.0	0.0	0.7	8.3	35.4	0.1	0.8	0.0	100.0	54.7	622
Rangpur	33.6	13.0	1.3	1.2	0.0	0.0	0.1	0.1	15.7	32.1	0.0	2.6	0.4	100.0	49.1	555
Sylhet	27.9	10.1	1.2	0.2	0.0	0.0	0.0	0.5	9.9	49.4	0.3	0.6	0.0	100.0	39.3	425
Education																
No education	20.5	8.3	0.0	0.2	0.0	0.0	0.0	0.0	8.7	56.3	0.2	3.8	1.9	100.0	29.1	351
Primary incomplete	19.3	11.6	0.6	0.2	0.0	0.0	0.2	0.2	13.3	53.3	0.1	1.0	0.3	100.0	31.8	931
Primary complete[2]	24.5	12.5	0.6	0.4	0.0	0.0	0.0	0.9	11.1	48.3	0.4	1.2	0.0	100.0	38.0	540
Secondary incomplete	38.2	14.5	0.8	0.7	0.1	0.0	0.1	0.3	10.3	33.4	0.0	1.6	0.0	100.0	54.3	2,333
Secondary complete or higher[3]	65.3	13.0	0.9	0.4	0.0	0.1	0.0	0.1	6.1	13.1	0.0	0.8	0.0	100.0	79.7	1,183
Wealth quintile																
Lowest	16.2	10.2	0.8	0.6	0.0	0.0	0.0	0.4	12.6	56.7	0.1	2.0	0.5	100.0	27.8	1,108
Second	26.7	12.2	0.9	0.8	0.0	0.1	0.0	0.4	13.2	44.1	0.1	1.3	0.1	100.0	40.6	1,106
Middle	34.6	16.6	0.7	0.4	0.0	0.0	0.0	0.2	9.0	36.6	0.0	1.9	0.0	100.0	52.3	1,020
Fourth	46.6	14.3	0.8	0.6	0.2	0.0	0.2	0.1	9.2	26.7	0.1	1.1	0.1	100.0	62.5	1,071
Highest	69.7	12.3	0.6	0.0	0.0	0.0	0.2	0.1	5.1	11.1	0.2	0.7	0.2	100.0	82.6	1,034
Total	38.4	13.1	0.7	0.5	0.0	0.0	0.1	0.2	9.9	35.4	0.1	1.4	0.2	100.0	52.7	5,338

Note: If more than one source of antenatal care 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 providers include 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.

- The proportion of births delivered by a medically trained provider has been increasing rapidly from 21% in 2007 to 32% in 2011, 42% in 2014, and the current level of 53% in 2017 (**Figure 4.2**). An increase in facility deliveries has been the major driving factor for the rapid increase in skilled birth assistance. Between 2007 and 2017, the proportion of non-institutional deliveries by a medically-trained provider remained at 5% or less.

Figure 4.2 **Skilled assistance at delivery**

Trends in skilled attendance at delivery, 2007–2017



4.3 PLACE OF DELIVERY

- **Table 4.6** shows that 50% of births in the 3 years before the survey were delivered at a health facility—32% of the births were delivered in a private facility, 14% in a public facility, and 4% in an NGO facility.

- Across divisions, Khulna has the highest proportion of births delivered at a health facility (61%), while Sylhet has the lowest (38%).

- Women from households in the highest wealth quintile are three times more likely to deliver in health facilities compared with those in the lowest wealth quintile. The absolute difference in the use of health facilities for deliveries among women from the poorest and richest households is 52 percentage points. Comparatively, in the 2014 BDHS the ratio was 1:4.7, and the absolute gap was 55 percentage points. The 4th HPNSP aims to reduce the gap to 1:3.5 by 2022. This goal has been achieved well ahead of time.

Table 4.6 Place of delivery

Percent distribution of live births in the 3 years preceding the survey by place of delivery, according to background characteristics, Bangladesh 2017-18

Background characteristic	Place of delivery			Place of delivery			Percentage delivered in health facility	Percentage delivered by C-section	Number of births
	Public	Private	NGO	Home	Other/ missing	Total			
Mother's age at birth									
<20	15.6	31.0	3.4	49.8	0.2	100.0	50.0	30.5	1,573
20-34	13.7	31.9	4.2	49.8	0.4	100.0	49.8	33.9	3,582
35-49	14.9	27.4	1.5	56.3	0.0	100.0	43.7	29.1	183
Birth order									
1	16.8	39.3	4.1	39.5	0.3	100.0	60.2	40.2	2,081
2-3	13.1	29.9	3.8	52.8	0.3	100.0	46.9	31.6	2,603
4-5	11.1	14.5	3.5	70.3	0.6	100.0	29.2	14.4	551
6+	10.3	4.1	0.2	85.4	0.0	100.0	14.6	7.3	104
Number of ANC visits[1]									
None	5.8	6.6	0.4	87.3	0.0	100.0	12.7	6.0	405
1	8.0	16.1	1.7	73.6	0.6	100.0	25.8	14.5	661
2	14.5	25.0	2.3	57.9	0.2	100.0	41.8	25.6	830
3	17.1	30.3	3.1	49.4	0.2	100.0	50.5	29.7	781
4 or more	16.5	42.9	6.1	34.1	0.4	100.0	65.5	46.8	2,374
Residence									
Urban	18.6	37.6	7.1	36.5	0.2	100.0	63.4	43.7	1,427
Rural	12.7	29.3	2.6	55.0	0.4	100.0	44.6	28.7	3,911
Division									
Barishal	11.6	25.2	2.4	60.6	0.2	100.0	39.2	24.5	303
Chattogram	13.0	29.9	3.2	53.8	0.1	100.0	46.1	26.0	1,141
Dhaka	14.6	37.4	5.4	42.1	0.4	100.0	57.4	42.7	1,359
Khulna	17.1	40.7	3.2	39.0	0.0	100.0	61.0	42.7	481
Mymensingh	11.8	25.3	1.9	60.6	0.3	100.0	39.0	26.1	451
Rajshahi	14.4	36.2	2.2	46.9	0.3	100.0	52.8	35.6	622
Rangpur	13.9	27.1	6.4	51.6	0.9	100.0	47.5	27.8	555
Sylhet	18.3	16.5	3.6	61.5	0.1	100.0	38.4	22.6	425
Education									
No education	11.1	13.2	1.8	73.6	0.3	100.0	26.0	16.4	351
Primary incomplete	11.9	13.8	4.5	69.4	0.4	100.0	30.3	16.1	931
Primary complete[2]	11.8	20.4	3.2	64.3	0.2	100.0	35.4	21.0	540
Secondary incomplete	15.2	32.1	3.4	49.0	0.4	100.0	50.6	32.2	2,333
Secondary complete or higher[3]	16.5	54.8	5.1	23.3	0.2	100.0	76.4	57.1	1,183
Wealth quintile									
Lowest	10.7	14.1	1.5	73.2	0.4	100.0	26.4	13.0	1,108
Second	13.1	22.1	2.4	62.0	0.3	100.0	37.7	22.3	1,106
Middle	14.5	30.7	3.3	50.9	0.6	100.0	48.5	30.8	1,020
Fourth	16.6	37.3	5.6	40.3	0.2	100.0	59.5	38.1	1,071
Highest	16.8	54.9	6.6	21.5	0.2	100.0	78.3	61.3	1,034
Total	14.3	31.5	3.8	50.0	0.3	100.0	49.6	32.7	5,338

Note: BRAC maternity/delivery centers (also known as birthing huts) are included in the category "other." Deliveries in these centers are not considered facility births in this report.

[1] Includes only the most recent birth in the 3 years preceding the survey

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

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

- Between the 2007 BDHS and the 2017-18 BDHS, facility delivery increased from 15% to 50%. This has been possible due to rapid increase in delivery in private health facilities. Delivery in private facilities increased from 22% to 32%, in public facilities from 13% to 14%, and in NGO facilities from 2% to 4% (**Figure 4.3**).

- One-third of all births were by cesarean section (Table 4.6). C-section deliveries have continued to increase, from 8% in 2007 to 23% in 2014, and to 33% in 2017. Eighty-four percent of deliveries in private facilities were by C-section (**Figure 4.4**).

- Forty percent of first births were delivered by C-section. The proportion is much higher among women from households in the highest wealth quintile (61%).

***Figure 4.3* Place of delivery**

Proportion of deliveries by place of delivery

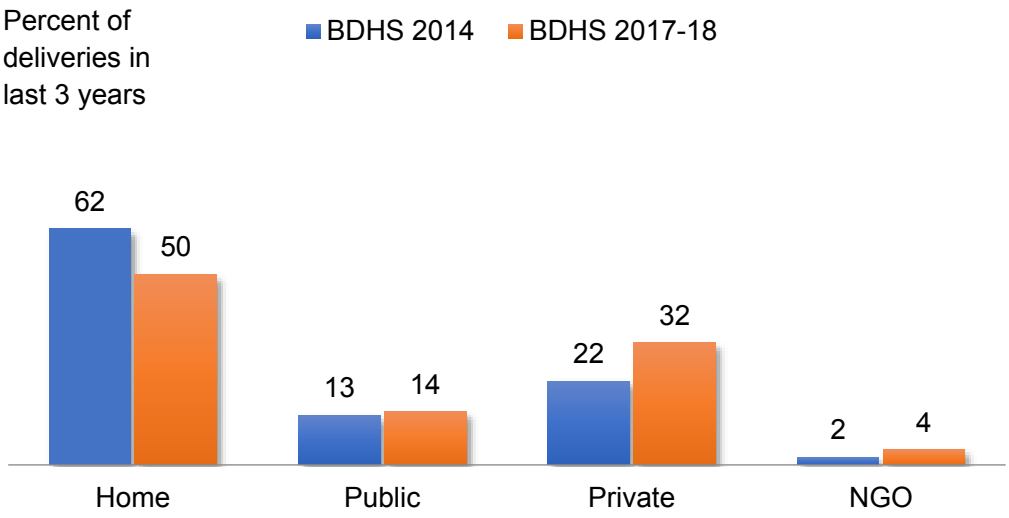
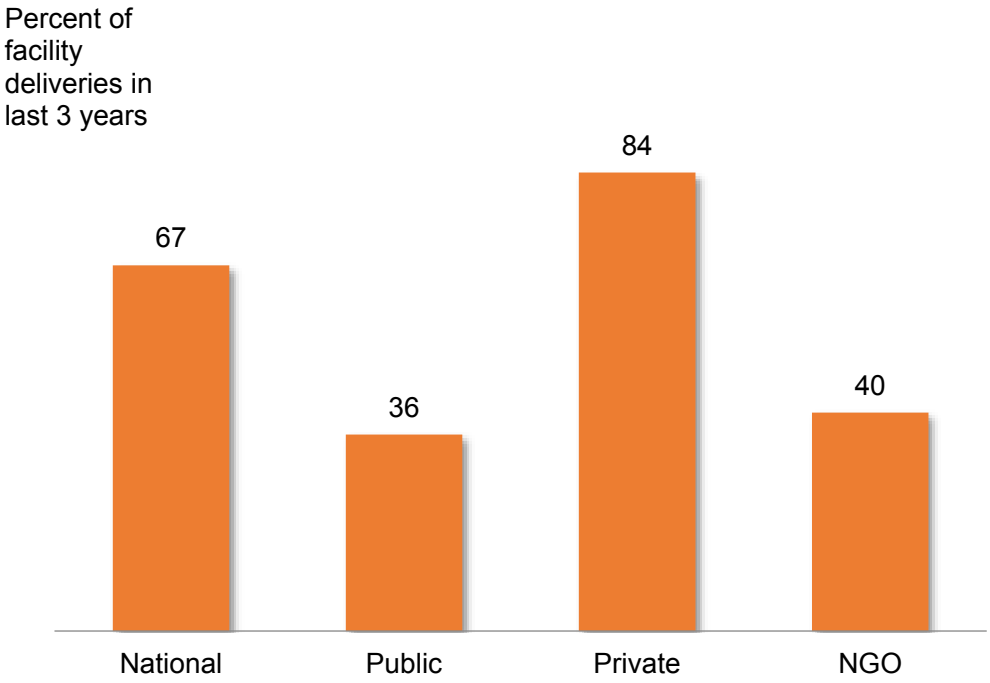


***Figure 4.4* Delivery by Cesarean section**

Proportion of facility deliveries by Cesarean section according to type of facility, 2017-18



4.4 POSTNATAL CARE

- Postnatal care is critical for monitoring complications for both mothers and their newborns. Half of the mothers and children in Bangladesh received postnatal care (PNC) from a medically trained provider within 2 days after delivery (**Table 4.7**).

Table 4.7 Postnatal care for mothers and children

Percent distribution of last births in the 3 years preceding the survey for which the mothers and/or the children received postnatal care from a medically trained provider[1], by timing of postnatal care, Bangladesh 2017-18

	Respondent	
Timing	Women	Children
Within 2 days of delivery	52.1	52.2
3-6 days after delivery	0.2	0.3
7-41 days after delivery	0.2	0.6
Within 42 days of delivery	52.5	53.2
Did not receive postnatal checkup	47.3	46.4
Don't know/missing	0.3	0.4
Total	100.0	100.0
Number	5,051	5,051

Note: Women and children who received a checkup after 41 days are assumed to have not received postnatal care

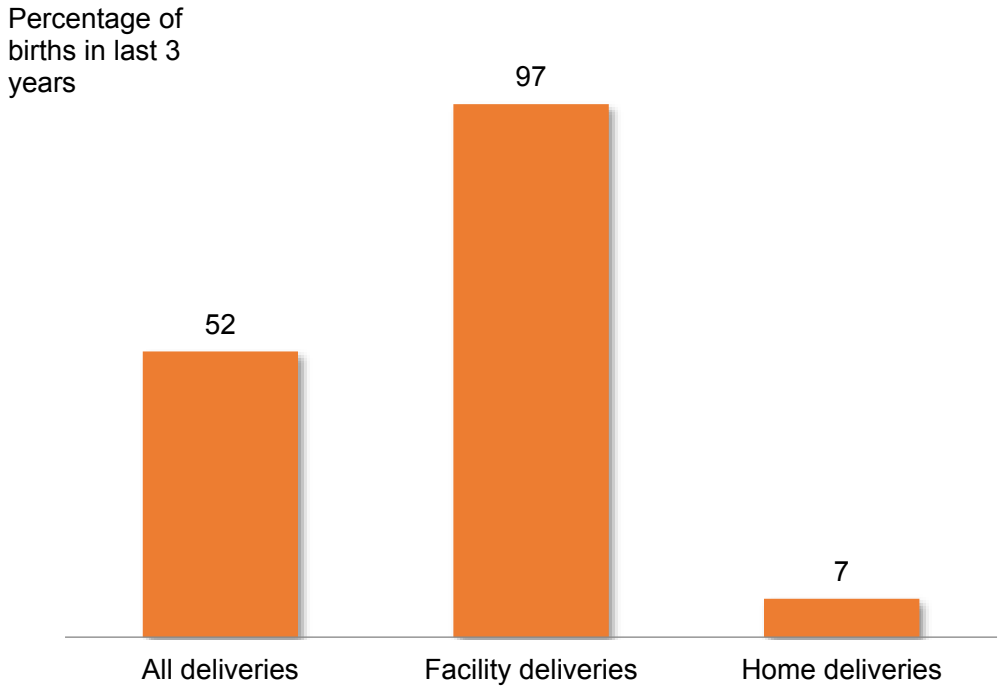
[1] Qualified doctor, nurse/midwife/paramedic, including family welfare visitor (FWV), community skilled birth attendant (CSBA), and sub-assistant community medical officer (SACMO)

- Occurrence of a postnatal checkup for mothers within 2 days of delivery increased from 20% in 2007 to 34% in 2014 and then to the current level of 52% in 2017. For children, a postnatal checkup from a medically trained provider within the first 2 days has increased from 32% in 2014 to the current level of 52%.

- The uptake of postnatal care (PNC) by place of delivery varies considerably. Nearly all the mothers and children (97%) who delivered at a health facility received PNC within 2 days of delivery, compared with only 7% of mothers and children with home delivery. The 4th HPNSP aims to increase the coverage of PNC among non-institutional deliveries to 10% by 2022 (**Figure 4.5**).

Figure 4.5 Postnatal care by place of delivery

Postnatal care from a medically trained provider for mothers within 2 days of delivery, 2017-18



- Essential newborn care focuses on the use of clean instruments to cut the umbilical cord, cord care, keeping the baby warm, delayed bathing, and immediate initiation of breastfeeding (**Table 4.8**). For

86% of the most recent births delivered at home in the 3 years before the survey, a clean delivery kit/bag was used, or the blade was boiled during delivery. This practice has decreased slightly from 88% in 2014.

- Between 2014 and 2017, the recommended practice of drying newborns within 5 minutes of birth has also decreased from 67% to 63%.

- Adherence to recommended practices regarding the initiation of breastfeeding within 1 hour of birth and delayed bathing of the newborn has increased in the last 3 years. In the 2017-18 BDHS, 69% of mothers initiated breastfeeding within 1 hour of birth, and 46% delayed bathing their newborns for 72 hours after birth.

- Among non-institutional deliveries, only 7% of newborns receive all five recommended essential newborn care practices. This proportion was 6% in 2014. The 4th HPNSP objective is to increase the coverage of essential newborn care practices to 25% by 2022.

Table 4.8 Essential newborn care

Percentage of non-institutional most recent live births in the 3 years preceding the survey by essential newborn care practices, according to background characteristics, Bangladesh 2017-18

Background characteristic	Used safe delivery kit/bag or boiled blade during delivery	Applied chlorhexidine after umbilical cord was cut and tied	Nothing applied to the umbilical cord or applied only chlorhexidine after it was cut and tied	Dried within 0-4 minutes after birth	Delayed bathing (72+ hours after delivery)	Immediate breastfeeding (within 1 hour after birth)	All the essential newborn care practices[1]	Number of non-institutional births
Mother's age at birth								
<20	80.9	6.5	46.4	61.5	43.8	68.0	5.8	731
20-34	87.6	6.9	47.8	63.1	46.5	68.9	8.3	1,701
35-49	88.4	7.4	42.5	66.2	42.6	69.9	4.2	101
Birth order								
1	82.7	6.5	46.0	59.8	45.1	66.2	6.5	756
2-3	86.9	7.4	49.4	65.9	47.0	70.2	8.3	1,326
4-5	87.8	5.6	42.4	56.7	44.2	66.7	6.7	365
6+	83.9	7.2	43.2	65.5	33.0	77.2	5.0	87
Residence								
Urban	84.8	9.0	46.3	63.2	44.5	67.7	5.1	495
Rural	85.9	6.3	47.4	62.7	45.8	68.9	8.0	2,038
Division								
Barishal	87.4	8.7	29.8	67.0	58.7	73.1	6.3	176
Chattogram	87.6	10.4	41.3	63.3	39.8	65.1	5.3	571
Dhaka	85.4	7.7	43.7	61.6	40.7	66.6	4.4	550
Khulna	85.8	8.3	40.2	61.8	46.1	64.2	4.1	181
Mymensingh	86.1	2.9	52.1	64.7	35.3	68.6	7.2	264
Rajshahi	72.1	5.5	57.1	58.7	48.8	70.7	7.4	278
Rangpur	90.8	3.3	66.6	63.2	57.0	73.9	17.7	280
Sylhet	90.0	3.7	47.7	64.0	54.8	74.1	11.1	233
Education								
No education	82.5	5.5	44.5	64.9	37.5	64.9	6.7	234
Primary incomplete	85.4	5.6	50.4	61.2	43.0	69.2	6.2	611
Primary complete[2]	87.3	7.3	45.4	59.0	51.0	69.6	6.7	335
Secondary incomplete	85.7	7.1	46.9	63.0	46.1	70.0	8.3	1,094
Secondary complete or higher[3]	87.2	9.2	45.5	68.2	49.4	64.6	8.1	259
Wealth quintile								
Lowest	84.3	4.3	47.4	63.2	47.5	72.9	8.3	767
Second	86.5	5.7	48.4	61.3	45.9	70.0	7.1	649
Middle	85.8	9.0	47.8	64.7	43.7	64.0	7.6	496
Fourth	84.5	10.9	45.5	63.6	42.3	64.1	6.8	408
Highest	90.5	6.4	44.8	59.4	48.2	69.6	5.6	212
Total	85.7	6.8	47.2	62.8	45.6	68.7	7.4	2,533

[1] All essential newborn care practices include use of a safe delivery kit/ bag or boiled blade, nothing applied to the cord or only chlorhexidine applied after the cord is cut and tied, cord dried within 5 minutes after birth, bathing delayed 72 hours or more, and immediate breastfeeding.
[2] Primary complete is defined as completing grade 5.
[3] Secondary complete is defined as completing grade 10.

5 CHILDHOOD MORTALITY AND CHILD HEALTH

SUMMARY

- Under-5 mortality in the 5 years preceding the 2017 BDHS is 45 deaths per 1,000 live births. The infant mortality rate is 38 deaths per 1,000 live births, and the child mortality rate is 7 deaths per 1,000 children.
- The neonatal mortality rate is 30 deaths per 1,000 live births; it accounts for 67% of all under-5 deaths.
- The under-5 mortality rate has declined gradually over the last 2 decades. Between the 2014 BDHS and the 2017-18 BDHS, however, the decline has slowed noticeably. Also, infant and neonatal mortality have remained stable during this period.
- Eighty-nine percent of children age 12–23 months are fully vaccinated. The level of coverage for having received the BCG (Bacille Calmette-Guérin) vaccine, three doses of pentavalent vaccine, and three doses of polio vaccine is 95% or higher.
- Overall, 86% of children age 12-23 months have received all recommended vaccinations before their first birthday. Coverage of all basic vaccinations by 12 months has increased markedly from the 2014 level of 78%.
- Coverage of measles vaccination among children under age 12 months was 88%. The 4th HPNSP sets a target of 90% coverage by 2022.
- Five percent of children under age 5 had diarrhea in the 2 weeks preceding the survey, and 38% of them went to a health facility or saw a provider for treatment.
- Eighty-five percent of children with diarrhea received oral rehydration therapy (ORT), and 44% received both ORT and zinc. Between 2014 and 2017, use of ORT and care seeking from a health facility/provider remained largely unchanged, but use of oral rehydration salts (ORS) increased from 77% to 83%, and use of ORT with zinc increased from 38% to 44%.

5.1 MORTALITY TRENDS

- Infant and child mortality rates are basic indicators of a country's socioeconomic situation and quality of life. One important objective of the 2017-18 BDHS was to measure the levels of and trends in mortality among children.
- Under-5 mortality in the 5 years preceding the survey (which corresponds approximately to calendar years 2014 through 2018) is 45 deaths per 1,000 live births (**Table 5.1**). The infant mortality rate is 38 deaths per 1,000 live births, and the child mortality rate is 7 deaths per 1,000 children. During infancy, the risk of dying in the first month of life (30 deaths per 1,000 live births) is nearly four times greater than in the subsequent 11 months (8 deaths per 1,000 live births). It is also notable that deaths in the neonatal period account for 67% of all under-5 deaths.

Table 5.1 Early childhood mortality rates

Neonatal, postneonatal, infant, child, and under-5 mortality rates for 5-year periods preceding the survey, Bangladesh DHS 2017-18

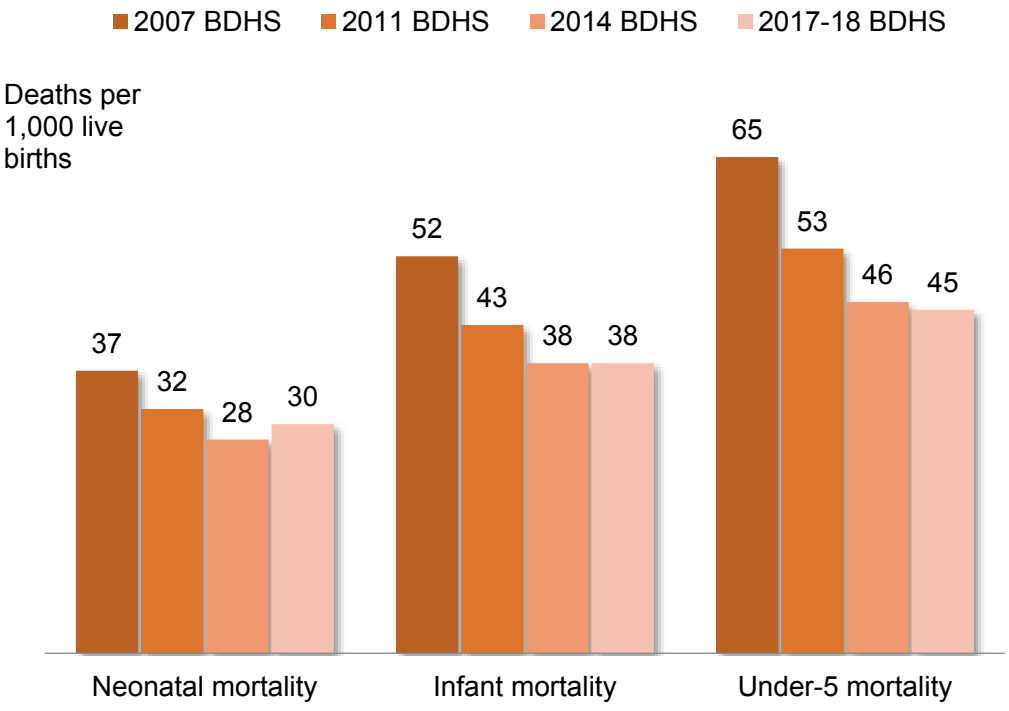
Years preceding the survey	Neonatal mortality (NN)	Postneonatal mortality (PNN)[1]	Infant mortality ($_1q_0$)	Child mortality ($_4q_1$)	Under-5 mortality ($_5q_0$)
0-4	30	8	38	7	45
5-9	34	10	43	9	52
10-14	40	16	56	10	66

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

- Since 1993–1994, the DHS surveys in Bangladesh have included childhood mortality rates for the 5-year period preceding the survey. Over the last 2 decades, the data confirm a steady downward trend in childhood mortality. However, between the 2014 BDHS and the 2017-18 BDHS the decline appeared to flatten (**Figure 5.1**).

***Figure 5.1* Trends in childhood mortality rates**

Deaths per 1,000 live births in the 5-year period before the survey, 2007–2017



5.2 VACCINATIONS

- Universal immunization of children against the major vaccine-preventable diseases (tuberculosis, diphtheria, pertussis, tetanus, hepatitis, *haemophilus influenzae* type B, poliomyelitis, pneumonia, and measles) is globally recognized as one of the most cost-effective programs to reduce infant and child morbidity and mortality. The 2017-18 BDHS collected data on childhood vaccinations for all surviving children born during the 5-year period before the survey.

- **Table 5.2** presents information on vaccination coverage according to source. Data for children age 12–23 months includes only those children who have reached the age by which they should be fully vaccinated. According to information from both vaccination cards and mother's reports, 89% of children age 12–23 months are fully vaccinated. Coverage in Bangladesh for BCG, three doses of pentavalent vaccine, and three doses of polio vaccine is 95% or higher.

Table 5.2 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 age 12 months, Bangladesh 2017-18

Vaccine	BCG	DPT-HepB-Hib 1	DPT-HepB-Hib 2	DPT-HepB-Hib 3	Polio 1	Polio 2	Polio 3	Measles 1	All basic vaccinations[1]	No vaccinations	Number of children
Vaccinated at any time before survey											
Vaccination card	74.0	74.2	73.6	73.3	74.1	73.6	73.1	69.3	68.9	0.0	1,245
Mother's report	24.3	24.3	23.9	22.6	24.2	23.3	21.4	21.7	20.1	1.4	433
Either source	98.3	98.5	97.5	95.9	98.3	96.8	94.5	91.0	89.1	1.4	1,679
Vaccinated by age 12 months[2]	97.9	98.4	97.3	95.6	98.2	96.6	94.1	87.9	85.6	na	1,679

na = Not applicable
BCG = Bacille Calmette-Guérin
DPT = Diphtheria-pertussis-tetanus
HepB = Hepatitis B
Hib = *Haemophilus influenzae* type b
Note: Children are considered to have received the vaccine if it was either written on the child's vaccination card or reported by the mother. For children whose vaccination information is based on the mother's report, date of vaccination is not collected. The proportions of vaccinations given during the first and second years of life are assumed to be the same as for children with a written record of vaccination.
[1] BCG, three doses of pentavalent (DPT-HepB-Hib), three doses of oral polio vaccine, and one dose of measles vaccine
[2] For children whose information is based on the mother's report, the proportion of vaccinations given during the first year of life is assumed to be the same as for children with a written record of vaccination.

- Vaccinations are most effective when given at the proper age. It is recommended that children complete the schedule of immunizations during their first year of life. Overall, 86% of children age 12-23 months had received all recommended vaccinations before their first birthday. Coverage of all basic vaccinations by 12 months had increased noticeably from the 2014 level of 78%.

- Eighty-eight percent of children received measles vaccine in their first year of life. This is only 2 percentage points below the target of 90% by 2022 set by the fourth HPNSP.

- Dehydration from diarrhea is an important contributing cause of childhood mortality. The administration of oral rehydration therapy (ORT) is a simple way to counter the effects of dehydration.

- Respondents in the 2017-18 BDHS were asked if their children under age 5 had experienced an episode of diarrhea in the 2 weeks before the survey (**Table 5.3**). Overall, 5% of children under age 5 had diarrhea in the period.

Table 5.3 Prevalence and treatment for diarrhea

Among children under age 5 who had diarrhea during the 2 weeks preceding the survey, percentage for whom advice or treatment was sought from a health facility or provider, percentage given a fluid made from oral rehydration salt (ORS) packets, and percentage given any oral rehydration therapy (ORT), by background characteristics, Bangladesh 2017-18

Background characteristic	Among children under age 5:		Percentage for whom advice or treatment was sought from a health facility/ provider[1]	Percentage given fluid from ORS packet	Percentage given ORT					Number with diarrhea
	Percentage with diarrhea	Number of children			ORT and zinc[2]	ORT, no zinc[2]	Total ORT[2]	Zinc, no ORT[2]	Total zinc	
Age in months										
<6	2.7	693	*	*	*	*	*	*	*	19
6-11	8.2	657	47.0	77.4	35.6	41.8	77.4	10.6	46.2	54
12-23	9.2	1,418	44.2	88.0	50.1	38.8	88.9	3.8	53.9	130
24-35	5.1	1,687	33.2	87.3	41.9	47.8	89.6	5.7	47.6	86
36-47	3.1	1,869	34.6	87.6	45.6	46.5	92.1	4.3	49.9	57
48-59	2.4	2,096	27.4	85.3	45.2	43.0	88.2	9.4	54.6	49
Sex										
Male	5.1	4,389	36.0	85.0	46.0	39.4	85.4	8.3	54.3	222
Female	4.3	4,032	39.5	81.3	40.4	44.4	84.8	4.9	45.4	174
Residence										
Urban	4.4	2,307	43.4	87.2	43.2	44.9	88.2	4.8	48.0	102
Rural	4.8	6,113	35.5	82.0	43.7	40.4	84.1	7.5	51.2	293
Total	4.7	8,421	37.6	83.3	43.6	41.6	85.1	6.8	50.4	396

Note: An asterisk indicates that an estimate is based on fewer than 25 unweighted cases and has been suppressed.
[1] Excludes pharmacy, shop, and traditional practitioner
[2] ORT includes fluid prepared from oral rehydration salt (ORS) packets and recommended home fluids (RHFs).

- Thirty-eight percent of children under age 5 with diarrhea were taken to a health facility or provider for treatment, and 85% of children with diarrhea were given oral rehydration therapy (ORT), that is, either a solution made from oral rehydration salt (ORS) packets or a homemade sugar-salt solution. Forty-four percent received both ORT and zinc.

- Between 2014 and 2017, use of ORT and seeking care from a health facility/provider remained almost unchanged, but use of ORS packets increased from 77% to 83%, and use of ORT with zinc increased from 38% to 44%.

5.3 Comparison of Childhood Mortality Rates from Various Sources

- The two most regular sources of data reporting on childhood mortality rates at the national level are the Bangladesh Demographic and Health Surveys (BDHS) implemented under the authority of NIPORT and the Sample Vital Registration System (SVRS) implemented by the Bangladesh Bureau of Statistics (BBS). BDHS estimates are available every 3 years and SVRS estimates every year.

- The BDHS and SVRS reported that Bangladesh achieved the Millennium Development Goal 4 target before 2011.

- BDHS estimates of childhood mortality rates are 5-year averages while SVRS reports yearly rates. Childhood mortality rates from BDHS 2017-18 represent the estimates for the year of 2015. For this reason, the BDHS 2017-18 childhood mortality rates are comparable with SVRS 2015 estimates. BDHS reports that the under-5 mortality rate (U5MR) was 45 deaths per 1,000 live births in 2015 compared with 36 deaths per 1,000 live births reported by SVRS. BDHS found almost no change in U5MR between 2011 (46 deaths per 100 live births) and 2015 (45 deaths per 1,000 live births), while the SVRS shows a notable decline in U5MR from 44 deaths per 1,000 live births in 2011 to 36 deaths per 1,000 live births in 2015.

- The observed differences in U5MR in 2015 between the BDHS and SVRS are due to the difference in neonatal mortality rate (NMR) which, according to SVRS, was 20 deaths per 1,000 live births,

while the BDHS estimated it to be 30 deaths per 1,000 live births for 2015. The postneonatal mortality rates and the 1-4-year child mortality rates reported in these two sources are almost the same. NMR estimates for 2015 are also available from other data sources. For example, the NMR for Bangladesh is 30 deaths per 1,000 live births from the 2016 Bangladesh Maternal Mortality Survey (BMMS). Iccdr,b conducted surveillance surveys in Mirzapur and Baliakandi. The surveys found the NMR for subnational levels; for Mirzapur it is 26 deaths per 1,000 live births and for Baliakandi it is 27 deaths per 1,000 live births. The estimates from these surveys are expected to be lower than the national estimates because the surveillance sites are located in central Bangladesh, which has both health services and a communications network that outperform those in other areas of the country.

- The BDHS 2017-18 mortality estimates are based on full birth histories from all ever-married women of reproductive age in nationally-representative samples, which is the global standard for retrospective mortality surveys. All birth and child death information are collected from the mother. In addition, every childhood death identified by BDHS 2017-18 has also been verified by a series of follow up questions as well as an hour of verbal autopsy questions conducted by a different set of intensively trained interviewers, making over counting of deaths very unlikely. SVRS derives its estimates from a process of identifying birth and death events from a nationally-representative surveillance population. The information on births and childhood deaths is taken from any member of the household and without asking follow-up questions. This process, if not done well, is particularly susceptible to missing events that could have significant impact on the estimates. The difference in BDHS and SVRS childhood mortality estimates can be attributed to the difference in methodology used.

6 CHILD NUTRITION AND FEEDING PRACTICES

SUMMARY

- In 2017, 31% of children under age 5 were stunted and 9% were severely stunted. The 4th HPNSP objective is to reduce the prevalence of stunting to 25% by 2022.
- Child nutritional status has improved steadily over the past decade. The level of stunting among children under 5 has declined from 43% in 2007 to 31% in 2017. The level of underweight has declined from 41% in 2007 to 22% in 2017, and after years of a critically high level of around 15%, prevalence of wasting came down to 8% in 2017.
- Sixty-five percent of infants under age 6 months were exclusively breastfed in 2017, a level markedly higher than in 2014 (55%).
- Thirty-four percent of children age 6–23 months are fed appropriately according to the recommended infant and young child feeding (IYCF) practices. This proportion has increased substantially from 23% in 2014.
- In 2017, 79% of children age 6–59 months had received vitamin A supplementation in the 6 months before the survey, an increase from 62% in 2014.

6.1 NUTRITIONAL STATUS

- The nutritional status of children in the 2017 BDHS can be compared with that set forth by the World Health Organization (WHO) Child Growth Standards (WHO 2006). The WHO Child Growth Standards identify breastfed children as the normative model for growth and development; that is, they document how children should grow under optimum conditions and with best infant feeding and child health practices. These standards can be used to assess the nutritional status of children all over the world, regardless of ethnicity, social and economic influences, and feeding practices.
- Height-for-age measures linear growth and reflects the cumulative effect of chronic malnutrition. A child who is more than 2 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. If a child is below 3 standard deviations (-3 SD) from the reference median, then the child is considered severely stunted. The 2017 BDHS estimated that 31% of children under age 5 were short for their age, or stunted, while 9% were severely stunted (**Table 6.1**). The prevalence of stunting was higher among children living in rural areas than children living in urban areas (33% and 25%, respectively). Stunting is most prevalent in Sylhet (43%) and lowest in Dhaka and Khulna (26%). The 4th HPNSP objective is to reduce the prevalence of stunting to 25% by 2022.

Table 6.1 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, according to background characteristics, Bangladesh 2017-18

Background characteristic	Height-for-age[1]				Weight-for-height					Weight-for-age				
	Percentage below -3 SD	Percentage below -2 SD[2]	Mean Z-score (SD)	Number of children	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-score (SD)	Number of children	Percentage below -3 SD	Percentage below -2 SD[2]	Percentage above +2 SD	Mean Z-Score (SD)	Number of children
Age in months														
<6	5.0	19.7	-1.0	917	2.4	9.5	3.2	-0.3	899	4.2	15.8	0.4	-0.9	944
6-8	5.1	19.8	-0.9	399	1.0	5.8	2.9	-0.2	398	2.0	13.3	0.7	-0.7	402
9-11	6.0	20.2	-1.1	396	0.7	7.1	4.9	-0.3	399	3.5	14.7	1.3	-0.9	401
12-17	8.9	29.9	-1.4	851	1.9	9.6	1.9	-0.5	860	4.4	18.3	0.4	-1.0	867
18-23	12.6	39.2	-1.6	796	1.6	6.8	2.5	-0.5	802	3.2	19.1	1.0	-1.1	818
24-35	13.0	38.8	-1.6	1,595	2.2	8.4	1.5	-0.5	1,591	5.5	24.5	0.9	-1.2	1,674
36-47	8.1	33.1	-1.5	1,551	1.0	8.4	1.6	-0.6	1,555	3.6	25.0	0.6	-1.3	1,602
48-59	7.8	28.8	-1.4	1,604	0.6	9.1	2.0	-0.8	1,608	3.9	27.0	0.7	-1.3	1,627
Sex														
Male	9.0	30.8	-1.4	4,221	1.6	9.2	2.6	-0.5	4,223	3.9	21.7	0.9	-1.2	4,339
Female	8.8	30.9	-1.4	3,887	1.3	7.6	1.8	-0.5	3,890	4.2	22.1	0.5	-1.2	3,995
Mother's interview status														
Interviewed	8.9	30.7	-1.4	7,819	1.5	8.5	2.2	-0.5	7,805	4.1	21.8	0.7	-1.2	8,042
Not interviewed[3]	9.4	33.4	-1.4	289	0.6	7.8	1.6	-0.6	308	4.1	24.1	1.5	-1.2	292
Residence														
Urban	7.6	25.4	-1.1	2,118	1.7	8.9	3.1	-0.5	2,108	3.8	19.2	1.3	-1.0	2,181
Rural	9.4	32.8	-1.5	5,991	1.4	8.2	1.9	-0.5	6,005	4.1	22.9	0.5	-1.2	6,154
Division														
Barishal	8.8	32.5	-1.3	463	2.9	9.0	2.8	-0.6	460	4.0	22.5	0.6	-1.2	470
Chattogram	9.3	32.8	-1.4	1,644	1.7	7.9	1.9	-0.5	1,655	4.3	21.3	0.4	-1.2	1,707
Dhaka	8.8	25.6	-1.2	1,999	1.3	8.8	4.0	-0.4	1,991	3.2	18.5	1.3	-0.9	2,056
Khulna	5.6	25.5	-1.3	769	1.3	8.0	1.7	-0.5	769	3.7	19.2	0.8	-1.1	785
Mymensingh	10.8	35.6	-1.5	691	1.7	9.0	1.8	-0.6	692	5.8	25.9	0.9	-1.3	710
Rajshahi	7.2	30.6	-1.4	967	1.0	8.0	1.1	-0.6	967	3.1	23.0	0.4	-1.2	1,009
Rangpur	7.4	30.4	-1.5	912	0.8	7.3	1.1	-0.6	915	3.1	20.6	0.4	-1.2	923
Sylhet	14.7	42.7	-1.7	663	1.7	10.4	0.9	-0.7	663	7.3	32.7	0.2	-1.5	673
Mother's education[4]														
No education	16.5	43.0	-1.8	559	1.8	12.0	1.5	-0.7	560	6.6	36.0	0.6	-1.5	571
Primary incomplete	12.5	39.3	-1.6	1,408	1.6	8.7	2.0	-0.6	1,404	5.3	26.6	0.2	-1.4	1,446
Primary complete[5]	11.3	37.7	-1.6	833	1.4	9.5	0.7	-0.6	833	5.6	26.8	0.3	-1.4	853
Secondary incomplete	7.9	29.6	-1.4	3,422	1.6	8.2	2.4	-0.5	3,414	3.7	20.5	0.6	-1.1	3,515
Secondary complete or higher[6]	4.1	17.8	-0.9	1,597	1.1	7.0	3.0	-0.3	1,593	2.1	13.1	1.4	-0.8	1,657
Missing	9.4	33.4	-1.4	289	0.6	7.8	1.6	-0.6	308	4.1	24.1	1.5	-1.2	292
Wealth quintile														
Lowest	13.0	40.2	-1.7	1,796	1.7	10.0	1.8	-0.6	1,798	5.9	28.9	0.4	-1.4	1,831
Second	11.3	37.3	-1.6	1,683	1.0	7.9	1.0	-0.6	1,682	5.1	25.6	0.1	-1.3	1,723
Middle	7.7	30.2	-1.4	1,554	1.4	7.9	1.4	-0.6	1,560	3.4	20.2	0.2	-1.2	1,602
Fourth	7.4	26.9	-1.3	1,606	1.6	8.8	3.2	-0.5	1,607	3.1	20.7	1.1	-1.1	1,647
Highest	4.2	17.1	-0.8	1,469	1.6	7.2	3.8	-0.3	1,466	2.3	12.5	1.8	-0.7	1,532
Total	8.9	30.8	-1.4	8,108	1.5	8.4	2.2	-0.5	8,113	4.1	21.9	0.7	-1.2	8,335

Note: Each of the indices is expressed in standard deviation units (SD) from the median of the WHO Child Growth Standards.
[1] Recumbent length is measured for children under age 2; standing height is measured for all other children.
[2] Includes children who are below –3 standard deviations (SD) from the WHO Growth Standards population median.
[3] Includes children whose mothers are deceased and those not in the household.
[4] For women who are not interviewed, information is taken from the Household Questionnaire. Excludes children whose mothers are not listed in the Household Questionnaire.
[5] Primary complete is defined as completing grade 5.
[6] Secondary complete is defined as completing grade 10.

- Weight-for-height describes current nutritional status and reflects acute or recent nutritional deficit. A child who is more than two standard deviations below (-2 SD) the reference median for weight-for-height is considered too thin for his or her height, or wasted. 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. The 2017 BDHS estimated that 8% of children under 5 were thin for their height, or wasted, while only 2% were severely wasted.

- Weight-for-age is a composite index of weight-for-height and height-for-age, and is considered an overall indicator of a population's nutritional health. 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. The 2017 BDHS estimated that one in every five children under 5 (22%) were underweight, while 4% were severely underweight. Underweight is most prevalent in Sylhet (33%) and lowest in Dhaka and Khulna (19%).

- Child nutritional status has improved steadily over the past decade (**Figure 6.1**). The level of stunting among children under 5 has declined from 43% in 2007 to 31% in 2017. In the last 3 years it declined by 5 percentage points. The level of underweight has declined from 41% in 2007 to 22% in 2017. Particularly in the last 3 years, underweight has declined—by 11 percentage points. After years at a critically high level of around 15% (WHO 1995), prevalence of wasting came down to 8% in 2017.

Figure 6.1 **Trends in nutritional status of children, 2007–2017**

Percentage of children under age 5 who are malnourished

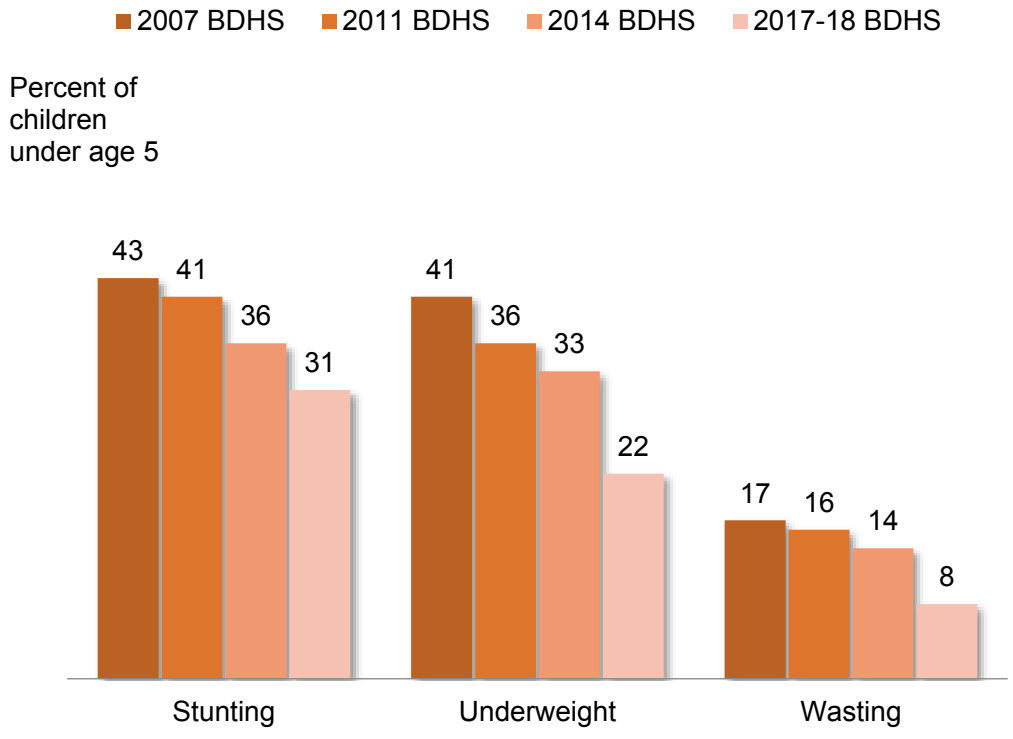


Table 6.2 Breastfeeding status by age

Percent distribution of youngest children under age 2 who are living with their mother, by breastfeeding status, percentage currently breastfeeding; and percentage of all children under age 2 using a bottle with a nipple, according to age in months, Bangladesh DHS 2017-18

	Breastfeeding status										
Age in months	Not breast-feeding	Exclusive-ly breast-feeding	Breast-feeding and consuming plain water only	Breast-feeding and consuming nonmilk liquids[1]	Breast-feeding and consuming other milk	Breast-feeding and consuming comple-mentary foods	Total	Percent-age currently breast-feeding	Number of youngest children under age 2 living with the mother	Percent-age using a bottle with a nipple	Number of all children under age 2
0-1	0.0	84.9	5.4	0.5	9.1	0.0	100.0	100.0	342	8.4	342
2-3	0.8	66.1	13.6	2.2	13.3	4.1	100.0	99.2	322	16.4	327
4-5	1.0	40.1	12.5	6.4	17.1	22.9	100.0	99.0	289	18.9	294
6-8	1.7	5.8	6.8	2.0	6.5	77.1	100.0	98.3	406	22.1	410
9-11	2.7	1.1	1.4	0.0	0.8	94.1	100.0	97.3	411	19.4	416
12-17	5.6	0.1	1.2	0.1	1.1	91.9	100.0	94.4	843	16.3	859
18-23	10.8	0.0	0.4	0.0	0.3	88.5	100.0	89.2	788	13.4	819
0-3	0.4	75.8	9.4	1.3	11.1	2.0	100.0	99.6	664	12.3	668
0-5	0.6	65.0	10.3	2.9	13.0	8.3	100.0	99.4	954	14.3	963
6-9	2.3	4.8	5.6	1.4	5.3	80.6	100.0	97.7	567	20.9	573
12-15	4.4	0.2	1.2	0.1	0.7	93.4	100.0	95.6	565	16.7	572
12-23	8.1	0.1	0.8	0.0	0.7	90.3	100.0	91.9	1,631	14.9	1,679
20-23	12.3	0.0	0.6	0.0	0.0	87.1	100.0	87.7	526	12.7	549

Note: Breastfeeding status refers to a "24-hour" period (yesterday and last night). Children classified as breastfeeding and consuming plain water only consumed no liquid or solid supplements. The categories of not breastfeeding, exclusively breastfeeding, breastfeeding and consuming plain water, nonmilk liquids, other milk, and complementary foods (solids and semisolids) are hierarchical and mutually exclusive, and their percentages add to 100%. Thus children who receive breast milk and nonmilk liquids and who do not receive other milk and who do not receive complementary foods are classified in the nonmilk 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] Nonmilk liquids include juice, juice drinks, or other liquids.

6.2 BREASTFEEDING AND YOUNG CHILD FEEDING

- Sixty-five percent of infants under age 6 months are exclusively breastfed **(Table 6.2)**. The proportion of children under 6 months exclusively breastfed in 2017 is markedly higher than that reported in 2014 (55%) (**Figure 6.2**).

Figure 6.2 **Exclusive breastfeeding practices**

Trend in exclusive breastfeeding practices among children age 0–5 months, 2007–2017

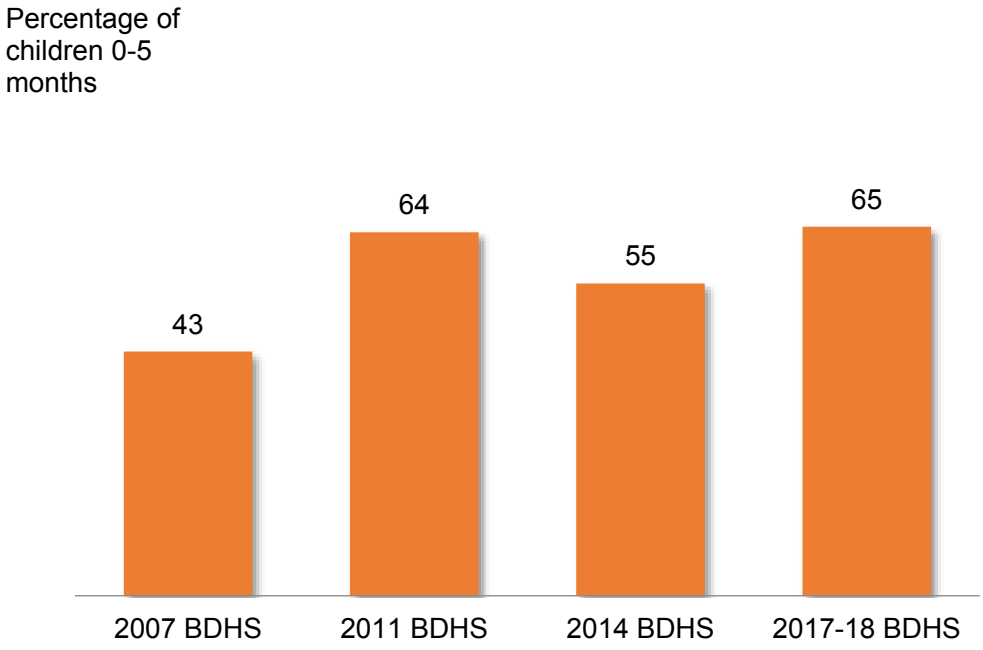


Table 6.3 Infant and young child feeding (IYCF) practices

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 2017-18

	Among breastfed children 6-23 months, percentage fed:					Among non-breastfed children 6-23 months, percentage fed:					Among all children 6-23 months, percentage fed:			
Background characteristic	4+ food groups[1]	Minimum meal frequency[2]	Both 4+ food groups and minimum meal frequency	Number of breastfed children 6-23 months	Milk or milk products[3]	4+ food groups[1]	Minimum meal frequency[4]	With 3 IYCF practices[5]	Number of non-breastfed children 6-23 months	Breast milk, milk, or milk products[6]	4+ food groups[1]	Minimum meal frequency[7]	With 3 IYCF practices	Number of all children 6-23 months
6-8	10.9	62.4	10.9	253	*	*	*	*	5	99.5	11.3	62.6	10.7	258
9-11	28.2	74.0	26.8	268	*	*	*	*	7	98.9	29.0	74.7	27.3	275
12-17	45.1	83.4	42.0	670	(55.7)	(67.8)	(90.3)	(22.3)	37	97.7	46.3	83.8	40.9	708
18-23	45.8	86.3	42.7	591	32.5	57.6	83.3	24.7	54	94.4	46.8	86.1	41.2	645
Sex														
Male	37.7	74.1	34.1	1,144	51.5	64.1	85.5	27.4	62	97.5	39.1	74.7	33.8	1,206
Female	37.2	76.3	34.0	1,043	37.8	57.2	82.0	26.2	57	96.8	38.2	76.6	33.6	1,100
Residence														
Urban	44.6	77.6	40.7	550	45.0	59.5	88.0	23.7	57	94.8	46.0	78.6	39.1	607
Rural	35.1	74.4	31.8	1,636	44.9	62.0	80.0	29.7	62	98.0	36.1	74.6	31.7	1,698
Division														
Barishal	32.6	69.3	28.6	125	*	*	*	*	6	97.7	34.2	70.4	27.8	131
Chattogram	38.2	71.0	33.4	451	*	*	*	*	23	96.4	38.7	71.5	33.0	473
Dhaka	40.2	76.9	37.5	547	(42.1)	(55.4)	(82.2)	(22.7)	50	95.2	41.5	77.3	36.3	596
Khulna	35.3	79.3	31.4	194	*	*	*	*	5	98.6	35.5	79.6	30.6	199
Mymensingh	35.0	80.5	32.3	190	*	*	*	*	11	97.5	37.4	81.0	32.8	201
Rajshahi	33.9	70.9	31.2	258	*	*	*	*	13	99.2	36.3	72.3	32.3	271
Rangpur	45.0	80.7	41.9	249	*	*	*	*	4	98.9	46.0	80.3	41.4	253
Sylhet	30.0	72.9	26.6	173	*	*	*	*	8	97.7	31.0	72.7	26.7	180
Education														
No education	18.9	68.5	16.7	138	*	*	*	*	6	96.9	18.8	68.2	16.0	144
Primary incomplete	30.0	75.7	27.2	373	(39.3)	(43.9)	(83.7)	(12.9)	26	96.1	30.9	76.3	26.3	398
Primary complete[8]	30.4	73.1	29.0	226	*	*	*	*	5	98.6	30.7	73.0	29.1	230
Secondary incomplete	37.7	72.5	33.4	957	(34.8)	(58.5)	(76.6)	(19.5)	42	97.3	38.6	72.7	32.8	999
Secondary complete or higher[9]	51.2	82.8	47.6	493	(63.0)	(81.5)	(96.4)	(46.1)	41	97.2	53.5	83.9	47.5	534
Wealth quintile														
Lowest	26.5	72.3	23.8	466	*	*	*	*	9	98.8	26.7	72.0	23.7	475
Second	33.6	73.8	29.7	484	*	*	*	*	12	99.1	34.8	74.2	29.6	496
Middle	36.5	73.0	32.9	400	*	*	*	*	22	96.7	37.4	73.3	32.2	422
Fourth	38.9	76.0	36.5	439	(41.8)	(56.6)	(85.2)	(27.2)	29	96.4	40.0	76.5	36.0	469
Highest	54.5	81.7	49.8	397	(48.5)	(65.1)	(88.3)	(31.6)	47	94.6	55.6	82.4	47.9	444
Total	37.5	75.2	34.1	2,186	44.9	60.8	83.8	26.8	119	97.2	38.7	75.6	33.7	2,305

Note: Figures in parentheses are based on 25-49 unweighted cases. An asterisk denotes that an estimate is based on fewer than 25 unweighted cases and 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] Minimum meal frequency is receiving solid or semisolid food at least twice a day for infants 6-8 months and at least three times a day for children 9-23 months
[3] Includes two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt
[4] Minimum meal frequency is receiving solid or semisolid food or milk feeds at least four times a day
[5] Fed with other milk or milk products at least twice a day, receive the minimum meal frequency, and receive solid or semisolid foods from at least four food groups not including the milk or milk products food group
[6] Breastfeeding, or not breastfeeding and receiving two or more feedings of commercial infant formula, fresh, tinned, and powdered animal milk, and yogurt
[7] Children are fed the minimum recommended number of times per day according to their age and breastfeeding status as described in footnotes 2 and 4.
[8] Primary complete is defined as completing grade 5.
[9] Secondary complete is defined as completing grade 10.

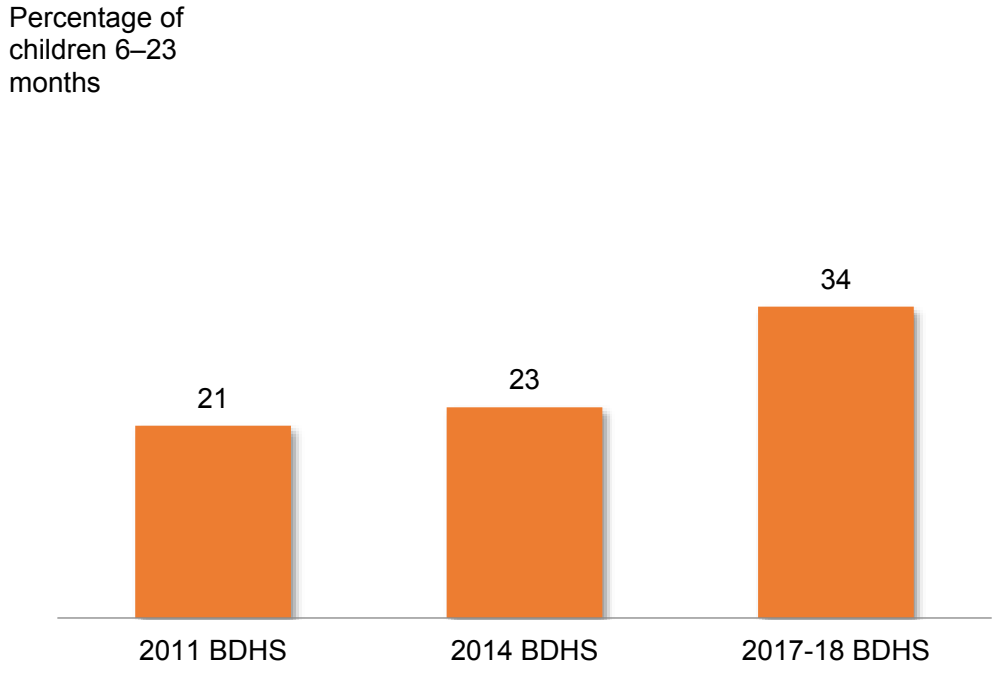
- Appropriate nutrition for infants and young children includes feeding children a variety of foods to ensure that nutrient requirements are met. **Table 6.3** shows infant and young child feeding (IYCF) practices for the youngest children age 6–23 months living with their mother. The percentage of children fed with appropriate feeding practices is calculated by taking into account current guidelines on the number of food groups and the number of times a child should eat during the day or night preceding the survey (WHO 1998).

- Overall, 34% of children age 6–23 months are fed appropriately according to recommended IYCF practices; that is, they are given milk or milk products and foods from the recommended number of food groups and are fed at least the recommended minimum number of times. Overall, infant and child feeding practices have improved considerably from the 2014 level (23%) (**Figure 6.3**). This improvement has occurred across all wealth quintiles. The 4th HPNSP aims to ensure that 45% of children age 6–23 months will consume appropriate foods by 2022 according to recommended IYCF practices.

- Feeding according to IYCF recommendations increases with child's age, mother's educational level, and socioeconomic status. Adherence to IYCF practices is better in urban areas than in rural areas (39% compared with 32%). The recommended IYCF practices are lowest in Sylhet (27%) and highest in Rangpur (41%).

Figure 6.3 **IYCF indicators on Minimum Acceptable Diet (MAD)**

Trends in IYCF practices among children age 6–23 months, 2011–2017



6.3 VITAMIN A SUPPLEMENTATION

- Vitamin A is an essential micronutrient for the immune system that prevents night blindness. Severe vitamin A deficiency (VAD) can result in childhood blindness. An important strategy in overcoming vitamin A deficiency in Bangladesh has been the distribution of vitamin A capsules to children age 6–59 months (children under 6 months are not covered as they are expected to be exclusively breastfed and should receive adequate vitamin A through breast milk).

- In 2017, 79% of children age 6–59 months had received vitamin A supplementation in the 6 months before the survey (**Table 6.4**). The coverage for children age 9–59 months is similar (80%). Between 2014 and 2017, vitamin A supplementation coverage increased from 62% to 79%.

- The level of vitamin A supplementation varies across subgroups of children. It is higher among children 12–35 months and children who live in urban areas. A child's likelihood of receiving vitamin A also increases with the mother's education and wealth status. Across divisions, vitamin A supplementation coverage is highest in Rangpur (84%) and lowest in Dhaka and Barishal (76%).

Table 6.4 Vitamin A supplementation

Percentage of children age 6-59 months who received a vitamin A capsule in the six months preceding the survey, by selected background characteristics, Bangladesh 2017-18

Background characteristic	Received vitamin A capsule	Number of children
Age in months		
6-8	54.6	260
9-11	77.7	279
12-23	82.9	1,529
24-35	82.9	1,548
36-47	79.5	1,490
48-59	77.7	1,522
12-59	80.4	6,504
9-59	80.3	6,919
Sex		
Male	79.9	3,830
Female	78.5	3,500
Residence		
Urban	78.7	2,012
Rural	79.4	5,317
Division		
Barishal	75.8	394
Chattogram	81.9	1,517
Dhaka	75.5	1,913
Khulna	80.3	665
Mymensingh	80.8	613
Rajshahi	79.3	864
Rangpur	83.7	768
Sylhet	78.2	596
Education		
No education	72.4	542
Primary incomplete	75.6	1,331
Primary complete[1]	77.2	769
Secondary incomplete	79.6	3,186
Secondary complete or higher[2]	85.2	1,502
Wealth quintile		
Lowest	78.8	1,568
Second	78.9	1,495
Middle	78.8	1,354
Fourth	76.6	1,475
Highest	83.1	1,438
Total	79.2	7,330

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

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APPENDICES

A. Members of SAC, TWG, and SC

B. Trends in Summary Indicators

C. Technical Committee Review Report

APPENDIX A

STAKEHOLDER ADVISORY COMMITTEE (SAC) FOR THE 2017-18 BDHS

1.	Director General, NIPORT	Chairperson
2.	Additional Secretary (Population, FW and Law), ME&FWD, MOHFW	Member
3.	Director General, HEU, MOHFW	Member
4.	Deputy Chief, ME & FWD, MOHFW	Member
5.	Deputy Chief, HSD, MOHFW	Member
6.	Deputy Chief, Population Planning Wing, Planning Commission	Member
7.	Director (PHC) and Line Director (MNCAH), DDGHS	Member
8.	Director (MIS) and Line Director (HIS & e-Health), DGHS	Member
9.	Director (IPHN) and Line Director (NNS), DGHS	Member
10.	Director (Planning and Research) and Line Director (PMR), DGHS	Member
11.	Director (MCH Services) and Line Director (MCRAH), DGFP	Member
12.	Line Director, CCSDP, DGFP	Member
13.	Director (MIS) and Line Director (MIS-FP), DGFP	Member
14.	Director (Planning) and Line Director (PME-FP), DGFP	Member
15.	Director, Census Wing, Bangladesh Bureau of Statistics (BBS)	Member
16.	Director, Demography and Health Wing, BBS	Member
17.	Project Director, MSVSB, BBS	Member
18.	Project Director, UPHCSDP, Local Government Division, MoLGRD & C	Member
19.	Prof. Dr. M Nurul Islam, Pro-Vice Chancellor, World University of Bangladesh	Member
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21.	Prof. Dr. Syed Shahadat Hossain, ISRT, University of Dhaka	Member
22.	Chairman, Department of Population Sciences, University of Dhaka	Member
23.	Representative, WHO, Bangladesh	Member
24.	Representative, UNFPA Bangladesh	Member
25.	Representative, UNICEF, Bangladesh	Member
26.	Representative, World Bank, Dhaka	Member
27.	Representative, DFID-Bangladesh	Member
28.	Representative, Global Affairs Canada, Bangladesh	Member
29.	Representative, SIDA, Bangladesh	Member
30.	Representative, JICA, Bangladesh	Member
31.	Mr. M. M. Reza, Team Leader, PMMU, MOHFW	Member
32.	Dr. Kanta Jamil, Sr. M & E and Research Advisor, OPHNE, USAID	Member
33.	Dr. Mizanur Rahman, Sr. Advisor, MEASURE Evaluation	Member
34.	Dr. Ahmed Al-Sabir, Consultant, ICF, USA	Member
35.	Dr. Shams El Arifeen, Sr. Director, Maternal and Child Health, icddr,b	Member
36.	Chief of Party, NHSDP	Member
37.	Dr. Ishtiaq Mannan, Deputy Country Director, Save the Children	Member
38.	Mr. Toslim Uddin Khan, General Manager (Program), SMC	Member
39.	Director, BRAC Health Program	Member
40.	Representative, ICF, USA	Member
41.	Executive Director, Mitra and Associates	Member
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43.	Mr. Subrata Kumar Bhadra, Sr. Research Associate, NIPORT	Member
44.	Mohammed Ahsanul Alam, Evaluation Specialist, NIPORT	Member
45.	Director (Research), NIPORT	Member Secretary

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3.	Dr. Mizanur Rahman, Sr. Advisor, MEASURE Evaluation	Member
4.	Dr. Ahmed Al-Sabir, Consultant, ICF, USA	Member
5.	Dr, Shams El Arifeen, Sr. Director, Maternal and Child Health, icddr,b	Member
6.	Prof. Nitai Chakraborty, Department of Statistics, Biostatistics and Informatics, University of Dhaka	Member
7.	Dr. Ishtiaq Mannan, Deputy Country Director, Save the Children	Member
8.	Mr. Toslim Uddin Khan, General Manager (Program), SMC	Member
9.	Representative, ICF, USA	Member
10.	Representative, Data Collection Agency	Member
11.	Mr. Karar Zunaid Ahsan, MEASURE Evaluation	Member
12.	Mr. Subrata Kumar Bhadra, Sr. Research Associate, NIPORT	Member
13.	Mohammed Ahsanul Alam, Evaluation Specialist, NIPORT	Member Secretary

SAMPLING COMMITTEE (SC) FOR THE 2017-18 BDHS

1.	Director (Research), NIPORT	Chairperson
2.	Director, Census Wing, Bangladesh Bureau of Statistics (BBS)	Member
3.	Project Director, MSVSB, BBS	Member
4.	Prof. Dr. M. Nurul Islam, Pro-Vice Chancellor, World University of Bangladesh	Member
5.	Prof. Nitai Chakraborty, Department of Statistics, Biostatistics and Informatics, University of Dhaka	Member
6.	Prof. Dr. Syed Shahadat Hossain, ISRT, University of Dhaka	Member
7.	Dr. Mizanur Rahman, Sr. Advisor, MEASURE Evaluation	Member
8.	Dr. Ahmed Al-Sabir, Consultant, ICF Consultant, USA	Member
9.	Representative, ICF, USA	Member
10.	Representative, Data Collection Agency	Member
11.	Mr. Subrata Kumar Bhadra, Sr. Research Associate, NIPORT	Member
12.	Mohammed Ahsanul Alam, Evaluation Specialist, NIPORT	Member Secretary

APPENDIX B

SUMMARY INDICATORS

Indicator	Bangladesh Demographic and Health Survey							
	1993-1994	1996-1997	1999-2000	2004	2007	2011	2014	2017-2018
Fertility								
Total fertility rate (TFR) 15-49	3.4	3.3	3.3	3.0	2.7	2.3	2.3	2.3
Adolescent fertility (15-19)[a]	33	36	35	33	33	30	31	27.7
Contraceptive prevalence rate (CPR)[b]								
Any method	44.6	49.2	53.8	58.1	55.8	61.2	62.4	61.9
Any modern method	36.2	41.5	43.4	47.3	47.5	52.1	54.1	51.9
Pill	17.4	20.8	23.0	26.2	28.5	27.2	27.0	25.4
Injectables	4.5	6.2	7.2	9.7	7.0	11.2	12.4	10.7
Condom	3.0	3.9	4.3	4.2	4.5	5.5	6.4	7.2
Female sterilization	8.1	7.6	6.7	5.2	5.0	5.0	4.6	4.8
Male sterilization	1.1	1.1	0.5	0.6	0.7	1.2	1.2	1.1
IUD	2.2	1.8	1.2	0.6	0.9	0.7	0.6	0.6
Implants	Na	0.1	0.5	0.8	0.7	1.1	1.7	2.1
Contraceptive prevalence rate (modern methods) among married adolescents								
Age 15-19	19.6	27.8	31.2	34.1	37.6	42.4	46.7	43.7
Contraceptive prevalence rate (modern methods) in low performing divisions[b]								
Sylhet	na	16.0	25.0	22.0	24.7	35.2	40.9	44.8
Chattogram	23.4	30.8	34.9	37.4	38.2	44.5	47.2	44.8
Unmet need for family planning[b]								
Percentage of currently married women with unmet need for family planning	21.6	19.7	18.2	15.0	16.8	13.5	12.0	12.0
Fertility preference[b]								
Percentage of currently married women age 15-49 who want no more children[c]	57.9	58.8	60.0	60.1	62.5	64.9	62.5	59.9
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	na	na	na	50.5	53.4	54.6	63.9	81.9
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	na	na	na	16.7	22.0	25.5	31.2	47.0
Quality of antenatal care								
Percentage of last live births in the three years preceding the survey for which women received quality ANC[d]	na	na	na	na	na	na	Na	17.7
Skilled assistance at delivery								
Percentage of live births in the three years preceding the survey attended by medically trained provider	na	na	na	15.6	20.9	31.7	42.1	52.7
Percentage of births in the three years preceding the survey delivered in health facilities by wealth quintile								
Lowest quintile	na	na	na	2.5	6.3	9.9	15.0	26.4
Highest quintile	na	na	na	37.6	48.5	59.8	69.5	78.3
Total	3.5	4.7	8.7	11.7	17.2	28.8	37.4	49.6
Postnatal care (within two 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 two days of delivery								
Mother	na	na	na	15.8	20.1	27.1	33.9	52.1
Child	na	na	na	13.0	20.1	29.6	31.5	52.2
Percentage of last live births delivered at home in the three years preceding the survey where mother/child received PNC from a medically trained provider within two days of delivery								
Mother	na	na	na	na	na	na	na	7.1
Child	na	na	na	na	na	na	na	7.3

Bangladesh Demographic and Health Survey								
Indicator	1993-1994	1996-1997	1999-2000	2004	2007	2011	2014	2017-2018
Childhood mortality (five-year period preceding the survey)								
Neonatal mortality rate	52	48	42	41	37	32	28	30
Postnatal mortality rates	35	34	24	24	15	10	10	8
Infant mortality rate	87	82	66	65	52	43	38	38
Child mortality rate	50	37	30	24	14	11	8	7
Under-5 mortality rate	133	116	94	88	65	53	46	45
Percentage of children who received specific vaccines by 12 months								
BCG	79.4	84.2	90.0	93.3	96.8	97.8	97.8	97.9
Pentavalent3[e]	59.0	66.5	70.2	80.3	90.0	93.2	90.9	95.6
Polio3	59.7	60.1	69.1	81.6	89.7	93.2	91.1	94.1
Measles	55.0	61.2	62.1	70.3	77.2	84.0	79.9	87.9
Pneumococcal[f]	**na**	na	na	na	na	na	na	91.5
All vaccines (not including Pneumococcal)	46.2	46.9	52.8	68.4	76.0	82.5	78.0	85.6
Treatment for diarrhea								
Percentage of children under 5 with diarrhea treated with ORT (ORS or homemade solution)	58.3	61.0	73.6	74.6	81.2	80.6	84.3	85.1
Percentage of children under 5 with diarrhea treated with ORT and zinc	na	na	na	na	na	34.1	38.1	43.6
Nutritional status of children								
Percentage of children under 5 clarified as malnourished according to three anthropometric indices of nutritional status[g]								
Height-for-age (stunting)								
Severe	na	na	na	22.1	16.1	15.3	11.6	8.9
Moderate or severe	na	na	na	50.6	43.2	41.3	36.1	30.8
Weight for-height (wasting)								
Severe	na	na	na	3.4	2.9	4.0	3.1	1.5
Moderate or severe	na	na	na	14.5	17.4	15.6	14.3	8.4
Weight-for-age (underweight)								
Severe	na	na	na	13.6	11.8	10.4	7.7	4.1
Moderate or severe	na	na	na	42.5	41.0	36.4	32.6	21.9
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	55.3	65.0
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	22.8	33.7
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	62.1	79.2
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	63.2	80.3

na = Not applicable
[a] Percentage of women age 15-19 who had children or currently pregnant
[b] Rates for 2007, 2011, and 2014 are for currently married women age 15-49.
[c] Wanted no more children or have been sterilized
[d] Quality ANC is defined as when a woman has received four or more ANC of which at least one ANC is from a medically trained provider and she has received all the basic components of ANC, which are weight and blood pressure measurements, urine and blood tests and information on risks of danger signs during pregnancy.
[e] Rates for 1993-94, 1996-97, 1999-2000, 2004, and 2007 are for DPT3.
[e] Methods and tools used in 2011 and 2014 were different.
[f] Rate for Pneumococcal Conjugate Vaccine (PCV) is for PCV3.
[g] Based on WHO Child Growth Standards adopted in 2006

APPENDIX C

TECHNICAL COMMITTEE REPORT

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়
স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ
পরিকল্পনা অধিশাখা

স্মারক রকনং- ৫৯.০০.০০০০.১৫৪.০১৪.০২০.২০১৭-৪৮ তারিখ: ২৮ভাদ্র ১৪২৬ / ১২ সেপ্টেম্বর ২০১৯

বিষয়: বিডিএইচএস এবং এসভিআরএস অনুযায়ী শিশু মৃত্যু হার ভিন্নতার ফলাফল পর্যালোচনা কারিগরি কমিটির প্রতিবেদন দাখিল প্রসংগে।

সূত্র: স্বাস্থ্য শিক্ষা ও পরিবারকল্যাণ বিভাগের পরিকল্পনা অধিশাখার স্মারক নং-৫৯.০০.০০০০.১৫৪.০১৪.০২০.২০১৭-৩২, তারিখ: ০৩/০৬/২০১৯।

উপর্যুক্ত বিষয়ের প্রতি সদয় দৃষ্টি আকর্ষণপূর্বক জানানো যাচ্ছে যে, বিডিএইচএস এবং এসভিআরএস অনুযায়ী শিশু মৃত্যু হার ভিন্নতার ফলাফল পর্যালোচনা করার জন্য সূত্রোক্ত অফিস আদেশ মূলে একটি কারিগরি কমিটি গঠন করা হয় (অফিস আদেশের কপি সংযুক্ত)। গঠিত কারিগরি কমিটি বিভিন্ন পর্যায়ে আলোচনা ও দুই দফায় সভায় মিলিত হয়ে বিস্তারিত পর্যালোচনা শেষে একটি প্রতিবেদন প্রস্তুত করে (প্রতিবেদন সংযুক্ত)।

এমতাবস্থায়, কারিগরি কমিটির সুপারিশমালার ভিত্তিতে প্রনীত প্রতিবেদন মহোদয়ের অবগতির জন্য এতদসংগে দাখিল করা হলো।

সংযুক্ত:
১। কমিটি গঠনের অফিস আদেশের কপি - ১পাতা
২। কারিগরি কমিটির প্রতিবেদন -১৭ পাতা

১২/০৯/২০১৯

(মোহাম্মদ আবদুস সালাম খান)
উপপ্রধান, স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ
ও
আহবায়ক
বিডিএইচএস এবং এসভিআরএস অনুযায়ী শিশু মৃত্যু হার ভিন্নতার ফলাফল পর্যালোচনা কারিগরি কমিটি
স্বাস্থ্যশিক্ষা ও পরিবারকল্যাণবিভাগ।

সচিব
স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়

অনুলিপি সদয় অবগতির জন্য প্রেরণ করা হলো:

১। মহাপরিচালক, জাতীয় জনসংখ্যা গবেষণা ও প্রশিক্ষণ ইনষ্টিটিউট (নিপোর্ট), ১৩/১, শেখ সাহেব বাজার, আজিমপুর, ঢাকা।

Technical Committee Report

Review of the differences in childhood mortality rates between Bangladesh Demographic and Health Survey (BDHS) and Bangladesh Sample Vital Statistics (SVRS)

Background

The Bangladesh Demographic and Health Survey (BDHS) 2017-18 is the eighth national survey designed to provide information on fertility, marriage, childhood mortality, nutrition, family planning, maternal and child health service utilization status in Bangladesh. Started in 1993-94, the BDHS is the longest running series of demographic and health surveys in Bangladesh. This survey is conducted as a part of the worldwide Demographic and Health Surveys (DHS) program and implemented in more than 90 countries. The BDHS is conducted by the National Institute of Population Research and Training (NIPORT) under Medical Education and Family Welfare Division of the Ministry of Health and Family Welfare (MOHFW) and implemented by Mitra and Associates. ICF of Rockville, Maryland, USA and, icddr, b provided technical assistance; the U.S. Agency for International Development (USAID) provided financial support.

The MOHFW has been using the BDHSs to assess the performance of its current and previous health sector programs. As a part of this effort, NIPORT was entrusted with conducting the BDHS under the Training, Research and Development (TRD) operational plan. The BDHS 2017-18 is the primary source of data for almost half of the results framework indicators of the 4th HPNSP.

NIPORT prepared and submitted BDHS 2017-18 preliminary report (draft) to MOHFW with a summary brief of key findings. These findings were used to assess the performance of the 4th HPNSP through the annual program review (APR), conducted in Jan-Feb 2019.

It has been observed that estimates of childhood mortality rates from BDHS 2017-18 is higher than those from Bangladesh Sample Vital Statistics (SVRS) 2017 implemented by the Bangladesh Bureau of Statistics (BBS). Thus, the MOHFW formed a technical committee (vide memo no. 59.00.0000.154.014.020.2017-32 dated 03 June 2019) to understand the difference in estimates from these two sources of data. The Committee has the following terms of references (TOR):

1. Re-examine the survey methods and the process of implementation of BDHS 2017-18;
2. Compare the childhood mortality rates of BDHS 2017-18 with SVRS, and other surveys (national and international);
3. Explore and analyze possible reasons explaining the differences in childhood mortality rates between BDHS and SVRS;
4. Explore and analyze possible reasons of the childhood mortality rate for not declining at a desired level;
5. Suggest future measures that can be taken for reducing childhood mortality rate in Bangladesh; and
6. Submit a complete report to MOHFW

The technical committee members had two meetings to discuss the issues mentioned in TOR of the committee. Members worked both individually and collectively to prepare the report for submission to MOHFW.

TOR 1: Re-examine the survey methods and the process of implementation of BDHS 2017-18

The committee reviewed the survey design, sampling procedures and field implementation as documented in survey report. They also discussed with the concerned people involved with developing the survey design and its implementation for clarification of specific questions. In addition, survey procedures of identification of births and deaths were reviewed exclusively and key differences between BDHS 2017-18 and SVRS 2017 were documented.

Sampling and Survey Methods:

BDHS 2017-18 was conducted in a nationally representative sample. The sampling frame for the survey was generated from the list of enumeration areas (EAs) of the 2011 Population and Housing Census of the People's Republic of Bangladesh, which was provided by the Bangladesh Bureau of Statistics (BBS). Each EA has an average of 120 households. BDHS 2017-18 adopted a two-stage stratified sample of households.

- In the first stage, 675 EAs were selected, with 250 EAs in urban areas and 425 in rural areas.
- In the second stage, 30 households were selected per EA through systematic sampling. All ever-married women of the selected households were approached for interviews.

A total of 20,160 households were selected, from which 20,127 women age 15-49 were interviewed.

Field Implementations:

Questionnaire: BDHS 2017-18 used the generic DHS questionnaire, which is globally validated and used in more than 90 countries worldwide. Before field implementation, the questionnaire was adapted to Bangladesh context through a series of consultative meetings with relevant technical experts.

Training of data collectors: A team of data collectors received extensive training to carry out the listing of households and to conduct fieldwork including administering the household questionnaire, women questionnaire, biomarker testing questionnaire, and verbal autopsy questionnaire. Training of the fieldworkers was conducted for 28 days (from 24 September to 22 October 2017*)*. icddr, b imparted training on the Verbal Autopsy questionnaire.

Data collection: Fieldwork was carried out by 20 interviewing teams, each consisting of 9 members (1 supervisor, 1 editor, 5 female data collectors and 2 health technicians). Data collection was from 24 October 2017 through 15 March 2018.

Quality assurance: There were two layers of quality control mechanism in BDHS 2017-18: internal and independent.

- Mitra and Associates employed internal quality control teams, each comprised of one male and one female staff. They travelled to the field to visit the interviewing teams throughout the data collection period. The internal quality control team revisited 5% of the questionnaires.
- NIPORT conducted independent monitoring of fieldwork with additional quality control teams. The teams oversaw the use of household listings and mapping, observed interviews, and spot-checked the completed questionnaires. The teams also revisited half of the households of a completed cluster for each survey team and checked whether selected households were visited, and eligible respondents were properly identified and interviewed.
- Representatives from USAID, ICF, icddr, b and NIPORT, and other Technical Working Committee members monitored fieldwork through several field visits as an independent external quality control mechanism.

Identification of births and deaths:

In BDHS 2017-18, data collectors approached all ever-married women of reproductive age in the selected clusters for interviews and collected a complete birth history to identify all births and deaths of children. There were additional questions to reconfirm the total number of births and deaths collected through the complete birth history approach. Separate questions were asked to identify abortions and stillbirths. Once a death was identified (through the complete birth history approach), the supervisor of the respective data collector visited the household independently to administer an hour-long verbal autopsy questionnaire. Trained physicians reviewed filled-in verbal autopsy questionnaires and assigned cause of death using WHO-ICD codes (1).

TOR 1: Committee's conclusion

Based on review of BDHS 2017-18 survey documents and discussions with survey design and implementation team, the committee found that methods followed, and steps taken to implement BDHS 2017-18 were appropriate.

The survey design and data collection tools used by BDHS 2017-18 are internationally validated and adapted to Bangladesh context. The methods used to identify births and deaths are robust and supported by appropriate quality assurance measures.

Every death identified by BDHS 2017-18 has been verified by a series of follow-up questions as well as an hour-long Verbal Autopsy by a different set of interviewers.

TOR 2: Compare the childhood mortality rates of BDHS 2017-18 with SVRS, and other surveys (national and international)

The committee compared the childhood mortality rates of BDHS 2017-18 with SVRS and other international, national and sub-national estimates to find out the differences in childhood mortality estimations from different available sources.

Difference in BDHS and SVRS estimates of Under-five Mortality Rate (U5MR):

BDHS 2017-18 estimated U5MR with five years of recall implying that the mortality estimates were applicable for 2015. Therefore, the BDHS 2017-18 estimates should be compared with SVRS-2015 (2) estimates.

BDHSs and SVRSs estimates of U5MRs were different in all years, except in 2008 and 2011 (Figure 1). Both BDHS and SVRS reported achieving the MDG-4 target (48 per 1,000 live births or below by 2015) before 2011. After 2011, BDHS has been reporting an apparent stalling on U5MR (46 per 1,000 live births in 2011 to 45 in 2015), whereas SVRS has been reporting continuous decline (44 per 1,000 live births in 2011 to 36 in 2015).

Figure 1: Bangladesh U-5 mortality trend, different sources

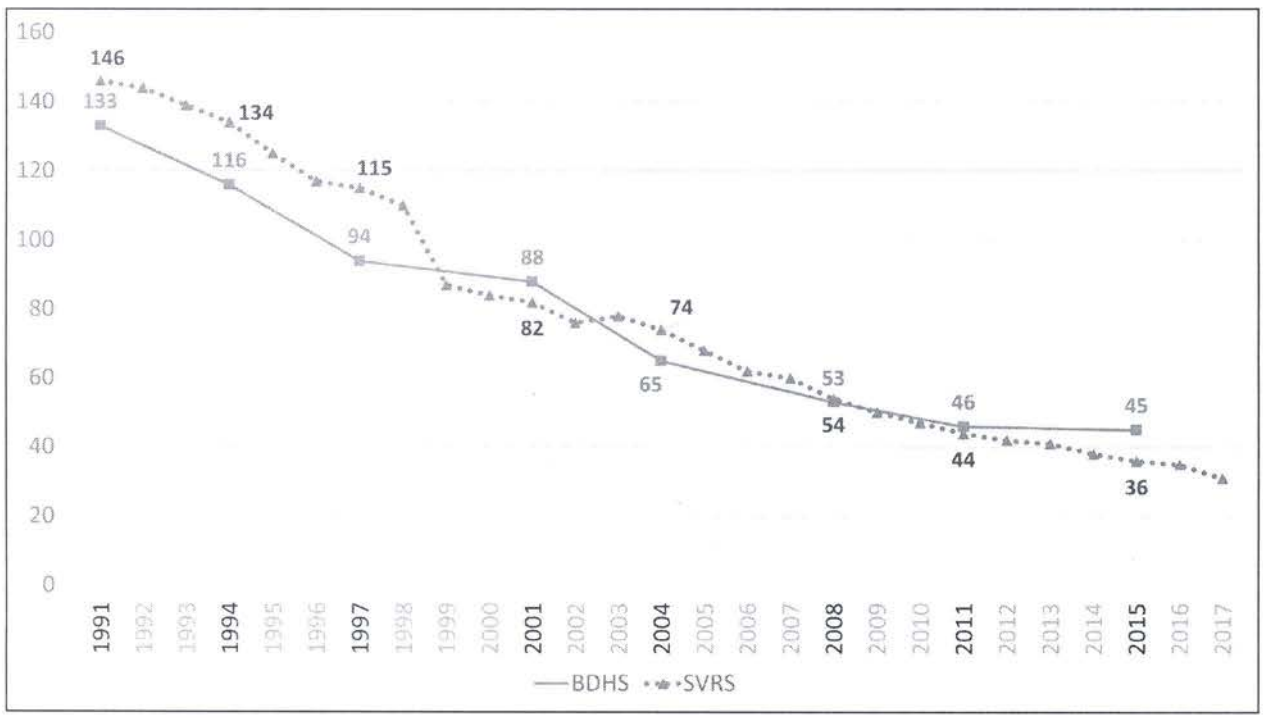


Table-1 compares the U5MR, IMR and NMR reported in SVRS-2015 and BDHS-2017-18 reports.

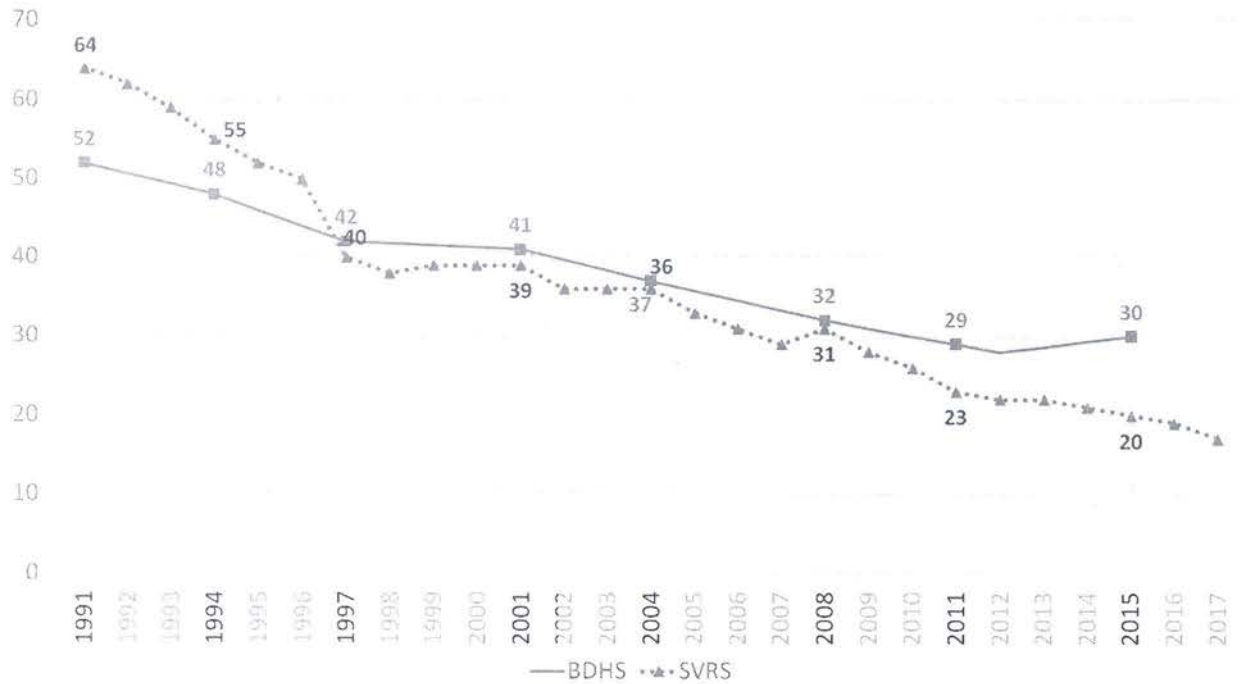
Table 1: Key differences between BDHS, SVRS childhood mortality estimates

	SVRS-2015	BDHS-2017 (Estimated for 2015)
Neonatal mortality rate (NMR)	**20**	**30**
Post-neonatal mortality rate (PNMR)	9	8
Infant Mortality Rate (IMR)	29	38
1-4 years child mortality rate (1-4 MR)	7	7
Under-5 mortality rate (U5MR)	36	45

The Table 1 and Figure 2 show that U5MR, infant mortality rate (IMR) and neonatal mortality rate (NMR) reported in SVRS-2015 and BDHS-2017-18 are different. However, the post neonatal mortality rates and the 1-4 years child mortality rates reported in these two surveys are quite similar. This means that:

The observed differences in U5MR and IMR are due to the difference in NMR (20 per 1,000 live births in SVRS-2015 and 30 per 1,000 live births in BDHS-2017-18). Since 1997, the NMR estimates of SVRS have consistently been lower than that of BDHS estimates.

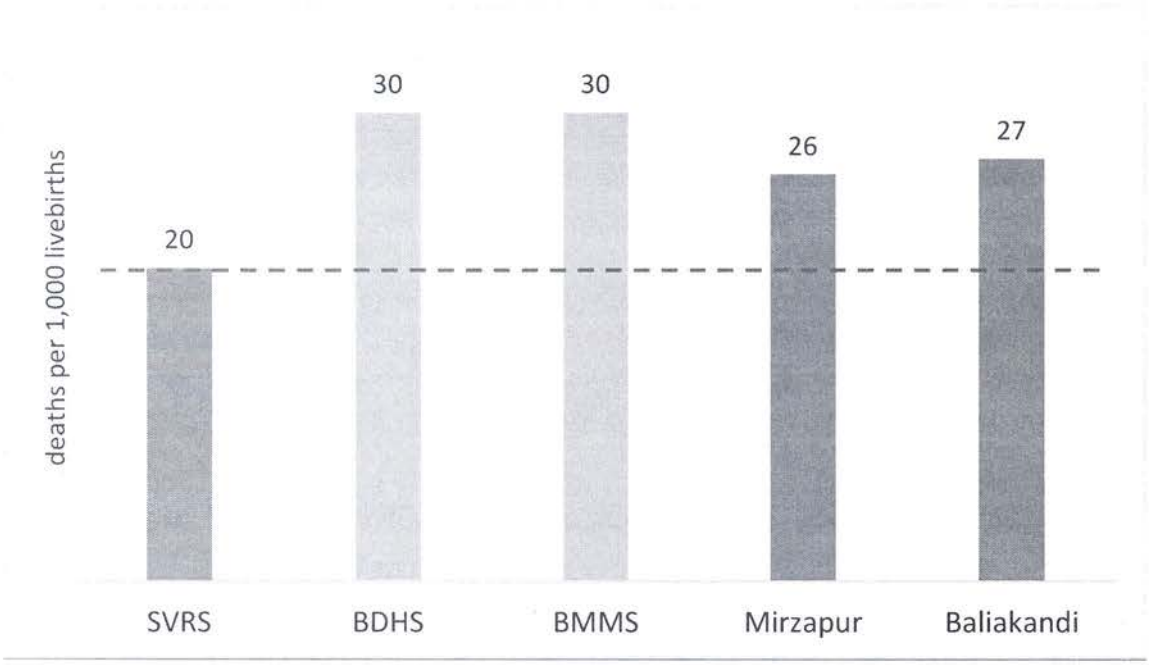
Figure 2 Differences in Neonatal Mortality in BDHS and SVRS



Comparison of NMR reported in BDHS-2017and SVRS-2015 with other national and sub-national estimates:

NMR reported in SVRS-2015 is lower than all other national and sub-national estimates of NMR for the same period. National level NMR estimate is available from BDHS-2017-18 and the Bangladesh Maternal Mortality and Health Care Survey 2016 (BMMS)[1] (3); and sub-national NMR estimates from Mirzapur Health and Demographic Surveillance (Mirzapur-HDSS[2]) (4) and Baliakandi, Faridpur Health and Demographic Surveillance (Faridpur HDSS[3]) (5). Mirzapur and Baliakandi upazilas of Faridpur distircts are in central Bangladesh and these two surveillance sites have better health services and communication networks compared to the national level. Therefore, the NMR is expected to be lower in these regions compared to NMR estimates for the entire country. However, the NMR estimate from SVRS-2015 is notably lower than all national and sub- national estimates of NMR available from other data sources.

Figure 3: NMR in Bangladesh in 2015: National and subnational estimates from different sources



The technical committee also examined more recent estimates of under-five and neonatal mortality rates from two sources of data namely SVRS 2018 and the multiple indicator cluster survey, MICS 2019 (6) (Table 2). It is to be noted that both SVRS 2018 and MICS 2019 are implemented by the Bangladesh Bureau of Statistics. The findings show that under-five mortality and neonatal mortality rates from SVRS

[1] **Bangladesh Maternal Mortality and Health Care Survey-2016:** BMMS-2016 is a survey conducted with a nationally representative sample of more than 300,000 households. In addition to reporting maternal mortality ratio, BMMS also reports under five and neonatal mortality rates.

[2] **Mirzapur Health and Demographic Surveillance Sites:** icddr, b has been running a health and demographic surveillance system in Mirzapur, Tangail since 2008.

[3] **Baliakandi, Faridpur Health and Demographic Surveillance Sites:** icddr, b has been running a health and demographic surveillance system in Baliakandi, Faridpur since 2018.

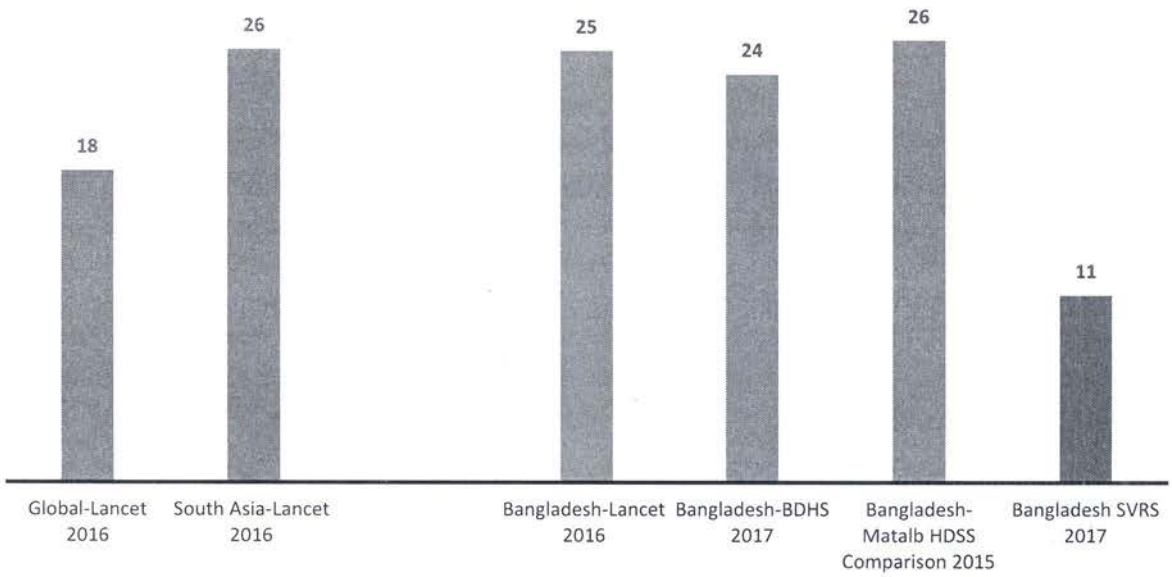
2018 are much lower than the MICS 2019 estimates. The differences between MICS and SVRS is either bigger or the same compared to the differences between BDHS and SVRS.

Table 2: Childhood Mortality estimates from SVRS 2018 and MICS 2019

Indicators	SVRS-2018	MICS 2019
Neonatal mortality rate (NMR)	**16**	**26**
Post-neonatal mortality rate (PNMR)	**6**	**8**
Infant Mortality Rate (IMR)	**22**	**34**
Under-5 mortality rate (U5MR)	**29**	**40**

The Technical Committee also examined still birth rates reported through various sources (Figure 4). It is to be noted that still birth (SBR) estimate from SVRS 2017 is 11 per 1000 live births. The SVRS's SBR is notably lower births from BDHS 2017-18 estimate for SBR of 24 per 1000 live births, the Matlab Surveillance (comparison area) estimate of 26 (7) per 1000 live birth, Lancet's estimates for 25 per 1000 live births for Bangladesh and 26 per 1000 live births for the South Asia region (8). Even Lancet's global estimate of SBR is notably higher (18 per 1000) than SVRS's estimate of SBR for Bangladesh (11 per 1000 live births).

Figure 4: Stillbirth rates from different sources



TOR 2: Committee's conclusion

U5MR, IMR and NMR reported in SVRS-2015 and BDHS 2017-18 are different. However, these differences are due to the difference in NMR.

NMR reported in the SVRS-2015 is lower than all the other available national and sub-national estimates.

Two sources of data, namely SVRS 2018 and MICS 2019, both implemented by the Bangladesh Bureau of Statistics, estimate different under 5 and neonatal mortality rates; SVRS 2018 estimates are notably lower than MICS 2019 estimates.

After 2011, BDHS has been reporting an apparent stalling of U5MR, whereas SVRS has been reporting continuous decline. But both reported achieving the MDG-4 target (48 per 1,000 live births or below by 2015) almost at the same time.

TOR 3: Explore and analyze possible reasons explaining the differences in childhood mortality rates between BDHS and SVRS

The committee focused on estimation of NMR since the difference in BDHS and SVRS estimates of childhood mortality rates is due to different estimates of NMR. The Technical Committee examined the likelihood of over estimation of NMR by BDHS and the possibility of under estimation by SVRS. Since deaths are also linked to births the Committee also examined the likelihood of over or under reporting of births. Total Fertility Rates (TFR) was examined as a proxy to understand quality of birth reporting.

Methodological differences between BDHS and SVRS

The committee reviewed the differences between BDHS 2017-18 and SVRS 2017 in key aspects related to methodology, birth, death and stillbirth identification, data collection, and quality assurances measures. Table-3 shows key differences between the two surveys.

Table 3: Key differences between BDHS 2017-18 and SVRS 2017

	BDHS	SVRS
Sample size	19,457 Households	2,15,811 Households
Method of data collection	Through household visits by trained data collectors (9).	The SVRS used Dual Recording system: System 1: Local registrar of each primary sampling unit (PSU) collect data as and when events occur and then send the filled-in schedule to the headquarters. System 2: Supervisors from the Upazila Statistical offices collect retrospective data from the

	BDHS	SVRS
		PSU on births and deaths on quarterly basis.
Birth, death and still birth identification	Full Birth History collected, and information obtained from the mother herself. Follow up questions to verify births, and deaths, stillbirths.	Events (births, stillbirths and deaths) in a particular year collected by local registrar. Events reported by any member of the households. Only one question to identify events.
Data quality assurance	Data reviewed and edited by respective supervisors on the spot (within three days) and edited. If there is any concern, the same data collector revisited the households within the three days.	The filled-in schedules obtained from both the systems coded and matched at the headquarters and re-investigated where needed.
Adjustments for missing vital events	No adjustments required.	Adjustment done following the Chandra Sekar and Deming formula (3) to account for missing of vital events (births and deaths) by both systems
Verification of deaths	Once the data collectors identified the deaths, their respective supervisors visited the households and collected information on the causes of death using the verbal autopsy questionnaire. Thus, every reported death was verified.	Re-investigation is done only when there is a mismatch of recording of two systems.

Issues with over estimation and under estimation of births and childhood deaths:

For estimating U5MR and NMR, we need two events: deaths as numerators and births as denominators. Theoretically the data collection team can over-count and/or under-count both births and deaths. But practically, for any survey/surveillance, the worry is primarily about under counting births and deaths.

If SVRS-2015 NMR of 20 per 1000 live births (=0.02) is 'TRUE', then BDHS-2017-18 has either over reported deaths and/or under reported births.

Did BDHS-2017-18 over report the deaths? It is highly unlikely because a supervisor visited every reported death identified by the interviewer and administered an hour-long verbal autopsy questionnaire to collect information on possible causes of death.

Did BDHS-2017-18 under report the births? Assuming that BDHS has not over counted childhood deaths (explained above), the survey would have to miss a large number of births. For example, in order to match the NMR reported in SVRS 2015, BDHS 2017-18 estimate has to be 30 per 1500 live births (NMR=0.02) instead of 30 per 1000 live births. This implies that BDHS 2017-18 missed one-third of the

total births, which is very unlikely. It is to be noted BDHS 2017-18 reported higher TFR (2.3) than the TFR (2.1) reported by SVRS. If BDHS 2017-18 has undercounted one-third of the "True births", then the true TFR will be even higher than that reported by BDHS, which does not seem plausible.

If BDHS-2017-18 NMR of 30 per 1000 live births (=0.03) is 'TRUE', then SVRS-2015 has either under reported the deaths and/or over reported the birth.

Did SVRS-2017 under report the deaths? If BDHS-2017 NMR (30 per 1,000 live births) is a true estimate, SVRS has missed only 10 neonatal deaths per 1,000 live births. Based on the methodology that SVRS adopts to identify neonatal deaths, it is a plausible explanation.

Another information that indicates SVRS may be undercounting neonatal deaths is, SVRS's 2017 estimate of still birth rate (11 per 1000 live births) is notably lower than reported by other in-country data sources like BDHS 2017-18 (24 per 1000 live births), Matlab HDSS for Comparison area (26 per 1000 live births) and Bangladesh estimate by the Lancet (25 per 1000 live births) (Figure 4).

If SVRS-2017 has undercounted still births then, it is highly likely that SVRS has also missed early neonatal deaths as one third of the neonatal deaths happen in the first day of life (10, 11). The Technical Committee also observed that SVRS NMR estimate is lower than all other estimates of NMR available for Bangladesh.

Did SVRS-2017 under report the births? Reporting of childhood deaths are linked to reporting of births. If a survey misses births (under estimation), then the deaths will be automatically under reported. Two information stated below indicate that SVRS may be underreporting births

According to SVRS-

- Chattogram Division reached Total fertility rate (TFR) 2.0 (below replacement level fertility rate) in 2009 with a contraceptive prevalence rate (CPR) of 49%.
- Sylhet Division reached TFR 2.2 (replacement level fertility) in 2011 with a CPR of 39%.

If SVRS data is correct, the Sector Programmes' special efforts in Sylhet and Chattogram divisions with family planning programmes in the last 7-8 years were NOT justified.

It is highly unlikely that Sylhet and Chattogram divisions reached the replacement fertility rates with such low CPR levels. The Technical Committee looked at other countries' TFR and CPR rates, and no country shows that CPR below 50% can result in TFR below the replacement level fertility.

Table 4: TFR and CPR, example of 7 countries (https://data.worldbank.org/country/; access 20 May 2019)

Country	TFR	CPR	Year
India	2.3	53.5	2016
Indonesia	2.3	60.9	2017
Sri Lanka	2.1	61.7	2016
Iran	1.8	77.4	2010
Turkey	2.1	73.5	2013

TOR 3: Committee's conclusion

BDHS 2017-18 is not over-estimating childhood deaths. It is highly unlikely that BDHS is under counting large number of births.

One possible explanation of the difference in childhood mortality estimates reported by SVRS and BDHS is that SVRS may be under-counting early neonatal deaths as well as undercounting of those births. The TFR estimates of Chattogram and Sylhet divisions indicate that SVRS may be undercounting births.

Also, SVRS estimates of neo-natal mortality and still births are notably lower than all other available estimates of NMR and still births for Bangladesh.

It is to be noted the Bangladesh Bureau of Statistics implemented both SVRS 2018 and MICS 2019, but under five mortality, infant mortality and neonatal mortality rates are notably lower in SVRS 2018 compared to MICS 2019 estimates. MICS 2019 childhood mortality estimates are consistent with BDHS 2017 findings.

TOR 4: Explore and analyze possible reasons for not declining the childhood mortality rate at a desired level

The Committee examined the causes of neonatal death, the programmes and interventions targeted towards reducing neonatal deaths and explored possible reasons for not declining the childhood mortality at a desired level.

Cause of Death Distribution:

Three major causes of neonatal deaths in Bangladesh are birth asphyxia (25%), sepsis, pneumonia and other serious infection (24.7%) and preterm and low-birth weight (17.2%) as reported in BDHS 2017-18.

Programmes and interventions to address the major causes of neonatal death:

The committee reviewed the existing programs and initiatives of the Government of Bangladesh to address the major causes of neonatal deaths in Bangladesh. It also examined the program coverage and quality if these interventions to assess their potential impact on the mortality estimates.

1. **Programmes and Interventions to reduce Birth Asphyxia**

a) Safe Delivery Practice

In Bangladesh, 50% of births take place at home and almost all of these births (94%) are attended by untrained providers. However, facility birth has increased from 37% in BDHS 2014 to 50% in BDHS 2017-18. It is expected that the increase in facility birth will result in decline in neonatal mortality. But this will only happen if the facilities have the necessary service readiness and ensure quality of care. According

to Bangladesh Health Facility Survey (BHFS) 2017, only 1% health facilities offering normal delivery services had standard readiness to provide normal delivery service. It was only 2% in BHFS 2014.

Out of the facility births, two-thirds are happening in private facilities. However, less than 10% (12) of the private facilities offering normal delivery services had any staff trained in essential and immediate neonatal care practices, which included neonatal resuscitation training.

b) Resuscitation

The Government of Bangladesh rolled out the Helping Babies Breathe initiative to address the neonatal deaths from birth asphyxia. Large cadres of health workers at all levels were trained and logistics (bag and mask) were distributed in all levels of health facilities. BHFS 2017 reported that only 33% of the providers involved with normal delivery/neonatal care services had training in neonatal resuscitation practices. Only 55% facilities had a bag and a mask on the day of the visit (12). It was 46% in BHFS-2014 (13).

2. Infection:

a) Chlorhexidine

The Government of Bangladesh introduced chlorhexidine for umbilical cord care to prevent neonatal sepsis. A large cadre of health workers were trained, and chlorhexidine was procured and distributed in public facilities and through government community health workers. However, the initiatives were taken after 2015 and obviously did not have any impact on the neonatal mortality rate observed in 2015 (as reported in BDHS 2017-18).

b) Injectable Antibiotics

The Government of Bangladesh decided to scale up sepsis management for which the combination of oral Amoxycillin and injectable Gentamicin were recommended as the first line treatment. The availability of amoxicillin in health facilities declined form 80% in BHFS 2014 to 69% in BHFS 2017 (12). Similarly, the availability of Gentamicin in health facilities declined from 19% in BHFS-2014 (13) to 16% in BHFS-2017 (12).

3. Preterm and Low-Birth Weight

a) Kangaroo Mother Care (KMC):

The Government of Bangladesh decided to scale up KMC services in referral hospitals in Bangladesh. The KMC services were first introduced in public facilities in 2015 and till date 98 facilities have adopted KMC services. According to MOHFW-MIS, only 1882 new-borns received care from KMC facilities in 2018 (11 months) (14). With a birth cohort of 3.2 million and an estimated low-birth weight rate of 22.5%, only

1% of the low-birth weight babies received KMC from public facilities. It should be noted that very few private facilities offer KMC services in Bangladesh. Therefore, current coverage and quality of KMC intervention in Bangladesh is not in a stage to have a meaningful impact on the NMR in 2015 observed in BDHS 2017-18.

b) Antenatal corticosteroids (ACS):

The Government of Bangladesh has decided to scale-up ACS in first level referral facilities. Accurate estimation of gestational age is mandatory to administration of ACS. Estimation of gestational age is a serious issue for both facility and home delivery. Therefore, the effective coverage of ACS is expected to be sub-optimum based on this context and very unlikely to have any direct effect on the NMR in 2015.

TOR 4: Committee's conclusion

Government of Bangladesh introduced a set of new interventions for addressing the major causes of neonatal deaths. However, many of these interventions had been introduced post 2015 which was the anchoring year for BDHS 2017-18 NMR estimate. Therefore, the benefits of these interventions may not have shown any impact on BDHS 2017-18 estimates.

Some of the other new-born specific interventions that were introduced before 2015 had issues with sub-optimum programme coverage and inadequate health systems readiness. Moreover, the existing level of health service readiness does not appear to support reduction in neonatal mortality.

TOR 5: Suggest future measures that can be taken for reducing childhood mortality rate in Bangladesh

The committee reviewed the relevant documents and identified possible delivery strategies and challenges for achieving the target coverage for priority interventions.

Table 5 shows the required priority interventions and strategies/actions for delivering priority interventions.

Table 5: **Required priority interventions and strategies**

Priority Interventions	Strategies / Actions for delivering priority interventions
Facility delivery for all births	- Improving the availability, access, readiness and quality of deliveries that take place in public and private health facilities
Chlorhexidine for cord care	- Ensure availability and application of Chlorhexidine for all births happening in public and private health facilities - Promoting the use of Chlorhexidine among home births by ensuring availability and distribution through - • HA/FWAs during ANC contacts • Social marketing approach
Resuscitation of newborn	- Ensuring availability of bag and mask in all public and private facilities delivering babies - Improving quality of resuscitation through continuous on the job practice sessions and monitoring
Management of severe infections among newborn	- Promotion of early and appropriate care seeking practices through Social and Behavioral Change Communication campaign and counseling during ANC contacts - Ensure availability, readiness and quality of care in • UHC and District hospitals for inpatient care • UH&FWCs and CCs for outpatient care where referral is not possible - Private facilities with inpatient paediatric care
Kangaroo Mother Care (KMC)	- Ensure availability, readiness and quality of KMC in • All district and medical college hospitals • Selected UHCs • Private hospitals - Promotion of KMC through • Social and Behavioral Change Communication campaign • Counseling during ANC contacts
New-born Stabilization Unit (NSU), Special Care New-born Unit (SCANU)	- Establish and maintain quality of – • SCANUs in all district and medical college hospitals • NSUs in all UHCs
Antenatal corticosteroids (ACS)	- Ensure availability and application of ACS in • All district and medical college hospitals • Private hospitals with provision of appropriate GA assessments and USG and advanced newborn care

TOR 5: Committee's conclusion

The Government of Bangladesh has already prioritized a set of interventions targeting the major causes of neonatal deaths. Special attention should be given to develop a comprehensive action plan based on priority intervention delivery strategies. Stewardship and accountability need to be ensured at policy and programme levels.

TOR 6: Submit a complete report to MOHFW

The committee observed that:

- BDHS 2017-18 provides a comprehensive look at levels and trends of key health, demographic and nutrition indicators with nationally and internationally comparable reliable information for planners, policymakers, program managers, and researchers. BDHSs are implemented with BBS approval as per law.
- The findings of BDHS 2017-18 are very important in monitoring the achievements of HPNSP. Like all the previous health sector programs, the BDHS 2017-18 information is used to review the progress of HPNSP. The BDHS is the source of information for half on the indicators of the HPNSP Results Framework Indicators. The data is used to formulate corrective measures on program issues and to improve future policies and programs.
- Donor funding for HPNSP is based on progress on the Disbursement Linked Indicators (DLIs). The development of some of the DLIs were based on information from BDHS and other surveys like the BMMS, Utilization of Essential Service Delivery (UESD) that consistently showed that Sylhet and Chattogram Divisions were the low performing regions. The BDHS 2017-18 provides valuable information on progress of program performances in these two Divisions.

TOR 6: Committee's conclusion

BDHS is an important source of data for monitoring the performance and progress of the current health sector program. It provides information on program coverage of maternal, newborn and child health as well as family planning services. It also provides programmatic information on nutrition services and non-communicable disease status in Bangladesh. Considering its importance, the Committee recommends publication of the BDHS 2017-18 report. However, publication of the report could be done adding the following statement "The report does not necessarily reflect the views of the Government of the People's Republic of Bangladesh, USAID or development partners".

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গণপ্রজাতন্ত্রী বাংলাদেশ সরকার
স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়
স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ
পরিকল্পনা অধিশাখা, পরিকল্পনা-৩ শাখা

নং ৫৯.০০.০০০০.১৫৪.০১৪.০২০.২০১৭-৩২

তারিখঃ ২০ জ্যৈষ্ঠ ১৪২৬ বঙ্গাব্দ / ০৩ জুন ২০১৯ খ্রিস্টাব্দ

প্রজ্ঞাপন

বিডিএইচএস এবং এসভিআরএস অনুযায়ী শিশু মৃত্যুহার ভিন্নতার ফলাফল বিস্তারিত পর্যালোচনা করে সুনির্দিষ্ট সুপারিশমালা প্রণয়নের লক্ষ্যে নিম্নরূপে কারিগরি কমিটি গঠন করা হলোঃ

কারিগরি কমিটির গঠন-

১। মোহাম্মদ আবদুস সালাম খান, উপপ্রধান, স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ	আহবায়ক
২। লাইন ডাইরেক্টর (এমএনসিএএইচ), স্বাস্থ্য অধিদপ্তর অথবা প্রতিনিধি	সদস্য
৩। লাইন ডাইরেক্টর (এমসিআরএএইচ), পরিবার পরিকল্পনা অধিদপ্তর অথবা প্রতিনিধি	সদস্য
৪। প্রতিনিধি, বাংলাদেশ মেডিকেল ও ডেন্টাল কাউন্সিল (বিএমডিসি)	সদস্য
৫। পরিচালক, সেন্সাস উইং, বাংলাদেশ পরিসংখ্যান ব্যুরো অথবা প্রতিনিধি	সদস্য
৬। অধ্যাপক সৈয়দ শাহাদাত হোসেন, আইএসআরটি, ঢাকা বিশ্ববিদ্যালয়	সদস্য
৭। অধ্যাপক ড. মো: আমিনুল হক, পপুলেশন সায়েন্সেস বিভাগ, ঢাকা বিশ্ববিদ্যালয়	সদস্য
৮। অধ্যাপক সামিনা চৌধুরী, সভাপতি, ওজিএসবি	সদস্য
৯। জনাব এম.এম. রেজা, প্রধান কারিগরি উপদেষ্টা, পিএমএমইউ, স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়	সদস্য
১০। ড. কান্তা জামিল, ইউএসএইড,বাংলাদেশ	সদস্য
১১। ড. মিজানুর রহমান, মেজার ইভালুয়েশন	সদস্য
১২। ড. সামস-এল-আরেফিন, সিয়িয়র পরিচালক, এমসিএইচডি, আইসিডিডিআর,বি	সদস্য
১৩। ড. আহমদ আল-সাবির, আইসিএফ, ইউএসএ	সদস্য
১৪। মোহাম্মদ আহছানুল আলম, মূল্যায়ন বিশেষজ্ঞ, নিপোর্ট	সদস্য সচিব

০২। কারিগরি কমিটির কার্যপরিধি-

ক) বিডিএইচএস ২০১৭-১৮ এর সার্ভে পদ্ধতি ও সার্ভে পরিচালনা প্রক্রিয়া পুন:পরীক্ষা করা;
খ) বিডিএইচএস ২০১৭-১৮ এর প্রাথমিক ফলাফল থেকে প্রাপ্ত শিশু মৃত্যুহার, এসভিআরএস ও অন্যান্য সার্ভের (দেশে ও বিদেশে) তথ্যের আলোকে পর্যালোচনা করা;
গ) বিডিএইচএস এবং এসভিআরএস অনুযায়ী শিশু মৃত্যুহার ভিন্নতার কারণ নির্ণয় ও বিশ্লেষণ করা;
ঘ) শিশু মৃত্যুহার কাঙ্খিত পর্যায়ে হ্রাস না পাওয়ার কারণ নির্ণয় ও বিশ্লেষণ করা;
ঙ) শিশু মৃত্যুহার হ্রাসে ভবিষ্যত করণীয় সম্পর্কে সুনির্দিষ্ট সুপারিশ প্রণয়ন করা এবং মন্ত্রণালয়ে একটি স্বয়ং সম্পূর্ণ প্রতিবেদন প্রদান করা;

০৩। কারিগরি সাহায্যের প্রয়োজন হলে কমিটিতে এক বা একাধিক ব্যক্তিকে সদস্য হিসেবে কো-অপ্ট করা যেতে পারে।

রাষ্ট্রপতির আদেশক্রমে

০৩/০৬/২০১৯

(কামরুন নাহার সুমি)
সিনিয়র সহকারী প্রধান
মোবাইলঃ ০১৭১৬৫৯৭২২১
E-mail: sumi27bcs@yahoo.com

বিতরণ (জ্যেষ্ঠতার ক্রমানুসারে নয়):

১। জনাব মোহাম্মদ আবদুস সালাম খান, উপপ্রধান, স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ, বাংলাদেশ সচিবালয়, ঢাকা।
২। লাইন ডাইরেক্টর (এমএনসিএএইচ), স্বাস্থ্য অধিদপ্তর, মহাখালী, ঢাকা।
৩। লাইন ডাইরেক্টর (এমসিআরএএইচ), পরিবার পরিকল্পনা অধিদপ্তর, ৬ কাওরান বাজার, ঢাকা।
৪। প্রতিনিধি, বাংলাদেশ মেডিকেল ও ডেন্টাল কাউন্সিল (বিএমডিসি), শহীদ সৈয়দ নজরুল ইসলাম সরণী, ঢাকা-১০০০।
৫। পরিচালক, সেন্সাস উইং, বাংলাদেশ পরিসংখ্যান ব্যুরো, আগারগাঁও,ঢাকা।
৬। অধ্যাপক সৈয়দ শাহাদাত হোসেন, পরিসংখ্যান গবেষণা ও শিক্ষণ ইনস্টিটিউট, ঢাকা বিশ্ববিদ্যালয়।
৭। অধ্যাপক ড. মো: আমিনুল হক, পপুলেশন সায়েন্সেস বিভাগ, ঢাকা বিশ্ববিদ্যালয়।
৮। অধ্যাপক সামিনা চৌধুরী, সভাপতি, ওজিএসবি, মোহাম্মদপুর, ঢাকা।
৯। জনাব এম.এম. রেজা, প্রধান কারিগরি উপদেষ্টা, পিএমএমইউ, স্বাস্থ্য ও পরিবার কল্যাণ মন্ত্রণালয়।
১০। ড. কান্তা জামিল, ইউএসএইড,বারিধারা, ঢাকা।
১১। ড. মিজানুর রহমান, মেজার ইভালুয়েশন, আইসিডিডিআর'বি, মহাখালী, ঢাকা।
১২। ড. সামস-এল-আরেফিন, সিয়িয়র পরিচালক, এমসিএইচডি, আইসিডিডিআর'বি, মহাখালী, ঢাকা।
১৩। ড. আহমদ আল-সাবির, আইসিএফ, ইউএসএ,আইসিডিডিআর'বি, মহাখালী, ঢাকা।
১৪। জনাব মোহাম্মদ আহছানুল আলম, মূল্যায়ন বিশেষজ্ঞ, নিপোর্ট,আজিমপুর, ঢাকা।

সদয় অবগতির জন্য অনুলিপিঃ

১। সচিব মহোদয়ের একান্ত সচিব, স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ, বাংলাদেশ সচিবালয়, ঢাকা।
২। অতিরিক্ত সচিব (উন্নয়ন) মহোদয়ের ব্যক্তিগত কর্মকর্তা, স্বাস্থ্য শিক্ষা ও পরিবার কল্যাণ বিভাগ, বাংলাদেশ সচিবালয়, ঢাকা।